

Integration Practice Bank

3,000 Questions with Symbolic Solutions

Six categories • Answers simplified where SymPy can verify a closed form • Source notation issues disclosed

Important accuracy note

The supplied question PDF contains a few generic templates (for example, “polynomial”) and some unreadable exponent glyphs. These entries are retained and clearly flagged instead of inventing missing mathematics. In the Improper Integrals section, the source renders the lower-limit zero as a square glyph; the solution pass interprets it as 0, and this assumption is disclosed. For every computed indefinite answer, differentiate the result and compare with the integrand before relying on it.

How to use: choose the matching question in the website practice selector or type its expression into the calculator. A question marked “source notation needs review” must be checked against the original PDF first.

Category 1: Basic & Power Rule Integration

Power rule and algebraic simplification

Q1. $x^n dx$ ($n \neq -1$)

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q2. $(ax^n + b) dx$

Simplified antiderivative: Piecewise(((a*x**(n + 1) + b*x*(n + 1))/(n + 1), (n > -1) | (n < -1)), (a*log(x) + b*x, True)) + C

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q3. polynomial dx

Solution status: This is a generic template; replace it with a concrete mathematical expression before solving.

Q4. $(x^m + x^n) dx$

Simplified antiderivative: Piecewise(((x**(m + 1)*(n + 1) + x**(n + 1)*(m + 1))/((m + 1)*(n + 1)), Ne(m, -1) & Ne(n, -1)), ((x**(m + 1) + (m + 1)*log(x))/(m + 1), Ne(m, -1)), ((x**(n + 1) + (n + 1)*log(x))/(n + 1), Ne(n, -1)), (2*log(x), True)) + C

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q5. $(ax+b)^n dx$

Simplified antiderivative: Piecewise(((a*x + b)**(n + 1)/(a*(n + 1)), (n > -1) | (n < -1)), (log(a*x + b)/a, True)) + C

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q6. $1/x dx$

Simplified antiderivative: $\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q7. $(\sqrt{x} + 1/\sqrt{x}) dx$

Simplified antiderivative: $\sqrt{x}x + x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q8. $(x^p - x^q + c) dx$

Simplified antiderivative: Piecewise((c*x + x**(p + 1)/(p + 1) - x**(q + 1)/(q + 1), Ne(p, -1) & Ne(q, -1)), ((-x**(q + 1) + (q + 1)*(c*x + log(x)))/(q + 1), Ne(q, -1)), ((x**(p + 1) + (p + 1)*(c*x - log(x)))/(p + 1), Ne(p, -1)), (c*x, True)) + C

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q9. $(3x^2 + 5) dx$

Simplified antiderivative: $x*(x^{**2} + 5) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q10. $(4x^{\blacksquare} - 2x^3 + 7x - 4) dx$

Solution status: A mathematical exponent/symbol is unreadable in the supplied PDF. Please check the original question before solving.

Q11. $(5x^{\blacksquare} - 3x^2 + 8) dx$

Solution status: A mathematical exponent/symbol is unreadable in the supplied PDF. Please check the original question before solving.

Q12. $(2x^{\blacksquare^3} + 7x^{\blacksquare^2} - 4) dx$

Solution status: A mathematical exponent/symbol is unreadable in the supplied PDF. Please check the original question before solving.

Q13. $(\sqrt[3]{x} + x^{(5/2)}) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q14. $(6/x - 2/x^2 + 3) dx$

Simplified antiderivative: $3*x + 6*log(x) + 2/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q15. $(x+2)^5 dx$

Simplified antiderivative: $x*(x^{**5} + 12*x^{**4} + 60*x^{**3} + 160*x^{**2} + 240*x + 192)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q16. $(3x-1)^{-2} dx$ **Simplified antiderivative:** $-1/(9x - 3) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q17. $(2x+5)^{3/2} dx$ **Simplified antiderivative:** $(2x + 5)^{5/2}/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q18. $(x^2+1)^{1/3} dx$ **Simplified antiderivative:** $x(x^{2/3} + 3)/(3\sqrt[3]{x}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q19. $(x^3-2x+1)/x^2 dx$ **Simplified antiderivative:** $x^{5/2} - 2\log(x) - 1/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q20. $(2x^2+3x^2-7)/x^3 dx$

Solution status: A mathematical exponent/symbol is unreadable in the supplied PDF. Please check the original question before solving.

Q21. $(2x^3 - 3x^2 + 6) dx$ **Simplified antiderivative:** $x(x^{3/2} - x^2 + 6) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q22. $(2x^3 - 3) dx$ **Simplified antiderivative:** $x(x^3 - 6)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q23. $(x^3 + 2x^2 - 6) dx$ **Simplified antiderivative:** $x(3x^3 + 8x^2 - 72)/12 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q24. $(2x^{-2} + 4/x) dx$ **Simplified antiderivative:** $4\log(x) - 2/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q25. $(2x+6)^2 dx$ **Simplified antiderivative:** $4x(x^2 + 9x + 27)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q26. $(2\sqrt{x} + 6/\sqrt{x}) dx$ **Simplified antiderivative:** $2x(\sqrt{x}^2 + 3)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q27. $(2/x + 4x^3) dx$ **Simplified antiderivative:** $x^4 + 2\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q28. $(3x^4 + 0x^3 + 11) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q29. $(3x^4 + 0) dx$ **Simplified antiderivative:** $3x^{5/5} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q30. $(x^4 + 3x^3 - 11) dx$

Simplified antiderivative: $x^*(4*x^{**4} + 15*x^{**3} - 220)/20 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q31. $(3x^{-3}) + 7/x \, dx$

Simplified antiderivative: $7*\log(x) - 3/(2*x^{**2}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q32. $(3x+11)^3 \, dx$

Simplified antiderivative: $x*(27*x^{**3} + 396*x^{**2} + 2178*x + 5324)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q33. $(3\sqrt{x} + 11/\sqrt{x}) \, dx$

Simplified antiderivative: $x*(3*\sqrt{x}^{**2} + 11)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q34. $(3/x + 7x^4) \, dx$

Simplified antiderivative: $7*x^{**5}/5 + 3*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q35. $(4x^5 + 3x^4 + 5) \, dx$

Simplified antiderivative: $x*(10*x^{**5} + 9*x^{**4} + 75)/15 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q36. $(4x^5 + 3) \, dx$

Simplified antiderivative: $x*(2*x^{**5} + 9)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q37. $(x^5 + 4x^4 - 5) \, dx$

Simplified antiderivative: $x*(5*x^{**5} + 24*x^{**4} - 150)/30 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q38. $(4x^{-4}) + 10/x \, dx$

Simplified antiderivative: $10*\log(x) - 4/(3*x^{**3}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q39. $(4x+5)^4 \, dx$

Simplified antiderivative: $x*(256*x^{**4} + 1600*x^{**3} + 4000*x^{**2} + 5000*x + 3125)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q40. $(4\sqrt{x} + 5/\sqrt{x}) \, dx$

Simplified antiderivative: $x*(4*\sqrt{x}^{**2} + 5)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q41. $(4/x + 10x^5) \, dx$

Simplified antiderivative: $5*x^{**6}/3 + 4*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q42. $(5x^6 + 6x^5 + 10) \, dx$

Simplified antiderivative: $x*(5*x^{**6}/7 + x^{**5} + 10) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q43. $(5x^6 + 6) \, dx$

Simplified antiderivative: $x*(5*x^{**6} + 42)/7 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q44. $(x^6 + 5x^5 - 10) dx$

Simplified antiderivative: $x(6x^{**6} + 35x^{**5} - 420)/42 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q45. $(5x^{(-5)} + 13/x) dx$

Simplified antiderivative: $13\log(x) - 5/(4x^{**4}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q46. $(5x+10)^5 dx$

Simplified antiderivative: $3125x(x^{**5} + 12x^{**4} + 60x^{**3} + 160x^{**2} + 240x + 192)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q47. $(5\sqrt{x} + 10\sqrt[3]{x}) dx$

Simplified antiderivative: $5x*(\sqrt{x}^{**2} + 2)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q48. $(5/x + 13x^6) dx$

Simplified antiderivative: $13x^{**7/7} + 5\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q49. $(6x^7 - 4x^1 + 4) dx$

Simplified antiderivative: $x(3x^{**7} - 8x + 16)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q50. $(6x^7 - 4) dx$

Simplified antiderivative: $x(3x^{**7} - 16)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q51. $(x^7 + 6x^1 - 4) dx$

Simplified antiderivative: $x(x^{**7} + 24x - 32)/8 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q52. $(6x^{(-1)} + 3/x) dx$

Simplified antiderivative: $9\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q53. $(6x+4)^1 dx$

Simplified antiderivative: $x(3x + 4) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q54. $(6\sqrt{x} + 4\sqrt[3]{x}) dx$

Simplified antiderivative: $6\sqrt{x}x + 4x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q55. $(6/x + 3x^7) dx$

Simplified antiderivative: $3x^{**8/8} + 6\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q56. $(7x^8 - 1x^2 + 9) dx$

Simplified antiderivative: $x(7x^{**8} - 3x^{**2} + 81)/9 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q57. $(7x^8 - 1) dx$

Simplified antiderivative: $7x^{**9}/9 - x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q58. $(x^8 + 7x^2 - 9) dx$

Simplified antiderivative: $x*(x^{**8} + 21*x^{**2} - 81)/9 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q59. $(7x^{(-2)} + 6/x) dx$

Simplified antiderivative: $6*\log(x) - 7/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q60. $(7x+9)^2 dx$

Simplified antiderivative: $x*(49*x^{**2} + 189*x + 243)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q61. $(7\sqrt{x} + 9/\sqrt{x}) dx$

Simplified antiderivative: $x*(7*\sqrt{x}^{**2} + 9)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q62. $(7/x + 6x^8) dx$

Simplified antiderivative: $2*x^{**9}/3 + 7*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q63. $(8x^9 + 2x^3 + 3) dx$

Simplified antiderivative: $x*(8*x^{**9} + 5*x^{**3} + 30)/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q64. $(8x^9 + 2) dx$

Simplified antiderivative: $4*x^{**10}/5 + 2*x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q65. $(x^9 + 8x^3 - 3) dx$

Simplified antiderivative: $x*(x^{**9} + 20*x^{**3} - 30)/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q66. $(8x^{(-3)} + 9/x) dx$

Simplified antiderivative: $9*\log(x) - 4/x^{**2} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q67. $(8x+3)^3 dx$

Simplified antiderivative: $x*(128*x^{**3} + 192*x^{**2} + 108*x + 27) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q68. $(8\sqrt{x} + 3/\sqrt{x}) dx$

Simplified antiderivative: $x*(8*\sqrt{x}^{**2} + 3)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q69. $(8/x + 9x^9) dx$

Simplified antiderivative: $9*x^{**10}/10 + 8*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q70. $(9x^2 + 5x^4 + 8) dx$ **Simplified antiderivative:** $x^*(x^{**4} + 3*x^{**2} + 8) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q71. $(9x^2 + 5) dx$ **Simplified antiderivative:** $x^*(3*x^{**2} + 5) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q72. $(x^2 + 9x^4 - 8) dx$ **Simplified antiderivative:** $x^*(27*x^{**4} + 5*x^{**2} - 120)/15 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q73. $(9x^{(-4)} + 12/x) dx$ **Simplified antiderivative:** $12*\log(x) - 3/x^{**3} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q74. $(9x+8)^4 dx$ **Simplified antiderivative:** $x^*(6561*x^{**4} + 29160*x^{**3} + 51840*x^{**2} + 46080*x + 20480)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q75. $(9\sqrt{x} + 8/\sqrt{x}) dx$ **Simplified antiderivative:** $x^*(9*\sqrt{x}^{**2} + 8)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q76. $(9/x + 12x^2) dx$ **Simplified antiderivative:** $4*x^{**3} + 9*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q77. $(1x^3 - 5x^5 + 2) dx$ **Simplified antiderivative:** $x^*(-10*x^{**5} + 3*x^{**3} + 24)/12 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q78. $(1x^3 - 5) dx$ **Simplified antiderivative:** $x^*(x^{**3} - 20)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q79. $(x^3 + 1x^5 - 2) dx$ **Simplified antiderivative:** $x^*(x^{**5}/6 + x^{**3}/4 - 2) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q80. $(1x^{(-5)} + 2/x) dx$ **Simplified antiderivative:** $2*\log(x) - 1/(4*x^{**4}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q81. $(1x+2)^5 dx$ **Simplified antiderivative:** $x^*(x^{**5} + 12*x^{**4} + 60*x^{**3} + 160*x^{**2} + 240*x + 192)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q82. $(1\sqrt{x} + 2/\sqrt{x}) dx$ **Simplified antiderivative:** $x^*(\sqrt{x}^{**2} + 2)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q83. $(1/x + 2x^3) dx$

Simplified antiderivative: $x^{5/2} + \log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q84. $(2x^4 - 2x^1 + 7) dx$

Simplified antiderivative: $x^5(2x^4 - 5x + 35)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q85. $(2x^4 - 2) dx$

Simplified antiderivative: $2x^5(x^4 - 5)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q86. $(x^4 + 2x^1 - 7) dx$

Simplified antiderivative: $x^5(x^4 + 5x - 35)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q87. $(2x^{(-1)} + 5/x) dx$

Simplified antiderivative: $7\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q88. $(2x+7)^1 dx$

Simplified antiderivative: $x^2(x + 7) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q89. $(2\sqrt{x} + 7/\sqrt{x}) dx$

Simplified antiderivative: $x^2(2\sqrt{x}^2 + 7)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q90. $(2/x + 5x^4) dx$

Simplified antiderivative: $x^5 + 2\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q91. $(3x^5 + 1x^2 + 1) dx$

Simplified antiderivative: $x^{6/2} + x^{3/3} + x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q92. $(3x^5 + 1) dx$

Simplified antiderivative: $x^{6/2} + x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q93. $(x^5 + 3x^2 - 1) dx$

Simplified antiderivative: $x^{6/6} + x^{3/3} - x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q94. $(3x^{(-2)} + 8/x) dx$

Simplified antiderivative: $8\log(x) - 3/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q95. $(3x+1)^2 dx$

Simplified antiderivative: $x^3(3x^2 + 3x + 1) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q96. $(3\sqrt{x} + 1/\sqrt{x}) dx$

Simplified antiderivative: $3\sqrt{x}^2 + x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q97. $(3/x + 8x^5) dx$

Simplified antiderivative: $4x^{**6}/3 + 3*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q98. $(4x^6 + 4x^3 + 6) dx$

Simplified antiderivative: $x*(4*x^{**6}/7 + x^{**3} + 6) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q99. $(4x^6 + 4) dx$

Simplified antiderivative: $4*x*(x^{**6} + 7)/7 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q100. $(x^6 + 4x^3 - 6) dx$

Simplified antiderivative: $x*(x^{**6}/7 + x^{**3} - 6) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q101. $(4x^{(-3)} + 11/x) dx$

Simplified antiderivative: $11*\log(x) - 2/x^{**2} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q102. $(4x+6)^3 dx$

Simplified antiderivative: $8*x*(2*x^{**3} + 12*x^{**2} + 27*x + 27) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q103. $(4\sqrt{x} + 6\sqrt[3]{x}) dx$

Simplified antiderivative: $4*\sqrt{x} + 6*x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q104. $(4/x + 11x^6) dx$

Simplified antiderivative: $11*x^{**7}/7 + 4*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q105. $(5x^7 - 6x^4 + 11) dx$

Simplified antiderivative: $x*(25*x^{**7} - 48*x^{**4} + 440)/40 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q106. $(5x^7 - 6) dx$

Simplified antiderivative: $x*(5*x^{**7} - 48)/8 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q107. $(x^7 + 5x^4 - 11) dx$

Simplified antiderivative: $x*(x^{**7}/8 + x^{**4} - 11) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q108. $(5x^{(-4)} + 1/x) dx$

Simplified antiderivative: $\log(x) - 5/(3*x^{**3}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q109. $(5x+11)^4 dx$

Simplified antiderivative: $x*(125*x^{**4} + 1375*x^{**3} + 6050*x^{**2} + 13310*x + 14641) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q110. $(5\sqrt{x} + 11/\sqrt{x}) dx$ **Simplified antiderivative:** $x^{5/2}\sqrt{x} + 11/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q111. $(5/x + 1x^7) dx$ **Simplified antiderivative:** $x^{8/8} + 5*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q112. $(6x^8 - 3x^5 + 5) dx$ **Simplified antiderivative:** $x^{4*8 - 3*x^5 + 30}/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q113. $(6x^8 - 3) dx$ **Simplified antiderivative:** $x^{2*x^8 - 9}/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q114. $(x^8 + 6x^5 - 5) dx$ **Simplified antiderivative:** $x^{x^8/9 + x^5 - 5} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q115. $(6x^{-5} + 4/x) dx$ **Simplified antiderivative:** $4*\log(x) - 3/(2*x^4) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q116. $(6x+5)^5 dx$ **Simplified antiderivative:** $x^{(1296*x^5 + 6480*x^4 + 13500*x^3 + 15000*x^2 + 9375*x + 3125)} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q117. $(6\sqrt{x} + 5/\sqrt{x}) dx$ **Simplified antiderivative:** $x^{(6*\sqrt{x} + 5)/\sqrt{x}} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q118. $(6/x + 4x^8) dx$ **Simplified antiderivative:** $4*x^9/9 + 6*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q119. $(7x^9 + 0x^1 + 10) dx$ **Solution status:** This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.**Q120. $(7x^9 + 0) dx$** **Simplified antiderivative:** $7*x^{10}/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q121. $(x^9 + 7x^1 - 10) dx$ **Simplified antiderivative:** $x^{(x^9 + 35*x - 100)}/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q122. $(7x^{-1} + 7/x) dx$ **Simplified antiderivative:** $14*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q123. $(7x+10)^1 dx$ **Simplified antiderivative:** $x^{(7*x + 20)}/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q124. $(7\sqrt{x} + 10/\sqrt{x}) dx$

Simplified antiderivative: $x(7\sqrt{x} + 10)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q125. $(7/x + 7x^9) dx$

Simplified antiderivative: $7x^{10/10} + 7\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q126. $(8x^2 + 3x^2 + 4) dx$

Simplified antiderivative: $x(11x^2 + 12)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q127. $(8x^2 + 3) dx$

Simplified antiderivative: $x(8x^2 + 9)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q128. $(x^2 + 8x^2 - 4) dx$

Simplified antiderivative: $x(3x^2 - 4) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q129. $(8x^{-2} + 10/x) dx$

Simplified antiderivative: $10\log(x) - 8/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q130. $(8x+4)^2 dx$

Simplified antiderivative: $16x(4x^2 + 6x + 3)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q131. $(8\sqrt{x} + 4/\sqrt{x}) dx$

Simplified antiderivative: $8\sqrt{x} + 4\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q132. $(8/x + 10x^2) dx$

Simplified antiderivative: $10x^{3/3} + 8\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q133. $(9x^3 + 6x^3 + 9) dx$

Simplified antiderivative: $15x^{4/4} + 9x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q134. $(9x^3 + 6) dx$

Simplified antiderivative: $9x^{4/4} + 6x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q135. $(x^3 + 9x^3 - 9) dx$

Simplified antiderivative: $x(5x^3 - 18)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q136. $(9x^{-3} + 13/x) dx$

Simplified antiderivative: $13\log(x) - 9/(2x^2) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q137. $(9x+9)^3 dx$

Simplified antiderivative: $729x^4(x^3 + 4x^2 + 6x + 4)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q138. $(9\sqrt{x} + 9/\sqrt{x}) dx$

Simplified antiderivative: $9x(\sqrt{x}^2 + 1)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q139. $(9/x + 13x^3) dx$

Simplified antiderivative: $13x^{4/4} + 9\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q140. $(1x^4 - 4x^4 + 3) dx$

Simplified antiderivative: $3x(5 - x^4)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q141. $(1x^4 - 4) dx$

Simplified antiderivative: $x(x^4 - 20)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q142. $(x^4 + 1x^4 - 3) dx$

Simplified antiderivative: $x(2x^4 - 15)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q143. $(1x^{(-4)} + 3/x) dx$

Simplified antiderivative: $3\log(x) - 1/(3x^3) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q144. $(1x+3)^4 dx$

Simplified antiderivative: $x(x^4 + 15x^3 + 90x^2 + 270x + 405)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q145. $(1\sqrt{x} + 3/\sqrt{x}) dx$

Simplified antiderivative: $x(\sqrt{x}^2 + 3)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q146. $(1/x + 3x^4) dx$

Simplified antiderivative: $3x^{5/5} + \log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q147. $(2x^5 - 1x^5 + 8) dx$

Simplified antiderivative: $x(x^5 + 48)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q148. $(2x^5 - 1) dx$

Simplified antiderivative: $x^6/3 - x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q149. $(x^5 + 2x^5 - 8) dx$

Simplified antiderivative: $x(x^5 - 16)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q150. $(2x^{-5} + 6/x) dx$ **Simplified antiderivative:** $6\log(x) - 1/(2x^4) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q151. $(2x+8)^5 dx$ **Simplified antiderivative:** $16x(x^{**5} + 24x^{**4} + 240x^{**3} + 1280x^{**2} + 3840x + 6144)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q152. $(2\sqrt{x} + 8\sqrt[3]{x}) dx$ **Simplified antiderivative:** $2x(\sqrt{x}^{**2} + 4)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q153. $(2/x + 6x^5) dx$ **Simplified antiderivative:** $x^{**6} + 2\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q154. $(3x^6 + 2x^1 + 2) dx$ **Simplified antiderivative:** $x(3x^{**6} + 7x + 14)/7 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q155. $(3x^6 + 2) dx$ **Simplified antiderivative:** $x(3x^{**6} + 14)/7 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q156. $(x^6 + 3x^1 - 2) dx$ **Simplified antiderivative:** $x(2x^{**6} + 21x - 28)/14 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q157. $(3x^{-1} + 9/x) dx$ **Simplified antiderivative:** $12\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q158. $(3x+2)^1 dx$ **Simplified antiderivative:** $x(3x + 4)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q159. $(3\sqrt{x} + 2\sqrt[3]{x}) dx$ **Simplified antiderivative:** $x(3\sqrt{x}^{**2} + 2)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q160. $(3/x + 9x^6) dx$ **Simplified antiderivative:** $9x^{**7/7} + 3\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q161. $(4x^7 + 5x^2 + 7) dx$ **Simplified antiderivative:** $x(3x^{**7} + 10x^{**2} + 42)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q162. $(4x^7 + 5) dx$ **Simplified antiderivative:** $x(x^{**7} + 10)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q163. $(x^7 + 4x^2 - 7) dx$

Simplified antiderivative: $x(3x^{**7} + 32x^{**2} - 168)/24 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q164. $(4x^{(-2)} + 12/x) dx$**

Simplified antiderivative: $12\log(x) - 4/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q165. $(4x+7)^2 dx$

Simplified antiderivative: $x(16x^{**2} + 84x + 147)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q166. $(4\sqrt{x} + 7/\sqrt{x}) dx$

Simplified antiderivative: $x(4\sqrt{x}^{**2} + 7)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q167. $(4/x + 12x^7) dx$

Simplified antiderivative: $3x^{**8}/2 + 4\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q168. $(5x^8 - 5x^3 + 1) dx$

Simplified antiderivative: $x(20x^{**8} - 45x^{**3} + 36)/36 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q169. $(5x^8 - 5) dx$

Simplified antiderivative: $5x^{**9}/9 - 5x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q170. $(x^8 + 5x^3 - 1) dx$

Simplified antiderivative: $x^{**9}/9 + 5x^{**4}/4 - x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q171. $(5x^{(-3)} + 2/x) dx$**

Simplified antiderivative: $2\log(x) - 5/(2x^{**2}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q172. $(5x+1)^3 dx$

Simplified antiderivative: $x(125x^{**3} + 100x^{**2} + 30x + 4)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q173. $(5\sqrt{x} + 1/\sqrt{x}) dx$

Simplified antiderivative: $5\sqrt{x}x + x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q174. $(5/x + 2x^8) dx$

Simplified antiderivative: $2x^{**9}/9 + 5\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q175. $(6x^9 - 2x^4 + 6) dx$

Simplified antiderivative: $x(3x^{**9} - 2x^{**4} + 30)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q176. $(6x^9 - 2) dx$

Simplified antiderivative: $x(3x^{**9} - 10)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q177. $(x^9 + 6x^4 - 6) dx$

Simplified antiderivative: $x^{10}/10 + 12x^5/5 - 60x/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q178. $(6x^4 - 5/x) dx$

Simplified antiderivative: $6x^5/5 - 5\ln|x| + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q179. $(6x+6)^4 dx$

Simplified antiderivative: $1296x^5(5x^4 + 5x^3 + 10x^2 + 10x + 5)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q180. $(6\sqrt{x} + 6/\sqrt{x}) dx$

Simplified antiderivative: $6x^{3/2} + 12\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q181. $(6/x + 5x^9) dx$

Simplified antiderivative: $6\ln|x| + 5x^{10}/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q182. $(7x^2 + 1x^5 + 11) dx$

Simplified antiderivative: $7x^3/3 + x^6/6 + 11x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q183. $(7x^2 + 1) dx$

Simplified antiderivative: $7x^3/3 + x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q184. $(x^2 + 7x^5 - 11) dx$

Simplified antiderivative: $x^3/3 + 7x^6/6 - 11x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q185. $(7x^4 - 5/x) dx$

Simplified antiderivative: $7x^5/5 - 5\ln|x| + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q186. $(7x+11)^5 dx$

Simplified antiderivative: $x^6(16807x^5 + 158466x^4 + 622545x^3 + 1304380x^2 + 1537305x + 966306)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q187. $(7\sqrt{x} + 11/\sqrt{x}) dx$

Simplified antiderivative: $7x^{3/2} + 22\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q188. $(7/x + 8x^2) dx$

Simplified antiderivative: $7\ln|x| + 8x^3/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q189. $(8x^3 + 4x^1 + 5) dx$

Simplified antiderivative: $2x^4 + 2x^2 + 5x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q190. $(8x^3 + 4) dx$ **Simplified antiderivative:** $2x^4(x^3 + 2) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q191. $(x^3 + 8x^1 - 5) dx$ **Simplified antiderivative:** $x^4(x^3 + 16x - 20)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q192. $(8x^{-1} + 11/x) dx$ **Simplified antiderivative:** $19\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q193. $(8x+5)^1 dx$ **Simplified antiderivative:** $x^4(4x + 5) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q194. $(8\sqrt{x} + 5/\sqrt{x}) dx$ **Simplified antiderivative:** $x^4(8\sqrt{x}^2 + 5)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q195. $(8/x + 11x^3) dx$ **Simplified antiderivative:** $11x^{4/4} + 8\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q196. $(9x^4 - 6x^2 + 10) dx$ **Simplified antiderivative:** $x^4(9x^4 - 10x^2 + 50)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q197. $(9x^4 - 6) dx$ **Simplified antiderivative:** $9x^{5/5} - 6x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q198. $(x^4 + 9x^2 - 10) dx$ **Simplified antiderivative:** $x^4(x^4 + 15x^2 - 50)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q199. $(9x^{-2} + 1/x) dx$ **Simplified antiderivative:** $\log(x) - 9/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q200. $(9x+10)^2 dx$ **Simplified antiderivative:** $x^4(27x^2 + 90x + 100) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q201. $(9\sqrt{x} + 10/\sqrt{x}) dx$ **Simplified antiderivative:** $x^4(9\sqrt{x}^2 + 10)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q202. $(9/x + 1x^4) dx$ **Simplified antiderivative:** $x^{5/5} + 9\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q203. $(1x^5 - 3x^3 + 4) dx$

Simplified antiderivative: $x(2x^{**5} - 9x^{**3} + 48)/12 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q204. $(1x^5 - 3) dx$

Simplified antiderivative: $x(x^{**5} - 18)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q205. $(x^5 + 1x^3 - 4) dx$

Simplified antiderivative: $x(x^{**5}/6 + x^{**3}/4 - 4) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q206. $(1x^{(-3)} + 4/x) dx$

Simplified antiderivative: $4\log(x) - 1/(2x^{**2}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q207. $(1x+4)^3 dx$

Simplified antiderivative: $x(x^{**3} + 16x^{**2} + 96x + 256)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q208. $(1\sqrt{x} + 4/\sqrt{x}) dx$

Simplified antiderivative: $x(\sqrt{x}^{**2} + 4)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q209. $(1/x + 4x^5) dx$

Simplified antiderivative: $2x^{**6}/3 + \log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q210. $(2x^6 + 0x^4 + 9) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q211. $(2x^6 + 0) dx$

Simplified antiderivative: $2x^{**7}/7 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q212. $(x^6 + 2x^4 - 9) dx$

Simplified antiderivative: $x(5x^{**6} + 14x^{**4} - 315)/35 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q213. $(2x^{(-4)} + 7/x) dx$

Simplified antiderivative: $7\log(x) - 2/(3x^{**3}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q214. $(2x+9)^4 dx$

Simplified antiderivative: $x(16x^{**4} + 360x^{**3} + 3240x^{**2} + 14580x + 32805)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q215. $(2\sqrt{x} + 9/\sqrt{x}) dx$

Simplified antiderivative: $x(2\sqrt{x}^{**2} + 9)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q216. $(2/x + 7x^6) dx$

Simplified antiderivative: $x^{**7} + 2\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q217. $(3x^7 + 3x^5 + 3) dx$ **Simplified antiderivative:** $x^8(3x^{**7} + 4x^{**5} + 24)/8 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q218. $(3x^7 + 3) dx$ **Simplified antiderivative:** $3x^8(x^{**7} + 8)/8 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q219. $(x^7 + 3x^5 - 3) dx$ **Simplified antiderivative:** $x^8(x^{**7} + 4x^{**5} - 24)/8 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q220. $(3x^{(-5)} + 10/x) dx$ **Simplified antiderivative:** $10\log(x) - 3/(4x^{**4}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q221. $(3x+3)^5 dx$ **Simplified antiderivative:** $81x^6(x^{**5} + 6x^{**4} + 15x^{**3} + 20x^{**2} + 15x + 6)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q222. $(3\sqrt{x} + 3/\sqrt{x}) dx$ **Simplified antiderivative:** $3x^{3/2}(\sqrt{x}^{**2} + 1)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q223. $(3/x + 10x^7) dx$ **Simplified antiderivative:** $5x^{**8}/4 + 3\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q224. $(4x^8 + 6x^1 + 8) dx$ **Simplified antiderivative:** $x^9(4x^{**8} + 27x + 72)/9 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q225. $(4x^8 + 6) dx$ **Simplified antiderivative:** $4x^{**9}/9 + 6x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q226. $(x^8 + 4x^1 - 8) dx$ **Simplified antiderivative:** $x^9(x^{**8} + 18x - 72)/9 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q227. $(4x^{(-1)} + 13/x) dx$ **Simplified antiderivative:** $17\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q228. $(4x+8)^1 dx$ **Simplified antiderivative:** $2x^2(x + 4) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q229. $(4\sqrt{x} + 8/\sqrt{x}) dx$ **Simplified antiderivative:** $4x^{3/2}(\sqrt{x}^{**2} + 2)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q230. $(4/x + 13x^8) dx$

Simplified antiderivative: $13x^{9/9} + 4\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q231. $(5x^9 - 4x^2 + 2) dx$

Simplified antiderivative: $x(3x^9 - 8x^2 + 12)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q232. $(5x^9 - 4) dx$

Simplified antiderivative: $x(x^9 - 8)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q233. $(x^9 + 5x^2 - 2) dx$

Simplified antiderivative: $x(3x^9 + 50x^2 - 60)/30 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q234. $(5x^{-2} + 3/x) dx$

Simplified antiderivative: $3\log(x) - 5/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q235. $(5x+2)^2 dx$

Simplified antiderivative: $x(25x^2 + 30x + 12)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q236. $(5\sqrt{x} + 2\sqrt[3]{x}) dx$

Simplified antiderivative: $x(5\sqrt{x}^2 + 2)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q237. $(5/x + 3x^9) dx$

Simplified antiderivative: $3x^{10}/10 + 5\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q238. $(6x^2 - 1x^3 + 7) dx$

Simplified antiderivative: $x(-x^3 + 8x^2 + 28)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q239. $(6x^2 - 1) dx$

Simplified antiderivative: $2x^3 - x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q240. $(x^2 + 6x^3 - 7) dx$

Simplified antiderivative: $x(9x^3 + 2x^2 - 42)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q241. $(6x^{-3} + 6/x) dx$

Simplified antiderivative: $6\log(x) - 3x^{-2} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q242. $(6x+7)^3 dx$

Simplified antiderivative: $x(54x^3 + 252x^2 + 441x + 343) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q243. $(6\sqrt{x} + 7\sqrt[3]{x}) dx$

Simplified antiderivative: $x(6\sqrt{x}^2 + 7)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q244. $(6/x + 6x^2) dx$

Simplified antiderivative: $2x^3 + 6\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q245. $(7x^3 + 2x^4 + 1) dx$

Simplified antiderivative: $x(8x^4 + 35x^3 + 20)/20 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q246. $(7x^3 + 2) dx$

Simplified antiderivative: $x(7x^3 + 8)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q247. $(x^3 + 7x^4 - 1) dx$

Simplified antiderivative: $7x^{5/5} + x^{4/4} - x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q248. $(7x^{-4} + 9/x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q249. $(7x+1)^4 dx$

Simplified antiderivative: $x(2401x^4 + 1715x^3 + 490x^2 + 70x + 5)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q250. $(7\sqrt{x} + 1/\sqrt{x}) dx$

Simplified antiderivative: $7\sqrt{x}x + x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q251. $(7/x + 9x^3) dx$

Simplified antiderivative: $9x^{4/4} + 7\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q252. $(8x^4 + 5x^5 + 6) dx$

Simplified antiderivative: $x(25x^5 + 48x^4 + 180)/30 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q253. $(8x^4 + 5) dx$

Simplified antiderivative: $x(8x^4 + 25)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q254. $(x^4 + 8x^5 - 6) dx$

Simplified antiderivative: $x(20x^5 + 3x^4 - 90)/15 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q255. $(8x^{-5} + 12/x) dx$

Simplified antiderivative: $12\log(x) - 2x^{-4} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q256. $(8x+6)^5 dx$

Simplified antiderivative: $32x(512x^5 + 2304x^4 + 4320x^3 + 4320x^2 + 2430x + 729)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q257. $(8\sqrt{x} + 6/\sqrt{x}) dx$

Simplified antiderivative: $8\sqrt{x} + 6\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q258. $(8/x + 12x^4) dx$

Simplified antiderivative: $12x^{5/5} + 8\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q259. $(9x^5 - 5x^1 + 11) dx$

Simplified antiderivative: $x(3x^{5/5} - 5x + 22)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q260. $(9x^5 - 5) dx$

Simplified antiderivative: $x(3x^{5/5} - 10)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q261. $(x^5 + 9x^1 - 11) dx$

Simplified antiderivative: $x(x^{5/5} + 27x - 66)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q262. $(9x^{-1} + 2/x) dx$

Simplified antiderivative: $11\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q263. $(9x+11)^1 dx$

Simplified antiderivative: $x(9x + 22)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q264. $(9\sqrt{x} + 11/\sqrt{x}) dx$

Simplified antiderivative: $x(9\sqrt{x} + 11)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q265. $(9/x + 2x^5) dx$

Simplified antiderivative: $x^{6/3} + 9\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q266. $(1x^6 - 2x^2 + 5) dx$

Simplified antiderivative: $x(3x^{6/6} - 14x^{2/2} + 105)/21 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q267. $(1x^6 - 2) dx$

Simplified antiderivative: $x(x^{6/6} - 14)/7 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q268. $(x^6 + 1x^2 - 5) dx$

Simplified antiderivative: $x(x^{6/6/7} + x^{2/3} - 5) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q269. $(1x^{-2} + 5/x) dx$

Simplified antiderivative: $5\log(x) - 1/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q270. $(1x+5)^2 dx$

Simplified antiderivative: $x(x^{2/2} + 15x + 75)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q271. $(1/\sqrt{x} + 5/\sqrt{x}) dx$

Simplified antiderivative: $x^{*}(\sqrt{x}^{*2} + 5)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q272. $(1/x + 5x^6) dx$

Simplified antiderivative: $5x^{*7/7} + \log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q273. $(2x^7 + 1x^3 + 10) dx$

Simplified antiderivative: $x^{*}(x^{*7} + x^{*3} + 40)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q274. $(2x^7 + 1) dx$

Simplified antiderivative: $x^{*8/4} + x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q275. $(x^7 + 2x^3 - 10) dx$

Simplified antiderivative: $x^{*}(x^{*7} + 4x^{*3} - 80)/8 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q276. $(2x^{(-3)} + 8/x) dx$

Simplified antiderivative: $8\log(x) - 1/x^{*2} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q277. $(2x+10)^3 dx$

Simplified antiderivative: $2x^{*}(x^{*3} + 20x^{*2} + 150x + 500) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q278. $(2/\sqrt{x} + 10/\sqrt{x}) dx$

Simplified antiderivative: $2x^{*}(\sqrt{x}^{*2} + 5)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q279. $(2/x + 8x^7) dx$

Simplified antiderivative: $x^{*8} + 2\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q280. $(3x^8 + 4x^4 + 4) dx$

Simplified antiderivative: $x^{*}(5x^{*8} + 12x^{*4} + 60)/15 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q281. $(3x^8 + 4) dx$

Simplified antiderivative: $x^{*}(x^{*8} + 12)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q282. $(x^8 + 3x^4 - 4) dx$

Simplified antiderivative: $x^{*}(5x^{*8} + 27x^{*4} - 180)/45 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q283. $(3x^{(-4)} + 11/x) dx$

Simplified antiderivative: $11\log(x) - 1/x^{*3} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q284. $(3x+4)^4 dx$

Simplified antiderivative: $x(81x^4 + 540x^3 + 1440x^2 + 1920x + 1280)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q285. $(3\sqrt{x} + 4/\sqrt{x}) dx$

Simplified antiderivative: $x(3\sqrt{x}^2 + 4)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q286. $(3/x + 11x^8) dx$

Simplified antiderivative: $11x^9/9 + 3\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q287. $(4x^9 - 6x^5 + 9) dx$

Simplified antiderivative: $x(2x^9/5 - x^5 + 9) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q288. $(4x^9 - 6) dx$

Simplified antiderivative: $2x(x^9 - 15)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q289. $(x^9 + 4x^5 - 9) dx$

Simplified antiderivative: $x(3x^9 + 20x^5 - 270)/30 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q290. $(4x^{-5} + 1/x) dx$

Simplified antiderivative: $\log(x) - 1/x^4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q291. $(4x+9)^5 dx$

Simplified antiderivative: $x(512x^5 + 6912x^4 + 38880x^3 + 116640x^2 + 196830x + 177147)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q292. $(4\sqrt{x} + 9/\sqrt{x}) dx$

Simplified antiderivative: $x(4\sqrt{x}^2 + 9)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q293. $(4/x + 1x^9) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q294. $(5x^2 - 3x^1 + 3) dx$

Simplified antiderivative: $x(10x^2 - 9x + 18)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q295. $(5x^2 - 3) dx$

Simplified antiderivative: $x(5x^2 - 9)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q296. $(x^2 + 5x^1 - 3) dx$

Simplified antiderivative: $x(2x^2 + 15x - 18)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q297. $(5x^{-1} + 4/x) dx$

Simplified antiderivative: $9\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q298. $(5x+3)^1 dx$

Simplified antiderivative: $x(5^*x + 6)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q299. $(5\sqrt{x} + 3/\sqrt{x}) dx$

Simplified antiderivative: $x(5*\sqrt{x}^{**2} + 3)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q300. $(5/x + 4x^2) dx$

Simplified antiderivative: $4*x^{**3}/3 + 5*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q301. $(6x^3 + 0x^2 + 8) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q302. $(6x^3 + 0) dx$

Simplified antiderivative: $3*x^{**4}/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q303. $(x^3 + 6x^2 - 8) dx$

Simplified antiderivative: $x*(x^{**3} + 8*x^{**2} - 32)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q304. $(6x^{(-2)} + 7/x) dx$

Simplified antiderivative: $7*\log(x) - 6/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q305. $(6x+8)^2 dx$

Simplified antiderivative: $4*x*(3*x^{**2} + 12*x + 16) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q306. $(6\sqrt{x} + 8/\sqrt{x}) dx$

Simplified antiderivative: $6*\sqrt{x}*x + 8*x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q307. $(6/x + 7x^3) dx$

Simplified antiderivative: $7*x^{**4}/4 + 6*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q308. $(7x^4 + 3x^3 + 2) dx$

Simplified antiderivative: $x*(28*x^{**4} + 15*x^{**3} + 40)/20 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q309. $(7x^4 + 3) dx$

Simplified antiderivative: $x*(7*x^{**4} + 15)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q310. $(x^4 + 7x^3 - 2) dx$

Simplified antiderivative: $x*(4*x^{**4} + 35*x^{**3} - 40)/20 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q311. $(7x^{-3}) + 10/x \, dx$ **Simplified antiderivative:** $10\log(x) - 7/(2x^2) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q312. $(7x+2)^3 \, dx$ **Simplified antiderivative:** $x(343x^3 + 392x^2 + 168x + 32)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q313. $(7\sqrt{x} + 2\sqrt[3]{x}) \, dx$ **Simplified antiderivative:** $x(7\sqrt{x}^2 + 2)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q314. $(7/x + 10x^4) \, dx$ **Simplified antiderivative:** $2x^5 + 7\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q315. $(8x^5 + 6x^4 + 7) \, dx$ **Simplified antiderivative:** $x(20x^5 + 18x^4 + 105)/15 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q316. $(8x^5 + 6) \, dx$ **Simplified antiderivative:** $4x^6/3 + 6x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q317. $(x^5 + 8x^4 - 7) \, dx$ **Simplified antiderivative:** $x(5x^5 + 48x^4 - 210)/30 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q318. $(8x^{-4}) + 13/x \, dx$ **Simplified antiderivative:** $13\log(x) - 8/(3x^3) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q319. $(8x+7)^4 \, dx$ **Simplified antiderivative:** $x(4096x^4 + 17920x^3 + 31360x^2 + 27440x + 12005)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q320. $(8\sqrt{x} + 7\sqrt[3]{x}) \, dx$ **Simplified antiderivative:** $x(8\sqrt{x}^2 + 7)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q321. $(8/x + 13x^5) \, dx$ **Simplified antiderivative:** $13x^6/6 + 8\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q322. $(9x^6 - 4x^5 + 1) \, dx$ **Simplified antiderivative:** $x(27x^6 - 14x^5 + 21)/21 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q323. $(9x^6 - 4) \, dx$ **Simplified antiderivative:** $x(9x^6 - 28)/7 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q324. $(x^6 + 9x^5 - 1) \, dx$

Simplified antiderivative: $x^{7/7} + 3x^{6/2} - x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q325. $(9x(-5) + 3/x) dx$

Simplified antiderivative: $3\log(x) - 9/(4x^{**4}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q326. $(9x+1)^5 dx$

Simplified antiderivative: $x(19683x^{**5} + 13122x^{**4} + 3645x^{**3} + 540x^{**2} + 45x + 2)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q327. $(9\sqrt{x} + 1/\sqrt{x}) dx$

Simplified antiderivative: $9\sqrt{x} + x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q328. $(9/x + 3x^6) dx$

Simplified antiderivative: $3x^{7/7} + 9\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q329. $(1x^7 - 1x^1 + 6) dx$

Simplified antiderivative: $x(x^{**7} - 4x + 48)/8 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q330. $(1x^7 - 1) dx$

Simplified antiderivative: $x^{8/8} - x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q331. $(x^7 + 1x^1 - 6) dx$

Simplified antiderivative: $x(x^{**7} + 4x - 48)/8 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q332. $(1x^(-1) + 6/x) dx$

Simplified antiderivative: $7\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q333. $(1x+6)^1 dx$

Simplified antiderivative: $x(x + 12)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q334. $(1\sqrt{x} + 6/\sqrt{x}) dx$

Simplified antiderivative: $x(\sqrt{x}^{**2} + 6)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q335. $(1/x + 6x^7) dx$

Simplified antiderivative: $3x^{8/4} + \log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q336. $(2x^8 + 2x^2 + 11) dx$

Simplified antiderivative: $x(2x^{**8} + 6x^{**2} + 99)/9 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q337. $(2x^8 + 2) dx$

Simplified antiderivative: $2x(x^{**8} + 9)/9 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q338. $(x^8 + 2x^2 - 11) dx$

Simplified antiderivative: $x^9/9 + 2x^3/3 - 11x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q339. $(2x^{-2} + 9/x) dx$

Simplified antiderivative: $-2/x + 9\ln|x| + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q340. $(2x+11)^2 dx$

Simplified antiderivative: $x^3 + 22x^2 + 242x + 121x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q341. $(2\sqrt{x} + 11/\sqrt{x}) dx$

Simplified antiderivative: $\frac{4}{3}x^{3/2} + 22\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q342. $(2/x + 9x^8) dx$

Simplified antiderivative: $2\ln|x| + 9x^9/9 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q343. $(3x^9 + 5x^3 + 5) dx$

Simplified antiderivative: $\frac{3}{10}x^{10} + \frac{5}{4}x^4 + 5x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q344. $(3x^9 + 5) dx$

Simplified antiderivative: $\frac{3}{10}x^{10} + 5x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q345. $(x^9 + 3x^3 - 5) dx$

Simplified antiderivative: $\frac{1}{10}x^{10} + \frac{3}{4}x^4 - 5x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q346. $(3x^{-3} + 12/x) dx$

Simplified antiderivative: $-1/x + 12\ln|x| + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q347. $(3x+5)^3 dx$

Simplified antiderivative: $\frac{3}{4}(3x+5)^4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q348. $(3\sqrt{x} + 5/\sqrt{x}) dx$

Simplified antiderivative: $\frac{6}{5}x^{5/2} + 10\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q349. $(3/x + 12x^9) dx$

Simplified antiderivative: $3\ln|x| + 12x^{10}/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q350. $(4x^2 - 5x^4 + 10) dx$

Simplified antiderivative: $\frac{4}{3}x^3 - \frac{5}{5}x^5 + 10x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q351. $(4x^2 - 5) dx$ **Simplified antiderivative:** $x(4x^{**2} - 15)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q352. $(x^2 + 4x^4 - 10) dx$ **Simplified antiderivative:** $x(12x^{**4} + 5x^{**2} - 150)/15 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q353. $(4x^{(-4)} + 2/x) dx$ **Simplified antiderivative:** $2*\log(x) - 4/(3*x^{**3}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q354. $(4x+10)^4 dx$ **Simplified antiderivative:** $16x*(16x^{**4} + 200x^{**3} + 1000x^{**2} + 2500x + 3125)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q355. $(4\sqrt{x} + 10/\sqrt{x}) dx$ **Simplified antiderivative:** $4*\sqrt{x} + 10x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q356. $(4/x + 2x^2) dx$ **Simplified antiderivative:** $2x^{**3}/3 + 4*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q357. $(5x^3 - 2x^5 + 4) dx$ **Simplified antiderivative:** $x*(-4x^{**5} + 15x^{**3} + 48)/12 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q358. $(5x^3 - 2) dx$ **Simplified antiderivative:** $x(5x^{**3} - 8)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q359. $(x^3 + 5x^5 - 4) dx$ **Simplified antiderivative:** $x(10x^{**5} + 3x^{**3} - 48)/12 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q360. $(5x^{(-5)} + 5/x) dx$ **Simplified antiderivative:** $5*\log(x) - 5/(4x^{**4}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q361. $(5x+4)^5 dx$ **Simplified antiderivative:** $x(3125x^{**5} + 15000x^{**4} + 30000x^{**3} + 32000x^{**2} + 19200x + 6144)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q362. $(5\sqrt{x} + 4/\sqrt{x}) dx$ **Simplified antiderivative:** $x(5*\sqrt{x} + 4)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q363. $(5/x + 5x^3) dx$ **Simplified antiderivative:** $5x^{**4}/4 + 5*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q364. $(6x^4 + 1x^1 + 9) dx$ **Simplified antiderivative:** $x(12x^{**4} + 5x + 90)/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q365. $(6x^4 + 1) dx$ **Simplified antiderivative:** $6x^{**5}/5 + x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q366. $(x^4 + 6x^1 - 9) dx$ **Simplified antiderivative:** $x(x^{**4} + 15x - 45)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q367. $(6x^1(-1) + 8/x) dx$ **Simplified antiderivative:** $14\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q368. $(6x+9)^1 dx$ **Simplified antiderivative:** $3x^*(x + 3) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q369. $(6\sqrt{x} + 9/\sqrt{x}) dx$ **Simplified antiderivative:** $6\sqrt{x}x + 9x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q370. $(6/x + 8x^4) dx$ **Simplified antiderivative:** $8x^{**5}/5 + 6\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q371. $(7x^5 + 4x^2 + 3) dx$ **Simplified antiderivative:** $x(7x^{**5} + 8x^{**2} + 18)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q372. $(7x^5 + 4) dx$ **Simplified antiderivative:** $x(7x^{**5} + 24)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q373. $(x^5 + 7x^2 - 3) dx$ **Simplified antiderivative:** $x(x^{**5} + 14x^{**2} - 18)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q374. $(7x^1(-2) + 11/x) dx$ **Simplified antiderivative:** $11\log(x) - 7/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q375. $(7x+3)^2 dx$ **Simplified antiderivative:** $x(49x^{**2} + 63x + 27)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q376. $(7\sqrt{x} + 3/\sqrt{x}) dx$ **Simplified antiderivative:** $x(7\sqrt{x}^{**2} + 3)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q377. $(7/x + 11x^5) dx$

Simplified antiderivative: $11x^{6/6} + 7\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q378. $(8x^6 - 6x^3 + 8) dx$

Simplified antiderivative: $x(16x^{**6} - 21x^{**3} + 112)/14 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q379. $(8x^6 - 6) dx$

Simplified antiderivative: $8x^{**7/7} - 6x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q380. $(x^6 + 8x^3 - 8) dx$

Simplified antiderivative: $x(x^{**6} + 14x^{**3} - 56)/7 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q381. $(8x^{(-3)} + 1/x) dx$

Simplified antiderivative: $\log(x) - 4/x^{**2} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q382. $(8x+8)^3 dx$

Simplified antiderivative: $128x^*(x^{**3} + 4x^{**2} + 6x + 4) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q383. $(8\sqrt{x} + 8/\sqrt{x}) dx$

Simplified antiderivative: $8x^*(\sqrt{x}^{**2} + 1)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q384. $(8/x + 1x^6) dx$

Simplified antiderivative: $x^{**7/7} + 8\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q385. $(9x^7 - 3x^4 + 2) dx$

Simplified antiderivative: $x(45x^{**7} - 24x^{**4} + 80)/40 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q386. $(9x^7 - 3) dx$

Simplified antiderivative: $9x^{**8/8} - 3x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q387. $(x^7 + 9x^4 - 2) dx$

Simplified antiderivative: $x(5x^{**7} + 72x^{**4} - 80)/40 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q388. $(9x^{(-4)} + 4/x) dx$

Simplified antiderivative: $4\log(x) - 3/x^{**3} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q389. $(9x+2)^4 dx$

Simplified antiderivative: $x(6561x^{**4} + 7290x^{**3} + 3240x^{**2} + 720x + 80)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q390. $(9\sqrt{x} + 2/\sqrt{x}) dx$

Simplified antiderivative: $x(9\sqrt{x}^{**2} + 2)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q391. $(9/x + 4x^7) dx$

Simplified antiderivative: $x^{**8}/2 + 9*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q392. $(1x^8 + 0x^5 + 7) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q393. $(1x^8 + 0) dx$

Simplified antiderivative: $x^{**9}/9 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q394. $(x^8 + 1x^5 - 7) dx$

Simplified antiderivative: $x*(x^{**8}/9 + x^{**5}/6 - 7) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q395. $(1x^{(-5)} + 7/x) dx$

Simplified antiderivative: $7*\log(x) - 1/(4*x^{**4}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q396. $(1x+7)^5 dx$

Simplified antiderivative: $x*(x^{**5} + 42*x^{**4} + 735*x^{**3} + 6860*x^{**2} + 36015*x + 100842)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q397. $(1\sqrt{x} + 7\sqrt{x}) dx$

Simplified antiderivative: $x*(\sqrt{x}^{**2} + 7)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q398. $(1/x + 7x^8) dx$

Simplified antiderivative: $7*x^{**9}/9 + \log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q399. $(2x^9 + 3x^1 + 1) dx$

Simplified antiderivative: $x*(2*x^{**9} + 15*x + 10)/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q400. $(2x^9 + 3) dx$

Simplified antiderivative: $x*(x^{**9} + 15)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q401. $(x^9 + 2x^1 - 1) dx$

Simplified antiderivative: $x*(x^{**9}/10 + x - 1) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q402. $(2x^{(-1)} + 10/x) dx$

Simplified antiderivative: $12*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q403. $(2x+1)^1 dx$

Simplified antiderivative: $x*(x + 1) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q404. $(2\sqrt{x} + 1\sqrt{x}) dx$

Simplified antiderivative: $2\sqrt{x}x + x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q405. $(2/x + 10x^9) dx$

Simplified antiderivative: $x^{10} + 2\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q406. $(3x^2 + 6x^2 + 6) dx$

Simplified antiderivative: $3x(x^2 + 2) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q407. $(3x^2 + 6) dx$

Simplified antiderivative: $x(x^2 + 6) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q408. $(x^2 + 3x^2 - 6) dx$

Simplified antiderivative: $4x^{3/3} - 6x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q409. $(3x(-2) + 13/x) dx$

Simplified antiderivative: $13\log(x) - 3/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q410. $(3x+6)^2 dx$

Simplified antiderivative: $3x(x^2 + 6x + 12) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q411. $(3\sqrt{x} + 6/\sqrt{x}) dx$

Simplified antiderivative: $3x(\sqrt{x}^2 + 2)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q412. $(3/x + 13x^2) dx$

Simplified antiderivative: $13x^{3/3} + 3\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q413. $(4x^3 - 4x^3 + 11) dx$

Simplified antiderivative: $11x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q414. $(4x^3 - 4) dx$

Simplified antiderivative: $x(x^3 - 4) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q415. $(x^3 + 4x^3 - 11) dx$

Simplified antiderivative: $x(5x^3 - 44)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q416. $(4x(-3) + 3/x) dx$

Simplified antiderivative: $3\log(x) - 2/x^2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q417. $(4x+11)^3 dx$

Simplified antiderivative: $x(16x^3 + 176x^2 + 726x + 1331) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q418. $(4\sqrt{x} + 11/\sqrt{x}) dx$

Simplified antiderivative: $x(4\sqrt{x} + 11)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q419. $(4/x + 3x^3) dx$

Simplified antiderivative: $3x^{4/4} + 4\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q420. $(5x^4 - 1x^4 + 5) dx$

Simplified antiderivative: $x(4x^4 + 25)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q421. $(5x^4 - 1) dx$

Simplified antiderivative: $x^5 - x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q422. $(x^4 + 5x^4 - 5) dx$

Simplified antiderivative: $x(6x^4 - 25)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q423. $(5x^{(-4)} + 6/x) dx$

Simplified antiderivative: $6\log(x) - 5/(3x^3) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q424. $(5x+5)^4 dx$

Simplified antiderivative: $125x(x^4 + 5x^3 + 10x^2 + 10x + 5) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q425. $(5\sqrt{x} + 5/\sqrt{x}) dx$

Simplified antiderivative: $5x(\sqrt{x} + 1)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q426. $(5/x + 6x^4) dx$

Simplified antiderivative: $6x^{5/5} + 5\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q427. $(6x^5 + 2x^5 + 10) dx$

Simplified antiderivative: $4x^{6/3} + 10x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q428. $(6x^5 + 2) dx$

Simplified antiderivative: $x(x^5 + 2) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q429. $(x^5 + 6x^5 - 10) dx$

Simplified antiderivative: $x(7x^5 - 60)/6 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q430. $(6x^{(-5)} + 9/x) dx$

Simplified antiderivative: $9\log(x) - 3/(2x^4) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q431. $(6x+10)^5 dx$ **Simplified antiderivative:** $16x^6(81x^{**5} + 810x^{**4} + 3375x^{**3} + 7500x^{**2} + 9375x + 6250) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q432. $(6\sqrt{x} + 10/\sqrt{x}) dx$ **Simplified antiderivative:** $6\sqrt{x}x + 10x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q433. $(6/x + 9x^5) dx$ **Simplified antiderivative:** $3x^{**6}/2 + 6\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q434. $(7x^6 + 5x^1 + 4) dx$ **Simplified antiderivative:** $x(2x^{**6} + 5x + 8)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q435. $(7x^6 + 5) dx$ **Simplified antiderivative:** $x(x^{**6} + 5) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q436. $(x^6 + 7x^1 - 4) dx$ **Simplified antiderivative:** $x(2x^{**6} + 49x - 56)/14 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q437. $(7x^{(-1)} + 12/x) dx$ **Simplified antiderivative:** $19\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q438. $(7x+4)^1 dx$ **Simplified antiderivative:** $x(7x + 8)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q439. $(7\sqrt{x} + 4/\sqrt{x}) dx$ **Simplified antiderivative:** $x(7\sqrt{x}x^2 + 4)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q440. $(7/x + 12x^6) dx$ **Simplified antiderivative:** $12x^{**7}/7 + 7\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q441. $(8x^7 - 5x^2 + 9) dx$ **Simplified antiderivative:** $x(x^{**7} - 5x^{**2}/3 + 9) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q442. $(8x^7 - 5) dx$ **Simplified antiderivative:** $x(x^{**7} - 5) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q443. $(x^7 + 8x^2 - 9) dx$ **Simplified antiderivative:** $x(3x^{**7} + 64x^{**2} - 216)/24 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q444. $(8x^{-2} + 2/x) dx$ **Simplified antiderivative:** $2*\log(x) - 8/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q445. $(8x+9)^2 dx$ **Simplified antiderivative:** $x*(64*x**2 + 216*x + 243)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q446. $(8\sqrt{x} + 9/\sqrt{x}) dx$ **Simplified antiderivative:** $x*(8*\sqrt{x}**2 + 9)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q447. $(8/x + 2x^7) dx$ **Simplified antiderivative:** $x**8/4 + 8*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q448. $(9x^8 - 2x^3 + 3) dx$ **Simplified antiderivative:** $x*(x**8 - x**3/2 + 3) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q449. $(9x^8 - 2) dx$ **Simplified antiderivative:** $x*(x**8 - 2) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q450. $(x^8 + 9x^3 - 3) dx$ **Simplified antiderivative:** $x*(4*x**8 + 81*x**3 - 108)/36 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q451. $(9x^{-3} + 5/x) dx$ **Simplified antiderivative:** $5*\log(x) - 9/(2*x**2) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q452. $(9x+3)^3 dx$ **Simplified antiderivative:** $27*x*(27*x**3 + 36*x**2 + 18*x + 4)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q453. $(9\sqrt{x} + 3/\sqrt{x}) dx$ **Simplified antiderivative:** $9*\sqrt{x}*x + 3*x/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q454. $(9/x + 5x^8) dx$ **Simplified antiderivative:** $5*x**9/9 + 9*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q455. $(1x^9 + 1x^4 + 8) dx$ **Simplified antiderivative:** $x*(x**9 + 2*x**4 + 80)/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q456. $(1x^9 + 1) dx$ **Simplified antiderivative:** $x**10/10 + x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q457. $(x^9 + 1x^4 - 8) dx$

Simplified antiderivative: $x^*(x^{**9} + 2*x^{**4} - 80)/10 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q458. $(1x^{(-4)} + 8/x) dx$

Simplified antiderivative: $8*\log(x) - 1/(3*x^{**3}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q459. $(1x+8)^4 dx$

Simplified antiderivative: $x^*(x^{**4} + 40*x^{**3} + 640*x^{**2} + 5120*x + 20480)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q460. $(1\sqrt{x} + 8/\sqrt{x}) dx$

Simplified antiderivative: $x*(\sqrt{rx}^{**2} + 8)/\sqrt{rx} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q461. $(1/x + 8x^9) dx$

Simplified antiderivative: $4*x^{**10}/5 + \log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q462. $(2x^2 + 4x^5 + 2) dx$

Simplified antiderivative: $2*x*(x^{**5} + x^{**2} + 3)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q463. $(2x^2 + 4) dx$

Simplified antiderivative: $2*x*(x^{**2} + 6)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q464. $(x^2 + 2x^5 - 2) dx$

Simplified antiderivative: $x*(x^{**5} + x^{**2} - 6)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q465. $(2x^{(-5)} + 11/x) dx$

Simplified antiderivative: $11*\log(x) - 1/(2*x^{**4}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q466. $(2x+2)^5 dx$

Simplified antiderivative: $16*x*(x^{**5} + 6*x^{**4} + 15*x^{**3} + 20*x^{**2} + 15*x + 6)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q467. $(2\sqrt{x} + 2/\sqrt{x}) dx$

Simplified antiderivative: $2*x*(\sqrt{rx}^{**2} + 1)/\sqrt{rx} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q468. $(2/x + 11x^2) dx$

Simplified antiderivative: $11*x^{**3}/3 + 2*\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q469. $(3x^3 - 6x^1 + 7) dx$

Simplified antiderivative: $x*(3*x^{**3} - 12*x + 28)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q470. $(3x^3 - 6) dx$

Simplified antiderivative: $3*x*(x^{**3} - 8)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q471. $(x^3 + 3x - 7) dx$

Simplified antiderivative: $x^4/4 + 6x^2/2 - 7x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q472. $(3x^{-1} + 1/x) dx$

Simplified antiderivative: $4\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q473. $(3x+7)^1 dx$

Simplified antiderivative: $x(3x + 14)/2 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q474. $(3\sqrt{x} + 7\sqrt[3]{x}) dx$

Simplified antiderivative: $x(3\sqrt{x} + 7\sqrt[3]{x}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q475. $(3/x + 1x^3) dx$

Simplified antiderivative: $x^{4/4} + 3\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q476. $(4x^4 - 3x^2 + 1) dx$

Simplified antiderivative: $4x^{5/5} - x^{3/3} + x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q477. $(4x^4 - 3) dx$

Simplified antiderivative: $x(4x^4 - 15)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q478. $(x^4 + 4x^2 - 1) dx$

Simplified antiderivative: $x^{5/5} + 4x^{3/3} - x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q479. $(4x^{-2} + 4/x) dx$

Simplified antiderivative: $4\log(x) - 4/x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q480. $(4x+1)^2 dx$

Simplified antiderivative: $x(16x^2 + 12x + 3)/3 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q481. $(4\sqrt{x} + 1\sqrt[3]{x}) dx$

Simplified antiderivative: $4\sqrt{x} + x\sqrt[3]{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q482. $(4/x + 4x^4) dx$

Simplified antiderivative: $4x^{5/5} + 4\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q483. $(5x^5 + 0x^3 + 6) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q484. $(5x^5 + 0) dx$

Simplified antiderivative: $5x^{6/6} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q485. $(x^5 + 5x^3 - 6) dx$

Simplified antiderivative: $x(2x^{5/5} + 15x^{3/3} - 72)/12 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q486. $(5x^{(-3)} + 7/x) dx$

Simplified antiderivative: $7\log(x) - 5/(2x^{**2}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q487. $(5x+6)^3 dx$

Simplified antiderivative: $x(125x^{**3} + 600x^{**2} + 1080x + 864)/4 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q488. $(5\sqrt{x} + 6/\sqrt{x}) dx$

Simplified antiderivative: $x(5\sqrt{x}^{**2} + 6)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q489. $(5/x + 7x^5) dx$

Simplified antiderivative: $7x^{6/6} + 5\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q490. $(6x^6 + 3x^4 + 11) dx$

Simplified antiderivative: $x(30x^{**6} + 21x^{**4} + 385)/35 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q491. $(6x^6 + 3) dx$

Simplified antiderivative: $6x^{7/7} + 3x + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q492. $(x^6 + 6x^4 - 11) dx$

Simplified antiderivative: $x(5x^{**6} + 42x^{**4} - 385)/35 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q493. $(6x^{(-4)} + 10/x) dx$

Simplified antiderivative: $10\log(x) - 2/x^{**3} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q494. $(6x+11)^4 dx$

Simplified antiderivative: $x(1296x^{**4} + 11880x^{**3} + 43560x^{**2} + 79860x + 73205)/5 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q495. $(6\sqrt{x} + 11/\sqrt{x}) dx$

Simplified antiderivative: $x(6\sqrt{x}^{**2} + 11)/\sqrt{x} + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q496. $(6/x + 10x^6) dx$

Simplified antiderivative: $10x^{7/7} + 6\log(x) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q497. $(7x^7 + 6x^5 + 5) dx$

Simplified antiderivative: $x(7x^{7/8} + x^{**5} + 5) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q498. $(7x^7 + 6) dx$

Simplified antiderivative: $x^*(7*x^{**7} + 48)/8 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q499. $(x^7 + 7x^5 - 5) dx$

Simplified antiderivative: $x*(3*x^{**7} + 28*x^{**5} - 120)/24 + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q500. $(7x^{(-5)} + 13/x) dx$

Simplified antiderivative: $13*\log(x) - 7/(4*x^{**4}) + C$

Steps: 1) split sums into separate terms; 2) apply the power rule term by term (use $\ln|x|$ for $1/x$); 3) combine and differentiate-check the result. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Category 2: Integration by Substitution (u-Substitution)

u-substitution / reverse chain rule

Q1. $2x e^{(x^2)} dx$

Simplified antiderivative: $\exp(x^2) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q2. $(3x^2)(x^3+4)^7 dx$

Simplified antiderivative: $x^{23} (x^{21} + 32x^{18} + 448x^{15} + 3584x^{12} + 17920x^9 + 57344x^6 + 114688x^3 + 131072)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q3. $\cos(5x) dx$

Simplified antiderivative: $\sin(5x)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q4. $\sin(2x+1) dx$

Simplified antiderivative: $-\cos(2x + 1)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q5. $x/(x^2+1) dx$

Simplified antiderivative: $\log(x^2 + 1)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q6. $2x/(x^2+9) dx$

Simplified antiderivative: $\log(x^2 + 9) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q7. $e^{(3x+2)} dx$

Simplified antiderivative: $\exp(3x + 2)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q8. $(2x+1)\sqrt{(x^2+x+4)} dx$

Simplified antiderivative: $2(x^2 + x + 4)^{3/2}/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q9. $(\ln x)/x dx$

Simplified antiderivative: $\log(x)^{2/2} + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q10. $\sec^2(4x) dx$

Simplified antiderivative: $\tan(4x)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q11. $(2x)/(x^2-5)^3 dx$

Simplified antiderivative: $-1/(2x^4 - 20x^2 + 50) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q12. $\cos x \cdot e^{(\sin x)} dx$

Simplified antiderivative: $\cdot \exp(\sin(x)) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q13. $(x+1)/(x^2+2x+5) dx$

Simplified antiderivative: $\log(x^2 + 2x + 5)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q14. $(3x^2+2)/(x^3+2x+7) dx$

Simplified antiderivative: $\log(x^3 + 2x + 7) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q15. $(2x-3)e^{(x^2-3x)} dx$

Simplified antiderivative: $\exp(x^2(x-3)) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q16. $\sin(\sqrt{x})/\sqrt{x} dx$

Simplified antiderivative: $x\sin(\sqrt{x})/\sqrt{x} + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q17. $(\ln(2x))/(x) dx$

Simplified antiderivative: $\log(2^2x)^{2/2} + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q18. $x\sqrt{x^2+1} dx$

Simplified antiderivative: $x\sqrt{x^2+3}/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q19. $(4x^3)/(x^2+2)^2 dx$

Solution status: A mathematical exponent/symbol is unreadable in the supplied PDF. Please check the original question before solving.

Q20. $\tan x dx$

Simplified antiderivative: $-\log(\cos(x)) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q21. $2x^{(1)(2x^2+6)^3} dx$

Simplified antiderivative: $2^{x^2+6}(x^6 + 12x^4 + 54x^2 + 108) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q22. $(2x+3)e^{(2x^2+6)} dx$

Simplified antiderivative: $(2\exp(2x^2) - 3\sqrt{2}\sqrt{\pi}\operatorname{erfi}(\sqrt{2}x))\exp(6)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q23. $(2x+3)/(2x^2+6) dx$

Simplified antiderivative: $\log(x^2 + 3)/2 - \sqrt{3}\operatorname{atan}(\sqrt{3}x/3)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q24. $\cos(2x+3) dx$

Simplified antiderivative: $\sin(2x - 3)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q25. $\sin(2x+3) dx$

Simplified antiderivative: $-\cos(2x - 3)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q26. $(2x+3)/(2x^2+3x+6)^2 dx$

Simplified antiderivative: $x(40x^5 - 216x^4 + 765x^3 - 1710x^2 + 2700x - 3240)/30 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q27. $e^{(2x+3)} dx$

Simplified antiderivative: $\exp(2^*x - 3)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q28. $3x^2(3x^3+11)^4 dx$

Simplified antiderivative: $x^{**3}(81*x^{**12} + 1485*x^{**9} + 10890*x^{**6} + 39930*x^{**3} + 73205)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q29. $(3x+0) e^{(3x^2+11)} dx$

Simplified antiderivative: $\exp(3*x^{**2} + 11)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q30. $(3x+0)/(3x^2+11) dx$

Simplified antiderivative: $\log(3*x^{**2} + 11)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q31. $\cos(3x+0) dx$

Simplified antiderivative: $\sin(3*x)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q32. $\sin(3x+0) dx$

Simplified antiderivative: $-\cos(3*x)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q33. $(3x+0)(3x^2+0x+11)^3 dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q34. $e^{(3x+0)} dx$

Simplified antiderivative: $\exp(3*x)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q35. $4x^3(4x^4+5)^5 dx$

Simplified antiderivative: $x^{**4}(512*x^{**20} + 3840*x^{**16} + 12000*x^{**12} + 20000*x^{**8} + 18750*x^{**4} + 9375)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q36. $(4x+3) e^{(4x^2+5)} dx$

Simplified antiderivative: $(2*\exp(4*x^{**2}) + 3*\sqrt{\pi}*\operatorname{erfi}(2*x))*\exp(5)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q37. $(4x+3)/(4x^2+5) dx$

Simplified antiderivative: $\log(x^{**2} + 5/4)/2 + 3*\sqrt{5}*\operatorname{atan}(2*\sqrt{5}*x/5)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q38. $\cos(4x+3) dx$

Simplified antiderivative: $\sin(4*x + 3)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q39. $\sin(4x+3) dx$

Simplified antiderivative: $-\cos(4*x + 3)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q40. $(4x+3)(4x^2+3x+5)^4 dx$

Simplified antiderivative: $x*(10752*x^{**9} + 44800*x^{**8} + 142800*x^{**7} + 295200*x^{**6} + 498750*x^{**5} + 640143*x^{**4} + 677775*x^{**3} + 561750*x^{**2} + 367500*x + 196875)/105 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q41. $e^{(4x+3)} dx$ **Simplified antiderivative:** $\exp(4x + 3)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q42. $5x^4(5x^5+10)^6 dx$ **Simplified antiderivative:** $15625x^{**5}(x^{**30} + 14x^{**25} + 84x^{**20} + 280x^{**15} + 560x^{**10} + 672x^{**5} + 448)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q43. $(5x+6) e^{(5x^2+10)} dx$ **Simplified antiderivative:** $(5\exp(5x^{**2}) + 6\sqrt{5}\sqrt{\pi})\operatorname{erfi}(\sqrt{5}x)\exp(10)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q44. $(5x+6)/(5x^2+10) dx$ **Simplified antiderivative:** $\log(x^{**2} + 2)/2 + 3\sqrt{2}\operatorname{atan}(\sqrt{2}x/2)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q45. $\cos(5x+6) dx$ **Simplified antiderivative:** $\sin(5x + 6)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q46. $\sin(5x+6) dx$ **Simplified antiderivative:** $-\cos(5x + 6)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q47. $(5x+6)(5x^2+6x+10)^5 dx$ **Simplified antiderivative:** $x(1203125x^{**11} + 9450000x^{**10} + 45622500x^{**9} + 151690000x^{**8} + 388195500x^{**7} + 783192960x^{**6} + 1280765024x^{**5} + 1701786240x^{**4} + 1835526000x^{**3} + 1589280000x^{**2} + 1062600000x + 554400000)/924 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q48. $e^{(5x+6)} dx$ **Simplified antiderivative:** $\exp(5x + 6)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q49. $6x^0(6x^1+4)^7 dx$ **Simplified antiderivative:** $96x(2187x^{**7} + 11664x^{**6} + 27216x^{**5} + 36288x^{**4} + 30240x^{**3} + 16128x^{**2} + 5376x + 1024) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q50. $(6x+4) e^{(6x^2+4)} dx$ **Simplified antiderivative:** $(\exp(6x^{**2})/2 - \sqrt{6}\sqrt{\pi})\operatorname{erfi}(\sqrt{6}x/3)\exp(4) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q51. $(6x+4)/(6x^2+4) dx$ **Simplified antiderivative:** $\log(x^{**2} + 2/3)/2 - \sqrt{6}\operatorname{atan}(\sqrt{6}x/2)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q52. $\cos(6x+4) dx$ **Simplified antiderivative:** $\sin(6x - 4)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q53. $\sin(6x+4) dx$ **Simplified antiderivative:** $-\cos(6x - 4)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q54. $(6x+4)(6x^2-4x+4)^{1/2} dx$ **Simplified antiderivative:** $x^3(9x^3 - 16x^2 + 20x - 16) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q55. $e^{6x+4} dx$ **Simplified antiderivative:** $\exp(6x - 4)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q56. $7x^{1/2}(7x^2+9)^{8/9} dx$ **Simplified antiderivative:** $7x^{1/2}(5764801x^{16} + 66706983x^{14} + 343064484x^{12} + 1029193452x^{10} + 1984873086x^8 + 2551979682x^6 + 2187411156x^4 + 1205308188x^2 + 387420489)/18 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q57. $(7x+1)e^{7x^2+9} dx$ **Simplified antiderivative:** $(7\exp(7x^2) - \sqrt{7}\sqrt{\pi})\operatorname{erfi}(\sqrt{7}x)\exp(9)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q58. $(7x+1)/(7x^2+9) dx$ **Simplified antiderivative:** $\log(x^2 + 9/7)/2 - \sqrt{7}\operatorname{atan}(\sqrt{7}x/3)/21 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q59. $\cos(7x+1) dx$ **Simplified antiderivative:** $\sin(7x - 1)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q60. $\sin(7x+1) dx$ **Simplified antiderivative:** $-\cos(7x - 1)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q61. $(7x+1)(7x^2+1x+9)^2 dx$ **Simplified antiderivative:** $x(3430x^5 - 1764x^4 + 13545x^3 - 5060x^2 + 17550x - 4860)/60 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q62. $e^{7x+1} dx$ **Simplified antiderivative:** $\exp(7x - 1)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q63. $8x^2(8x^3+3)^9 dx$ **Simplified antiderivative:** $8x^{1/3}(67108864x^{27} + 251658240x^{24} + 424673280x^{21} + 424673280x^{18} + 278691840x^{15} + 125411328x^{12} + 39191040x^9 + 8398080x^6 + 1180980x^3 + 98415)/15 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q64. $(8x+2)e^{8x^2+3} dx$ **Simplified antiderivative:** $(2\exp(8x^2) + \sqrt{2}\sqrt{\pi})\operatorname{erfi}(\sqrt{2}x)\exp(3)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q65. $(8x+2)/(8x^2+3) dx$ **Simplified antiderivative:** $\log(x^2 + 3/8)/2 + \sqrt{6}\operatorname{atan}(2\sqrt{6}x/3)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q66. $\cos(8x+2) dx$ **Simplified antiderivative:** $\sin(8x + 2)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q67. $\sin(8x+2) dx$

Simplified antiderivative: $-\cos(8x + 2)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q68. $(8x+2)(8x^2+2x+3)^3 dx$

Simplified antiderivative: $2x^8(8960x^7 + 10240x^6 + 17920x^5 + 12992x^4 + 11410x^3 + 5460x^2 + 2835x + 945)/35 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q69. $e^{(8x+2)} dx$

Simplified antiderivative: $\exp(8x + 2)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q70. $9x^3(9x^4+8)^2 dx$

Simplified antiderivative: $x^{14}(243x^8/4 + 162x^4 + 144) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q71. $(9x+5) e^{(9x^2+8)} dx$

Simplified antiderivative: $(3\exp(9x^2) + 5\sqrt{\pi}\operatorname{erfi}(3x))\exp(8)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q72. $(9x+5)/(9x^2+8) dx$

Simplified antiderivative: $\log(x^2 + 8/9)/2 + 5\sqrt{2}\operatorname{atan}(3\sqrt{2}x/4)/12 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q73. $\cos(9x+5) dx$

Simplified antiderivative: $\sin(9x + 5)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q74. $\sin(9x+5) dx$

Simplified antiderivative: $-\cos(9x + 5)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q75. $(9x+5)(9x^2+5x+8)^4 dx$

Simplified antiderivative: $x^{10}(826686x^9 + 2551500x^8 + 6863535x^7 + 11356200x^6 + 16260090x^5 + 17183180x^4 + 15578080x^3 + 10841600x^2 + 6164480x + 2867200)/140 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q76. $e^{(9x+5)} dx$

Simplified antiderivative: $\exp(9x + 5)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q77. $1x^4(1x^5+2)^3 dx$

Simplified antiderivative: $x^{25}(x^{15} + 8x^{10} + 24x^5 + 32)/20 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q78. $(1x+-5) e^{(1x^2+2)} dx$

Simplified antiderivative: $(\exp(x^2) - 5\sqrt{\pi}\operatorname{erfi}(x))\exp(2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q79. $(1x+-5)/(1x^2+2) dx$

Simplified antiderivative: $\log(x^2 + 2)/2 - 5\sqrt{2}\operatorname{atan}(\sqrt{2}x/2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q80. $\cos(1x+5) dx$

Simplified antiderivative: $\sin(x - 5) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q81. $\sin(1x+5) dx$

Simplified antiderivative: $-\cos(x - 5) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q82. $(1x+5)(1x^2+5x+2)^5 dx$

Simplified antiderivative: $x^{462}x^{11} - 15120x^{10} + 213444x^9 - 1694000x^8 + 8257095x^7 - 25383600x^6 + 48930420x^5 - 58156560x^4 + 43076880x^3 - 19958400x^2 + 5632704x - 887040)/5544 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q83. $e^{(1x+5)} dx$

Simplified antiderivative: $\exp(x - 5) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q84. $2x^{(0)}(2x^1+7)^4 dx$

Simplified antiderivative: $2x^{16}x^4 + 280x^3 + 1960x^2 + 6860x + 12005)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q85. $(2x+2) e^{(2x^2+7)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q86. $(2x+2)/(2x^2+7) dx$

Simplified antiderivative: $\log(x^2 + 7/2)/2 - \sqrt{14} \operatorname{atan}(\sqrt{14}x/7)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q87. $\cos(2x+2) dx$

Simplified antiderivative: $\sin(2x - 2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q88. $\sin(2x+2) dx$

Simplified antiderivative: $-\cos(2x - 2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q89. $(2x+2)(2x^2+2x+7)^1 dx$

Simplified antiderivative: $x^{3^3}x^3 - 8x^2 + 27x - 42)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q90. $e^{(2x+2)} dx$

Simplified antiderivative: $\exp(2x - 2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q91. $3x^{(1)}(3x^2+1)^5 dx$

Simplified antiderivative: $3x^{81}x^{10} + 162x^8 + 135x^6 + 60x^4 + 15x^2 + 2)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q92. $(3x+1) e^{(3x^2+1)} dx$

Simplified antiderivative: $E^{(3^3 \exp(3x^2) + \sqrt{3} \sqrt{3} \operatorname{erfi}(\sqrt{3}x))/6} + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q93. $(3x+1)/(3x^2+1) \, dx$ **Simplified antiderivative:** $\log(x^2 + 1/3)/2 + \sqrt{3} \operatorname{atan}(\sqrt{3}x)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q94. $\cos(3x+1) \, dx$ **Simplified antiderivative:** $\sin(3x + 1)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q95. $\sin(3x+1) \, dx$ **Simplified antiderivative:** $-\cos(3x + 1)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q96. $(3x+1)(3x^2+1x+1)^2 \, dx$ **Simplified antiderivative:** $x(270x^5 + 324x^4 + 405x^3 + 260x^2 + 150x + 60)/60 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q97. $e^{(3x+1)} \, dx$ **Simplified antiderivative:** $\exp(3x + 1)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q98. $4x^2(4x^3+6)^6 \, dx$ **Simplified antiderivative:** $x^{18}(16384x^{18}/21 + 8192x^{15} + 36864x^{12} + 92160x^9 + 138240x^6 + 124416x^3 + 62208) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q99. $(4x+4)e^{(4x^2+6)} \, dx$ **Simplified antiderivative:** $(\exp(4x^2)/2 + \sqrt{\pi} \operatorname{erfi}(2x)) \exp(6) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q100. $(4x+4)/(4x^2+6) \, dx$ **Simplified antiderivative:** $\log(x^2 + 3/2)/2 + \sqrt{6} \operatorname{atan}(\sqrt{6}x/3)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q101. $\cos(4x+4) \, dx$ **Simplified antiderivative:** $\sin(4x + 4)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q102. $\sin(4x+4) \, dx$ **Simplified antiderivative:** $-\cos(4x + 4)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q103. $(4x+4)(4x^2+4x+6)^3 \, dx$ **Simplified antiderivative:** $16x^{14}(14x^{14} + 64x^{12} + 196x^{10} + 392x^8 + 595x^6 + 672x^4 + 567x^2 + 378)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q104. $e^{(4x+4)} \, dx$ **Simplified antiderivative:** $\exp(4x + 4)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q105. $5x^3(5x^4+11)^7 \, dx$ **Simplified antiderivative:** $5x^{17}(78125x^{28} + 1375000x^{24} + 10587500x^{20} + 46585000x^{16} + 128108750x^{12} + 225471400x^8 + 248018540x^4 + 155897368)/32 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q106. $(5x+6)e^{(5x^2+11)} dx$ **Simplified antiderivative:** $(5\exp(5x^{**2}) - 6\sqrt{5}\sqrt{\pi})\operatorname{erfi}(\sqrt{5}x)\exp(11)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q107. $(5x+6)/(5x^2+11) dx$ **Simplified antiderivative:** $\log(x^{**2} + 11/5)/2 - 6\sqrt{55}\operatorname{atan}(\sqrt{55}x/11)/55 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q108. $\cos(5x+6) dx$ **Simplified antiderivative:** $\sin(5x - 6)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q109. $\sin(5x+6) dx$ **Simplified antiderivative:** $-\cos(5x - 6)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q110. $(5x+6)(5x^2+6x+11)^4 dx$ **Simplified antiderivative:** $x(65625x^{**9} - 437500x^{**8} + 1903125x^{**7} - 5580000x^{**6} + 12626250x^{**5} - 22031352x^{**4} + 30563610x^{**3} - 33337920x^{**2} + 27811245x - 18447660)/210 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q111. $e^{(5x+6)} dx$ **Simplified antiderivative:** $\exp(5x - 6)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q112. $6x^4/(6x^5+5)^8 dx$ **Simplified antiderivative:** $x^{**5}(1119744x^{**40/5} + 1679616x^{**35} + 5598720x^{**30} + 10886400x^{**25} + 13608000x^{**20} + 11340000x^{**15} + 6300000x^{**10} + 2250000x^{**5} + 468750) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q113. $(6x+3)e^{(6x^2+5)} dx$ **Simplified antiderivative:** $(2\exp(6x^{**2}) - \sqrt{6}\sqrt{\pi})\operatorname{erfi}(\sqrt{6}x)\exp(5)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q114. $(6x+3)/(6x^2+5) dx$ **Simplified antiderivative:** $\log(x^{**2} + 5/6)/2 - \sqrt{30}\operatorname{atan}(\sqrt{30}x/5)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q115. $\cos(6x+3) dx$ **Simplified antiderivative:** $\sin(6x - 3)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q116. $\sin(6x+3) dx$ **Simplified antiderivative:** $-\cos(6x - 3)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q117. $(6x+3)(6x^2+3x+5)^5 dx$ **Simplified antiderivative:** $3x(199584x^{**11} - 653184x^{**10} + 1896048x^{**9} - 3437280x^{**8} + 5478165x^{**7} - 6598152x^{**6} + 6993987x^{**5} - 5883570x^{**4} + 4302375x^{**3} - 2502500x^{**2} + 1203125x - 481250)/154 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q118. $e^{(6x+3)} dx$ **Simplified antiderivative:** $\exp(6x - 3)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q119. $7x^0(7x^1+10)^9 dx$

Simplified antiderivative: $7^*x*(40353607^*x^{**9} + 576480100^*x^{**8} + 3705943500^*x^{**7} + 14117880000^*x^{**6} + 35294700000^*x^{**5} + 60505200000^*x^{**4} + 72030000000^*x^{**3} + 58800000000^*x^{**2} + 31500000000^*x + 10000000000)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q120. $(7x+0) e^{(7x^2+10)} dx$

Simplified antiderivative: $\exp(7^*x^{**2} + 10)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q121. $(7x+0)/(7x^2+10) dx$

Simplified antiderivative: $\log(7^*x^{**2} + 10)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q122. $\cos(7x+0) dx$

Simplified antiderivative: $\sin(7^*x)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q123. $\sin(7x+0) dx$

Simplified antiderivative: $-\cos(7^*x)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q124. $(7x+0)(7x^2+0x+10)^1 dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q125. $e^{(7x+0)} dx$

Simplified antiderivative: $\exp(7^*x)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q126. $8x^1(8x^2+4)^2 dx$

Simplified antiderivative: $x^{**2}*(256^*x^{**4}/3 + 128^*x^{**2} + 64) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q127. $(8x+3) e^{(8x^2+4)} dx$

Simplified antiderivative: $(4^*\exp(8^*x^{**2}) + 3^*\sqrt{2}^*\sqrt{\pi}^*\operatorname{erfi}(2^*\sqrt{2}^*x))^*\exp(4)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q128. $(8x+3)/(8x^2+4) dx$

Simplified antiderivative: $\log(x^{**2} + 1/2)/2 + 3^*\sqrt{2}^*\operatorname{atan}(\sqrt{2}^*x)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q129. $\cos(8x+3) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q130. $\sin(8x+3) dx$

Simplified antiderivative: $-\cos(8^*x + 3)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q131. $(8x+3)(8x^2+3x+4)^2 dx$

Simplified antiderivative: $x*(1280^*x^{**5} + 1728^*x^{**4} + 2730^*x^{**3} + 2055^*x^{**2} + 1500^*x + 720)/15 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q132. $e^{(8x+3)} dx$

Simplified antiderivative: $\exp(8^*x + 3)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q133. $9x^2(9x^3+9)^3 dx$

Simplified antiderivative: $2187x^{10}(x^9 + 4x^6 + 6x^3 + 4)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q134. $(9x+6)e^{(9x^2+9)} dx$

Simplified antiderivative: $(\exp(9x^2)/2 + \sqrt{\pi}\operatorname{erfi}(3x))\exp(9) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q135. $(9x+6)/(9x^2+9) dx$

Simplified antiderivative: $\log(x^2 + 1)/2 + 2\operatorname{atan}(x)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q136. $\cos(9x+6) dx$

Simplified antiderivative: $\sin(9x + 6)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q137. $\sin(9x+6) dx$

Simplified antiderivative: $-\cos(9x + 6)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q138. $(9x+6)(9x^2+6x+9)^3 dx$

Simplified antiderivative: $81x(2835x^7 + 8640x^6 + 21420x^5 + 32592x^4 + 40810x^3 + 36960x^2 + 26460x + 15120)/280 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q139. $e^{(9x+6)} dx$

Simplified antiderivative: $\exp(9x + 6)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q140. $1x^3(1x^4+3)^4 dx$

Simplified antiderivative: $x^{16}(x^{16} + 15x^{12} + 90x^8 + 270x^4 + 405)/20 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q141. $(1x+4)e^{(1x^2+3)} dx$

Simplified antiderivative: $(\exp(x^2) - 4\sqrt{\pi}\operatorname{erfi}(x))\exp(3)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q142. $(1x+4)/(1x^2+3) dx$

Simplified antiderivative: $\log(x^2 + 3)/2 - 4\sqrt{3}\operatorname{atan}(\sqrt{3}x/3)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q143. $\cos(1x+4) dx$

Simplified antiderivative: $\sin(x - 4) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q144. $\sin(1x+4) dx$

Simplified antiderivative: $-\cos(x - 4) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q145. $(1x+4)(1x^2+4x+3)^4 dx$

Simplified antiderivative: $x(63x^9 - 1400x^8 + 13545x^7 - 74880x^6 + 261030x^5 - 597744x^4 + 909090x^3 - 907200x^2 + 569835x - 204120)/630 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q146. $e^{(1x-4)} dx$

Simplified antiderivative: $\exp(x - 4) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q147. $2x^4(2x^5+8)^5 dx$

Simplified antiderivative: $32x^{25}(x^{25} + 24x^{20} + 240x^{15} + 1280x^{10} + 3840x^5 + 6144)/15 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q148. $(2x+1)e^{(2x^2+8)} dx$

Simplified antiderivative: $(2\exp(2x^2) - \sqrt{2}\sqrt{\pi}\operatorname{erfi}(\sqrt{2}x))\exp(8)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q149. $(2x+1)/(2x^2+8) dx$

Simplified antiderivative: $\log(x^2 + 4)/2 - \operatorname{atan}(x/2)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q150. $\cos(2x+1) dx$

Simplified antiderivative: $\sin(2x - 1)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q151. $\sin(2x+1) dx$

Simplified antiderivative: $-\cos(2x - 1)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q152. $(2x+1)(2x^2+1x+8)^5 dx$

Simplified antiderivative: $x^{352}x^{11} - 1152x^{10} + 10032x^9 - 24640x^8 + 111375x^7 - 208296x^6 + 623931x^5 - 879120x^4 + 1869120x^3 - 1914880x^2 + 2838528x - 2162688)/66 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q153. $e^{(2x+1)} dx$

Simplified antiderivative: $\exp(2x - 1)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q154. $3x^0(3x^1+2)^6 dx$

Simplified antiderivative: $3x^{729}x^{6} + 3402x^{5} + 6804x^{4} + 7560x^{3} + 5040x^{2} + 2016x + 448)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q155. $(3x+2)e^{(3x^2+2)} dx$

Simplified antiderivative: $(\exp(3x^2)/2 + \sqrt{3}\sqrt{\pi}\operatorname{erfi}(\sqrt{3}x)/3)\exp(2) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q156. $(3x+2)/(3x^2+2) dx$

Simplified antiderivative: $\log(x^2 + 2/3)/2 + \sqrt{6}\operatorname{atan}(\sqrt{6}x/2)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q157. $\cos(3x+2) dx$

Simplified antiderivative: $\sin(3x + 2)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q158. $\sin(3x+2) dx$

Simplified antiderivative: $-\cos(3x + 2)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q159. $(3x+2)(3x^2+2x+2)^1 dx$

Simplified antiderivative: $x^9(9x^{**3} + 16x^{**2} + 20x + 16)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q160. $4x^1(4x^2+7)^7 dx$

Simplified antiderivative: $x^{**2}(4096x^{**14} + 57344x^{**12} + 351232x^{**10} + 1229312x^{**8} + 2689120x^{**6} + 3764768x^{**4} + 3294172x^{**2} + 1647086) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q161. $(4x+5)e^{(4x^2+7)} dx$

Simplified antiderivative: $(2\exp(4x^{**2}) + 5\sqrt{\pi}\operatorname{erfi}(2x))\exp(7)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q162. $(4x+5)/(4x^2+7) dx$

Simplified antiderivative: $\log(x^{**2} + 7/4)/2 + 5\sqrt{7}\operatorname{atan}(2\sqrt{7}x/7)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q163. $\cos(4x+5) dx$

Simplified antiderivative: $\sin(4x + 5)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q164. $\sin(4x+5) dx$

Simplified antiderivative: $-\cos(4x + 5)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q165. $(4x+5)(4x^2+5x+7)^2 dx$

Simplified antiderivative: $x(32x^{**5} + 144x^{**4} + 393x^{**3} + 685x^{**2} + 819x + 735)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q166. $e^{(4x+5)} dx$

Simplified antiderivative: $\exp(4x + 5)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q167. $5x^2(5x^3+1)^8 dx$

Simplified antiderivative: $5x^{**3}(390625x^{**24} + 703125x^{**21} + 562500x^{**18} + 262500x^{**15} + 78750x^{**12} + 15750x^{**9} + 2100x^{**6} + 180x^{**3} + 9)/27 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q168. $(5x-5)e^{(5x^2+1)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q169. $(5x-5)/(5x^2+1) dx$

Simplified antiderivative: $\log(x^{**2} + 1/5)/2 - \sqrt{5}\operatorname{atan}(\sqrt{5}x) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q170. $\cos(5x+5) dx$

Simplified antiderivative: $\sin(5x - 5)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q171. $\sin(5x+5) dx$

Simplified antiderivative: $-\cos(5x - 5)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q172. $(5x+5)(5x^2+5x+1)^3 dx$

Simplified antiderivative: $5^5 x^{14} (875 x^7 - 4000 x^6 + 7700 x^5 - 8120 x^4 + 5110 x^3 - 1960 x^2 + 448 x - 56)/56 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q173. $e^{(5x+5)} dx$

Simplified antiderivative: $\exp(5x - 5)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q174. $6x^3(6x^4+6)^9 dx$

Simplified antiderivative: $7558272 x^{36} (x^{36} + 10 x^{32} + 45 x^{28} + 120 x^{24} + 210 x^{20} + 252 x^{16} + 210 x^{12} + 120 x^8 + 45 x^4 + 10)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q175. $(6x+2) e^{(6x^2+6)} dx$

Simplified antiderivative: $(3 \exp(6x^2) - \sqrt{6} \operatorname{erfi}(\sqrt{6}x)) \exp(6)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q176. $(6x+2)/(6x^2+6) dx$

Simplified antiderivative: $\log(x^2 + 1)/2 - \operatorname{atan}(x)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q177. $\cos(6x+2) dx$

Simplified antiderivative: $\sin(6x - 2)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q178. $\sin(6x+2) dx$

Simplified antiderivative: $-\cos(6x - 2)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q179. $(6x+2)(6x^2+2x+6)^4 dx$

Simplified antiderivative: $8 x^{14} (486 x^9 - 900 x^8 + 3105 x^7 - 3960 x^6 + 7070 x^5 - 6412 x^4 + 7350 x^3 - 4680 x^2 + 3510 x - 1620)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q180. $e^{(6x+2)} dx$

Simplified antiderivative: $\exp(6x - 2)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q181. $7x^4(7x^5+11)^2 dx$

Simplified antiderivative: $7^5 x^{29} (49 x^{10} + 231 x^5 + 363)/15 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q182. $(7x+1) e^{(7x^2+11)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q183. $(7x+1)/(7x^2+11) dx$

Simplified antiderivative: $\log(x^2 + 11/7)/2 + \sqrt{77} \operatorname{atan}(\sqrt{77}x/11)/77 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q184. $\cos(7x+1) dx$

Simplified antiderivative: $\sin(7x + 1)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q185. $\sin(7x+1) dx$

Simplified antiderivative: $-\cos(7x + 1)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q186. $(7x+1)(7x^2+1x+11)^5 dx$

Simplified antiderivative: $x(7764834x^{11} + 7260624x^{10} + 76063680x^9 + 58707880x^8 + 306364905x^7 + 190884672x^6 + 649835472x^5 + 315295992x^4 + 765817470x^3 + 274079520x^2 + 475422552x + 127552392)/792 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q187. $e^{(7x+1)} dx$

Simplified antiderivative: $\exp(7x + 1)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q188. $8x^{(0)}(8x^1+5)^3 dx$

Simplified antiderivative: $8x(128x^3 + 320x^2 + 300x + 125) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q189. $(8x+4) e^{(8x^2+5)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q190. $(8x+4)/(8x^2+5) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q191. $\cos(8x+4) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q192. $\sin(8x+4) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q193. $(8x+4)(8x^2+4x+5)^1 dx$

Simplified antiderivative: $4x^3(12x^3 + 16x^2 + 21x + 15)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q194. $e^{(8x+4)} dx$

Simplified antiderivative: $\exp(8x + 4)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q195. $9x^{(1)}(9x^2+10)^4 dx$

Simplified antiderivative: $x^2(59049x^8/10 + 32805x^6 + 72900x^4 + 81000x^2 + 45000) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q196. $(9x+6) e^{(9x^2+10)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q197. $(9x+6)/(9x^2+10) dx$

Simplified antiderivative: $\log(x^2 + 10/9)/2 - \sqrt{10} \operatorname{atan}(3\sqrt{10}x/10)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q198. $\cos(9x+6) dx$

Simplified antiderivative: $\sin(9x - 6)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q199. $\sin(9x+6) dx$

Simplified antiderivative: $-\cos(9x - 6)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q200. $(9x+6)(9x^2+6x+10)^2 dx$

Simplified antiderivative: $3x^5(405x^5 - 972x^4 + 2160x^3 - 2640x^2 + 2700x - 2000)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q201. $e^{(9x+6)} dx$

Simplified antiderivative: $\exp(9x - 6)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q202. $1x^{(2)}(1x^3+4)^5 dx$

Simplified antiderivative: $x^{**3}(x^{**15} + 24x^{**12} + 240x^{**9} + 1280x^{**6} + 3840x^{**3} + 6144)/18 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q203. $(1x+3) e^{(1x^2+4)} dx$

Simplified antiderivative: $(\exp(x^{**2}) - 3\sqrt{\pi}\operatorname{erfi}(x))\exp(4)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q204. $(1x+3)/(1x^2+4) dx$

Simplified antiderivative: $\log(x^{**2} + 4)/2 - 3\operatorname{atan}(x/2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q205. $\cos(1x+3) dx$

Simplified antiderivative: $\sin(x - 3) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q206. $\sin(1x+3) dx$

Simplified antiderivative: $-\cos(x - 3) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q207. $(1x+3)(1x^2+3x+4)^3 dx$

Simplified antiderivative: $x(35x^{**7} - 480x^{**6} + 3080x^{**5} - 12096x^{**4} + 31710x^{**3} - 57120x^{**2} + 69440x - 53760)/280 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q208. $e^{(1x+3)} dx$

Simplified antiderivative: $\exp(x - 3) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q209. $2x^{(3)}(2x^4+9)^6 dx$

Simplified antiderivative: $x^{**4}(64x^{**24} + 2016x^{**20} + 27216x^{**16} + 204120x^{**12} + 918540x^{**8} + 2480058x^{**4} + 3720087)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q210. $(2x+0) e^{(2x^2+9)} dx$

Simplified antiderivative: $\exp(2x^{**2} + 9)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q211. $(2x+0)/(2x^2+9) dx$

Simplified antiderivative: $\log(2x^{**2} + 9)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q212. $\cos(2x+0) dx$

Simplified antiderivative: $\sin(2x)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q213. $\sin(2x+0) dx$

Simplified antiderivative: $-\cos(2x)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q214. $(2x+0)(2x^2+0x+9)^4 dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q215. $e^{(2x+0)} dx$

Simplified antiderivative: $\exp(2x)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q216. $3x^4(3x^5+3)^7 dx$

Simplified antiderivative: $6561x^{35}(x^{35} + 8x^{30} + 28x^{25} + 56x^{20} + 70x^{15} + 56x^{10} + 28x^5 + 8)/40 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q217. $(3x+3)e^{(3x^2+3)} dx$

Simplified antiderivative: $(\exp(3x^2) + \sqrt{3}\sqrt{\pi}\operatorname{erfi}(\sqrt{3}x))\exp(3)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q218. $(3x+3)/(3x^2+3) dx$

Simplified antiderivative: $\log(x^2 + 1)/2 + \operatorname{atan}(x) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q219. $\cos(3x+3) dx$

Simplified antiderivative: $\sin(3x + 3)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q220. $\sin(3x+3) dx$

Simplified antiderivative: $-\cos(3x + 3)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q221. $(3x+3)(3x^2+3x+3)^5 dx$

Simplified antiderivative: $243x^{15}(154x^{11} + 1008x^{10} + 3696x^9 + 9240x^8 + 17325x^7 + 25344x^6 + 29568x^5 + 27720x^4 + 20790x^3 + 12320x^2 + 5544x + 1848)/616 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q222. $e^{(3x+3)} dx$

Simplified antiderivative: $\exp(3x + 3)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q223. $4x^0(4x^1+8)^8 dx$

Simplified antiderivative: $262144x^9(x^8 + 18x^7 + 144x^6 + 672x^5 + 2016x^4 + 4032x^3 + 5376x^2 + 4608x + 2304)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q224. $(4x+6)e^{(4x^2+8)} dx$

Simplified antiderivative: $(\exp(4x^2) + 3\sqrt{\pi}\operatorname{erfi}(2x))\exp(8)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q225. $(4x+6)/(4x^2+8) dx$

Simplified antiderivative: $\log(x^2 + 2)/2 + 3\sqrt{2}\operatorname{atan}(\sqrt{2}x/2)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q226. $\cos(4x+6) dx$

Simplified antiderivative: $\sin(4x + 6)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q227. $\sin(4x+6) \, dx$ **Simplified antiderivative:** $-\cos(4x + 6)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q228. $(4x+6)(4x^2+6x+8)^{1/4} \, dx$ **Simplified antiderivative:** $2x(2x^3 + 8x^2 + 17x + 24) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q229. $e^{(4x+6)} \, dx$ **Simplified antiderivative:** $\exp(4x + 6)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q230. $5x^{1/5}(5x^2+2)^{9/5} \, dx$ **Simplified antiderivative:** $x^{1/2}(1953125x^{18/4} + 1953125x^{16} + 3515625x^{14} + 3750000x^{12} + 2625000x^{10} + 1260000x^8 + 420000x^6 + 96000x^4 + 14400x^2 + 1280) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q231. $(5x+4) e^{(5x^2+2)} \, dx$ **Simplified antiderivative:** $(5\exp(5x^2) - 4\sqrt{5}\sqrt{\pi}\operatorname{erfi}(\sqrt{5}x))\exp(2)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q232. $(5x+4)/(5x^2+2) \, dx$ **Simplified antiderivative:** $\log(x^2 + 2/5)/2 - 2\sqrt{10}\operatorname{atan}(\sqrt{10}x/2)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q233. $\cos(5x+4) \, dx$ **Simplified antiderivative:** $\sin(5x - 4)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q234. $\sin(5x+4) \, dx$ **Simplified antiderivative:** $-\cos(5x - 4)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q235. $(5x+4)(5x^2+4x+2)^{1/2} \, dx$ **Simplified antiderivative:** $x^{1/2}(125x^5 - 360x^4 + 510x^3 - 448x^2 + 252x - 96)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q236. $e^{(5x+4)} \, dx$ **Simplified antiderivative:** $\exp(5x - 4)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q237. $6x^2(6x^3+7)^{1/2} \, dx$ **Simplified antiderivative:** $x^3(24x^6 + 84x^3 + 98) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q238. $(6x+1) e^{(6x^2+7)} \, dx$ **Simplified antiderivative:** $(6\exp(6x^2) - \sqrt{6}\sqrt{\pi}\operatorname{erfi}(\sqrt{6}x))\exp(7)/12 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q239. $(6x+1)/(6x^2+7) \, dx$ **Simplified antiderivative:** $\log(x^2 + 7/6)/2 - \sqrt{42}\operatorname{atan}(\sqrt{42}x/7)/42 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q240. $\cos(6x+1) dx$ **Simplified antiderivative:** $\sin(6x - 1)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q241. $\sin(6x+1) dx$ **Simplified antiderivative:** $-\cos(6x - 1)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q242. $(6x+1)(6x^2+1x+7)^3 dx$ **Simplified antiderivative:** $x(22680x^{**7} - 17280x^{**6} + 110880x^{**5} - 64176x^{**4} + 198485x^{**3} - 83300x^{**2} + 154350x - 48020)/140 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q243. $e^{(6x+1)} dx$ **Simplified antiderivative:** $\exp(6x - 1)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q244. $7x^{(3)}(7x^4+1)^3 dx$ **Simplified antiderivative:** $7x^{**4}(343x^{**12} + 196x^{**8} + 42x^{**4} + 4)/16 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q245. $(7x+2) e^{(7x^2+1)} dx$ **Simplified antiderivative:** $E*(7*\exp(7x^{**2}) + 2*\sqrt{7}*\sqrt{\pi}*\operatorname{erfi}(\sqrt{7}x))/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q246. $(7x+2)/(7x^2+1) dx$ **Simplified antiderivative:** $\log(x^{**2} + 1/7)/2 + 2*\sqrt{7}*\operatorname{atan}(\sqrt{7}x)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q247. $\cos(7x+2) dx$ **Simplified antiderivative:** $\sin(7x + 2)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q248. $\sin(7x+2) dx$ **Simplified antiderivative:** $-\cos(7x + 2)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q249. $(7x+2)(7x^2+2x+1)^4 dx$ **Simplified antiderivative:** $x(151263x^{**9} + 240100x^{**8} + 262395x^{**7} + 191520x^{**6} + 109830x^{**5} + 48456x^{**4} + 17190x^{**3} + 4800x^{**2} + 1035x + 180)/90 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q250. $e^{(7x+2)} dx$ **Simplified antiderivative:** $\exp(7x + 2)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q251. $8x^{(4)}(8x^5+6)^4 dx$ **Simplified antiderivative:** $128x^{**5}(256x^{**20} + 960x^{**15} + 1440x^{**10} + 1080x^{**5} + 405)/25 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q252. $(8x+5) e^{(8x^2+6)} dx$ **Simplified antiderivative:** $(4*\exp(8x^{**2}) + 5*\sqrt{2}*\sqrt{\pi}*\operatorname{erfi}(2*\sqrt{2}x))*\exp(6)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q253. $(8x+5)/(8x^2+6) dx$ **Simplified antiderivative:** $\log(x^{**2} + 3/4)/2 + 5*\sqrt{3}*atan(2*\sqrt{3}*x/3)/12 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q254. $\cos(8x+5) dx$ **Simplified antiderivative:** $\sin(8*x + 5)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q255. $\sin(8x+5) dx$ **Simplified antiderivative:** $-\cos(8*x + 5)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q256. $(8x+5)(8x^2+5x+6)^5 dx$ **Simplified antiderivative:** $x*(30277632*x^{**11} + 123863040*x^{**10} + 349138944*x^{**9} + 670208000*x^{**8} + 1024697520*x^{**7} + 1234807200*x^{**6} + 1230662895*x^{**5} + 999957420*x^{**4} + 670726980*x^{**3} + 364240800*x^{**2} + 155376144*x + 53887680)/1386 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q257. $e^{(8x+5)} dx$ **Simplified antiderivative:** $\exp(8*x + 5)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q258. $9x^{(0)}(9x^{1+11})^5 dx$ **Simplified antiderivative:** $9*x*(19683*x^{**5} + 144342*x^{**4} + 441045*x^{**3} + 718740*x^{**2} + 658845*x + 322102)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q259. $(9x+5)e^{(9x^2+11)} dx$ **Simplified antiderivative:** $(3*\exp(9*x^{**2}) - 5*\sqrt{\pi}*erfi(3*x))*\exp(11)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q260. $(9x+5)/(9x^2+11) dx$ **Simplified antiderivative:** $\log(x^{**2} + 11/9)/2 - 5*\sqrt{11}*atan(3*\sqrt{11}*x/11)/33 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q261. $\cos(9x+5) dx$ **Simplified antiderivative:** $\sin(9*x - 5)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q262. $\sin(9x+5) dx$ **Simplified antiderivative:** $-\cos(9*x - 5)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q263. $(9x+5)(9x^2+5x+11)^1 dx$ **Simplified antiderivative:** $x*(81*x^{**3} - 120*x^{**2} + 248*x - 220)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q264. $e^{(9x+5)} dx$ **Simplified antiderivative:** $\exp(9*x - 5)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q265. $1x^{(1)}(1x^{2+5})^6 dx$ **Simplified antiderivative:** $x^{**2}*(x^{**12} + 35*x^{**10} + 525*x^{**8} + 4375*x^{**6} + 21875*x^{**4} + 65625*x^{**2} + 109375)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q266. $(1x+2) e^{(1x^2+5)} dx$ **Simplified antiderivative:** $(\exp(x^2)/2 - \sqrt{\pi} \operatorname{erfi}(x)) \exp(5) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q267. $(1x+2)/(1x^2+5) dx$ **Simplified antiderivative:** $\log(x^2 + 5)/2 - 2\sqrt{5} \operatorname{atan}(\sqrt{5}x/5)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q268. $\cos(1x+2) dx$ **Simplified antiderivative:** $\sin(x - 2) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q269. $\sin(1x+2) dx$ **Simplified antiderivative:** $-\cos(x - 2) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q270. $(1x+2)(1x^2+2x+5)^2 dx$ **Simplified antiderivative:** $x^5(5x^5 - 36x^4 + 165x^3 - 480x^2 + 975x - 1500)/30 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q271. $e^{(1x+2)} dx$ **Simplified antiderivative:** $\exp(x - 2) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q272. $2x^2(2x^3+10)^7 dx$ **Simplified antiderivative:** $32x^{21}(x^{21} + 40x^{18} + 700x^{15} + 7000x^{12} + 43750x^9 + 175000x^6 + 437500x^3 + 625000)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q273. $(2x+1) e^{(2x^2+10)} dx$ **Simplified antiderivative:** $(2\exp(2x^2) + \sqrt{2}\sqrt{\pi} \operatorname{erfi}(\sqrt{2}x)) \exp(10)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q274. $(2x+1)/(2x^2+10) dx$ **Simplified antiderivative:** $\log(x^2 + 5)/2 + \sqrt{5} \operatorname{atan}(\sqrt{5}x/5)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q275. $\cos(2x+1) dx$ **Simplified antiderivative:** $\sin(2x + 1)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q276. $(2x+1)(2x^2+1x+10)^3 dx$ **Simplified antiderivative:** $x^{28}(280x^{27} + 640x^{26} + 6160x^{25} + 10304x^{24} + 48335x^{23} + 57400x^{22} + 161000x + 140000)/140 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q277. $e^{(2x+1)} dx$ **Simplified antiderivative:** $\exp(2x + 1)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q278. $3x^3(3x^4+4)^8 dx$ **Simplified antiderivative:** $x^{32}(2187x^{32/4} + 6561x^{28} + 34992x^{24} + 108864x^{20} + 217728x^{16} + 290304x^{12} + 258048x^8 + 147456x^4 + 49152) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q279. $(3x+4)e^{(3x^2+4)} dx$ **Simplified antiderivative:** $(3\exp(3x^2) + 4\sqrt{3}\sqrt{\pi})\operatorname{erfi}(\sqrt{3}x)\exp(4)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q280. $(3x+4)/(3x^2+4) dx$ **Simplified antiderivative:** $\log(x^2 + 4/3)/2 + 2\sqrt{3}\operatorname{atan}(\sqrt{3}x/2)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q281. $\cos(3x+4) dx$ **Simplified antiderivative:** $\sin(3x + 4)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q282. $\sin(3x+4) dx$ **Simplified antiderivative:** $-\cos(3x + 4)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q283. $(3x+4)(3x^2+4x+4)^4 dx$ **Simplified antiderivative:** $x(1701x^9 + 12600x^8 + 49140x^7 + 126720x^6 + 236320x^5 + 331520x^4 + 353920x^3 + 286720x^2 + 170240x + 71680)/70 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q284. $e^{(3x+4)} dx$ **Simplified antiderivative:** $\exp(3x + 4)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q285. $4x^4(4x^5+9)^9 dx$ **Simplified antiderivative:** $4x^5(131072x^{45} + 2949120x^{40} + 29859840x^{35} + 179159040x^{30} + 705438720x^{25} + 1904684544x^{20} + 3571283520x^{15} + 4591650240x^{10} + 3874204890x^5 + 1937102445)/25 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q286. $(4x+6)e^{(4x^2+9)} dx$ **Simplified antiderivative:** $(\exp(4x^2) - 3\sqrt{\pi})\operatorname{erfi}(2x)\exp(9)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q287. $(4x+6)/(4x^2+9) dx$ **Simplified antiderivative:** $\log(x^2 + 9/4)/2 - \operatorname{atan}(2x/3) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q288. $\cos(4x+6) dx$ **Simplified antiderivative:** $\sin(4x - 6)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q289. $\sin(4x+6) dx$ **Simplified antiderivative:** $-\cos(4x - 6)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q290. $(4x+6)(4x^2+6x+9)^5 dx$ **Simplified antiderivative:** $2x(39424x^{11} - 387072x^{10} + 2128896x^9 - 7983360x^8 + 22453200x^7 - 49268736x^6 + 86220288x^5 - 121247280x^4 + 136403190x^3 - 121247280x^2 + 81841914x - 40920957)/231 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q291. $e^{(4x+6)} dx$ **Simplified antiderivative:** $\exp(4x - 6)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q292. $5x^{(0)}(5x^1+3)^2 dx$

Simplified antiderivative: $5x^{(25x^{**2} + 45x + 27)/3} + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q293. $(5x+3) e^{(5x^2+3)} dx$

Simplified antiderivative: $(5\exp(5x^{**2}) - 3\sqrt{5}\sqrt{\pi})\operatorname{erfi}(\sqrt{5}x)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q294. $(5x+3)/(5x^2+3) dx$

Simplified antiderivative: $\log(x^{**2} + 3/5)/2 - \sqrt{15}\operatorname{atan}(\sqrt{15}x/3)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q295. $\cos(5x+3) dx$

Simplified antiderivative: $\sin(5x - 3)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q296. $\sin(5x+3) dx$

Simplified antiderivative: $-\cos(5x - 3)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q297. $(5x+3)(5x^2+3x+3)^1 dx$

Simplified antiderivative: $x^{(25x^{**3} - 40x^{**2} + 48x - 36)/4} + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q298. $e^{(5x+3)} dx$

Simplified antiderivative: $\exp(5x - 3)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q299. $6x^{(1)}(6x^2+8)^3 dx$

Simplified antiderivative: $x^{**2}(162x^{**6} + 864x^{**4} + 1728x^{**2} + 1536) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q300. $(6x+0) e^{(6x^2+8)} dx$

Simplified antiderivative: $\exp(6x^{**2} + 8)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q301. $(6x+0)/(6x^2+8) dx$

Simplified antiderivative: $\log(3x^{**2} + 4)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q302. $\cos(6x+0) dx$

Simplified antiderivative: $\sin(6x)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q303. $\sin(6x+0) dx$

Simplified antiderivative: $-\cos(6x)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q304. $(6x+0)(6x^2+0x+8)^2 dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q305. $e^{(6x+0)} dx$

Simplified antiderivative: $\exp(6x)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q306. $7x^2(7x^3+2)^4 dx$

Simplified antiderivative: $7x^3(2401x^{12} + 3430x^9 + 1960x^6 + 560x^3 + 80)/15 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q307. $(7x+3)e^{(7x^2+2)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q308. $(7x+3)/(7x^2+2) dx$

Simplified antiderivative: $\log(x^2 + 2/7)/2 + 3\sqrt{14}\operatorname{atan}(\sqrt{14}x/2)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q309. $\cos(7x+3) dx$

Simplified antiderivative: $\sin(7x + 3)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q310. $\sin(7x+3) dx$

Simplified antiderivative: $-\cos(7x + 3)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q311. $(7x+3)(7x^2+3x+2)^3 dx$

Simplified antiderivative: $x(12005x^7 + 23520x^6 + 31360x^5 + 27216x^4 + 18030x^3 + 8880x^2 + 3280x + 960)/40 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q312. $e^{(7x+3)} dx$

Simplified antiderivative: $\exp(7x + 3)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q313. $8x^3(8x^4+7)^5 dx$

Simplified antiderivative: $2x^4(16384x^{20} + 86016x^{16} + 188160x^{12} + 219520x^8 + 144060x^4 + 50421)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q314. $(8x+6)e^{(8x^2+7)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q315. $(8x+6)/(8x^2+7) dx$

Simplified antiderivative: $\log(x^2 + 7/8)/2 + 3\sqrt{14}\operatorname{atan}(2\sqrt{14}x/7)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q316. $\cos(8x+6) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q317. $\sin(8x+6) dx$

Simplified antiderivative: $-\cos(8x + 6)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q318. $(8x+6)(8x^2+6x+7)^4 dx$

Simplified antiderivative: $2x(172032x^9 + 716800x^8 + 1962240x^7 + 3617280x^6 + 5157600x^5 + 5670000x^4 + 4962720x^3 + 3416280x^2 + 1800750x + 756315)/105 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q319. $e^{(8x+6)} dx$

Simplified antiderivative: $\exp(8x + 6)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q320. $9x^4(9x^5+1)^6 dx$

Simplified antiderivative: $9x^{55}(531441x^{30} + 413343x^{25} + 137781x^{20} + 25515x^{15} + 2835x^{10} + 189x^5 + 7)/35 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q321. $(9x+4)e^{(9x^2+1)} dx$

Simplified antiderivative: $E(3^*\exp(9*x^{**2}) - 4*\sqrt{\pi})*\operatorname{erfi}(3*x))/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q322. $(9x+4)/(9x^2+1) dx$

Simplified antiderivative: $\log(x^{**2} + 1/9)/2 - 4*\operatorname{atan}(3*x)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q323. $\cos(9x+4) dx$

Simplified antiderivative: $\sin(9*x - 4)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q324. $\sin(9x+4) dx$

Simplified antiderivative: $-\cos(9*x - 4)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q325. $(9x+4)(9x^2+4x+1)^5 dx$

Simplified antiderivative: $x*(40920957*x^{**11} - 119042784*x^{**10} + 17277374*x^{**9} - 163159920*x^{**8} + 110862675*x^{**7} - 56909952*x^{**6} + 22598884*x^{**5} - 7000224*x^{**4} + 1682835*x^{**3} - 308000*x^{**2} + 41118*x - 3696)/924 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q326. $e^{(9x+4)} dx$

Simplified antiderivative: $\exp(9*x - 4)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q327. $1x^0(1x^1+6)^7 dx$

Simplified antiderivative: $x*(x^{**7} + 48*x^{**6} + 1008*x^{**5} + 12096*x^{**4} + 90720*x^{**3} + 435456*x^{**2} + 1306368*x + 2239488)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q328. $(1x+1)e^{(1x^2+6)} dx$

Simplified antiderivative: $(\exp(x^{**2}) - \sqrt{\pi})*\operatorname{erfi}(x))*\exp(6)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q329. $(1x+1)/(1x^2+6) dx$

Simplified antiderivative: $\log(x^{**2} + 6)/2 - \sqrt{6}*\operatorname{atan}(\sqrt{6}*x/6)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q330. $\cos(1x+1) dx$

Simplified antiderivative: $\sin(x - 1) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q331. $\sin(1x+1) dx$

Simplified antiderivative: $-\cos(x - 1) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q332. $(1x+1)(1x^2+1x+6)^1 dx$

Simplified antiderivative: $x*(3*x^{**3} - 8*x^{**2} + 42*x - 72)/12 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q333. $e^{(1x+1)} dx$

Simplified antiderivative: $\exp(x - 1) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q334. $2x^1(2x^2+11)^8 dx$

Simplified antiderivative: $x^{**2}(256*x^{**16} + 12672*x^{**14} + 278784*x^{**12} + 3577728*x^{**10} + 29516256*x^{**8} + 162339408*x^{**6} + 595244496*x^{**4} + 1403076312*x^{**2} + 1929229929)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q335. $(2x+2) e^{(2x^2+11)} dx$

Simplified antiderivative: $(\exp(2*x^{**2}) + \sqrt{2}*\sqrt{\pi}*\operatorname{erfi}(\sqrt{2}*x))*\exp(11)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q336. $(2x+2)/(2x^2+11) dx$

Simplified antiderivative: $\log(x^{**2} + 11/2)/2 + \sqrt{22}*\operatorname{atan}(\sqrt{22}*x/11)/11 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q337. $\cos(2x+2) dx$

Simplified antiderivative: $\sin(2*x + 2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q338. $\sin(2x+2) dx$

Simplified antiderivative: $-\cos(2*x + 2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q339. $(2x+2)(2x^2+2x+11)^2 dx$

Simplified antiderivative: $x*(20*x^{**5} + 72*x^{**4} + 420*x^{**3} + 920*x^{**2} + 2475*x + 3630)/15 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q340. $e^{(2x+2)} dx$

Simplified antiderivative: $\exp(2*x + 2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q341. $3x^{(2)}(3x^3+5)^9 dx$

Simplified antiderivative: $x^{**3}(19683*x^{**27} + 328050*x^{**24} + 2460375*x^{**21} + 10935000*x^{**18} + 31893750*x^{**15} + 63787500*x^{**12} + 88593750*x^{**9} + 84375000*x^{**6} + 52734375*x^{**3} + 19531250)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q342. $(3x+5) e^{(3x^2+5)} dx$

Simplified antiderivative: $(3*\exp(3*x^{**2}) + 5*\sqrt{3}*\sqrt{\pi}*\operatorname{erfi}(\sqrt{3}*x))*\exp(5)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q343. $(3x+5)/(3x^2+5) dx$

Simplified antiderivative: $\log(x^{**2} + 5/3)/2 + \sqrt{15}*\operatorname{atan}(\sqrt{15}*x/5)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q344. $\cos(3x+5) dx$

Simplified antiderivative: $\sin(3*x + 5)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q345. $\sin(3x+5) dx$

Simplified antiderivative: $-\cos(3*x + 5)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q346. $(3x+5)(3x^2+5x+5)^3 dx$

Simplified antiderivative: $x^{567}x^{**7} + 4320x^{**6} + 16380x^{**5} + 39480x^{**4} + 65450x^{**3} + 77000x^{**2} + 63000x + 35000)/56 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q347. $e^{(3x+5)} dx$

Simplified antiderivative: $\exp(3x + 5)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q348. $4x^3(4x^4+10)^2 dx$

Simplified antiderivative: $x^{**4}(16x^{**8}/3 + 40x^{**4} + 100) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q349. $(4x+5)e^{(4x^2+10)} dx$

Simplified antiderivative: $(2\exp(4x^{**2}) - 5\sqrt{\pi}\operatorname{erfi}(2x))\exp(10)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q350. $(4x+5)/(4x^2+10) dx$

Simplified antiderivative: $\log(x^{**2} + 5/2)/2 - \sqrt{10}\operatorname{atan}(\sqrt{10}x/5)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q351. $\cos(4x+5) dx$

Simplified antiderivative: $\sin(4x - 5)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q352. $\sin(4x+5) dx$

Simplified antiderivative: $-\cos(4x - 5)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q353. $(4x+5)(4x^2+5x+10)^4 dx$

Simplified antiderivative: $x^{32256}x^{**9} - 224000x^{**8} + 1033200x^{**7} - 3204000x^{**6} + 7712250x^{**5} - 14308875x^{**4} + 21183750x^{**3} - 24675000x^{**2} + 22050000x - 15750000)/315 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q354. $e^{(4x+5)} dx$

Simplified antiderivative: $\exp(4x - 5)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q355. $5x^4(5x^5+4)^3 dx$

Simplified antiderivative: $x^{**5}(125x^{**15} + 400x^{**10} + 480x^{**5} + 256)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q356. $(5x+2)e^{(5x^2+4)} dx$

Simplified antiderivative: $(\exp(5x^{**2})/2 - \sqrt{5}\sqrt{\pi}\operatorname{erfi}(\sqrt{5}x/5))\exp(4) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q357. $(5x+2)/(5x^2+4) dx$

Simplified antiderivative: $\log(x^{**2} + 4/5)/2 - \sqrt{5}\operatorname{atan}(\sqrt{5}x/2)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q358. $\cos(5x+2) dx$

Simplified antiderivative: $\sin(5x - 2)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q359. $\sin(5x+2) \, dx$

Simplified antiderivative: $-\cos(5x - 2)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q360. $(5x+2)(5x^2+2x+4)^5 \, dx$

Simplified antiderivative: $x^*(3609375x^{11} - 9450000x^{10} + 27720000x^9 - 44660000x^8 + 71379000x^7 - 79580160x^6 + 85037568x^5 - 67769856x^4 + 50561280x^3 - 28385280x^2 + 14192640x - 5677056)/2772 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q361. $e^{(5x+2)} \, dx$

Simplified antiderivative: $\exp(5x - 2)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q362. $6x^0(6x^1+9)^4 \, dx$

Simplified antiderivative: $486x^*(16x^4 + 120x^3 + 360x^2 + 540x + 405)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q363. $(6x+1) e^{(6x^2+9)} \, dx$

Simplified antiderivative: $(6\exp(6x^2) + \sqrt{6}\sqrt{\pi})\operatorname{erfi}(\sqrt{6}x)\exp(9)/12 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q364. $(6x+1)/(6x^2+9) \, dx$

Simplified antiderivative: $\log(x^2 + 3/2)/2 + \sqrt{6}\operatorname{atan}(\sqrt{6}x/3)/18 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q365. $\cos(6x+1) \, dx$

Simplified antiderivative: $\sin(6x + 1)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q366. $\sin(6x+1) \, dx$

Simplified antiderivative: $-\cos(6x + 1)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q367. $(6x+1)(6x^2+1x+9)^1 \, dx$

Simplified antiderivative: $x^*(18x^3 + 8x^2 + 55x + 18)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q368. $e^{(6x+1)} \, dx$

Simplified antiderivative: $\exp(6x + 1)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q369. $7x^1(7x^2+3)^5 \, dx$

Simplified antiderivative: $7x^2*(16807x^{10} + 43218x^8 + 46305x^6 + 26460x^4 + 8505x^2 + 1458)/12 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q370. $(7x+4) e^{(7x^2+3)} \, dx$

Simplified antiderivative: $(7\exp(7x^2) + 4\sqrt{7}\sqrt{\pi})\operatorname{erfi}(\sqrt{7}x)\exp(3)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q371. $(7x+4)/(7x^2+3) \, dx$

Simplified antiderivative: $\log(x^2 + 3/7)/2 + 4\sqrt{21}\operatorname{atan}(\sqrt{21}x/3)/21 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q372. $\cos(7x+4) \, dx$

Simplified antiderivative: $\sin(7x + 4)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q373. $\sin(7x+4) \, dx$

Simplified antiderivative: $-\cos(7x + 4)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q374. $(7x+4)(7x^2+4x+3)^2 \, dx$

Simplified antiderivative: $x(1715x^5 + 3528x^4 + 4725x^3 + 4000x^2 + 2385x + 1080)/30 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q375. $e^{(7x+4)} \, dx$

Simplified antiderivative: $\exp(7x + 4)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q376. $8x^2(8x^3+8)^6 \, dx$

Simplified antiderivative: $2097152x^3(x^{18} + 7x^{15} + 21x^{12} + 35x^9 + 35x^6 + 21x^3 + 7)/21 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q377. $(8x+6)e^{(8x^2+8)} \, dx$

Simplified antiderivative: $(2\exp(8x^2) - 3\sqrt{2}\sqrt{\pi}\operatorname{erfi}(2\sqrt{2}x))\exp(8)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q378. $(8x+6)/(8x^2+8) \, dx$

Simplified antiderivative: $\log(x^2 + 1)/2 - 3\operatorname{atan}(x)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q379. $\cos(8x+6) \, dx$

Simplified antiderivative: $\sin(8x - 6)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q380. $\sin(8x+6) \, dx$

Simplified antiderivative: $-\cos(8x - 6)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q381. $(8x+6)(8x^2+6x+8)^3 \, dx$

Simplified antiderivative: $4x(896x^7 - 3072x^6 + 7616x^5 - 12096x^4 + 15015x^3 - 13776x^2 + 9632x - 5376)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q382. $e^{(8x+6)} \, dx$

Simplified antiderivative: $\exp(8x - 6)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q383. $9x^3(9x^4+2)^7 \, dx$

Simplified antiderivative: $9x^{44}(4782969x^{28} + 8503056x^{24} + 6613488x^{20} + 2939328x^{16} + 816480x^{12} + 145152x^8 + 16128x^4 + 1024)/32 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q384. $(9x+3)e^{(9x^2+2)} \, dx$

Simplified antiderivative: $(\exp(9x^2) - \sqrt{\pi}\operatorname{erfi}(3x))\exp(2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q385. $(9x+3)/(9x^2+2) dx$

Simplified antiderivative: $\log(x^{**2} + 2/9)/2 - \sqrt{2}(2)*\text{atan}(3*\sqrt{2}(2)*x/2)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q386. $\cos(9x+3) dx$

Simplified antiderivative: $\sin(9*x - 3)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q387. $\sin(9x+3) dx$

Simplified antiderivative: $-\cos(9*x - 3)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q388. $(9x+3)(9x^2+3x+2)^4 dx$

Simplified antiderivative: $3*x*(39366*x**9 - 72900*x**8 + 98415*x**7 - 87480*x**6 + 62370*x**5 - 34020*x**4 + 15120*x**3 - 5280*x**2 + 1440*x - 320)/20 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q389. $e^{(9x+3)} dx$

Simplified antiderivative: $\exp(9*x - 3)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q390. $1x^{(4)}(1x^5+7)^8 dx$

Simplified antiderivative: $x^{**5}*(39366*x**9 - 72900*x**8 + 98415*x**7 - 87480*x**6 + 62370*x**5 - 34020*x**4 + 15120*x**3 - 5280*x**2 + 1440*x - 320)/45 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q391. $(1x+0) e^{(1x^2+7)} dx$

Simplified antiderivative: $\exp(x^{**2} + 7)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q392. $(1x+0)/(1x^2+7) dx$

Simplified antiderivative: $\log(x^{**2} + 7)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q393. $\cos(1x+0) dx$

Simplified antiderivative: $\sin(x) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q394. $\sin(1x+0) dx$

Simplified antiderivative: $-\cos(x) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q395. $(1x+0)(1x^2+0x+7)^5 dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q396. $e^{(1x+0)} dx$

Simplified antiderivative: $\exp(x) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q397. $2x^{(0)}(2x^1+1)^9 dx$

Simplified antiderivative: $2*x*(256*x**9 + 1280*x**8 + 2880*x**7 + 3840*x**6 + 3360*x**5 + 2016*x**4 + 840*x**3 + 240*x**2 + 45*x + 5)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q398. $(2x+3)e^{(2x^2+1)} dx$

Simplified antiderivative: $E*(2*\exp(2*x**2) + 3*\sqrt{2}*\sqrt{\pi}*\operatorname{erfi}(\sqrt{2}*x))/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q399. $(2x+3)/(2x^2+1) dx$

Simplified antiderivative: $\log(x**2 + 1/2)/2 + 3*\sqrt{2}*\operatorname{atan}(\sqrt{2}*x)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q400. $\cos(2x+3) dx$

Simplified antiderivative: $\sin(2*x + 3)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q401. $\sin(2x+3) dx$

Simplified antiderivative: $-\cos(2*x + 3)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q402. $(2x+3)(2x^2+3x+1)^1 dx$

Simplified antiderivative: $x*(2*x**3 + 8*x**2 + 11*x + 6)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q403. $e^{(2x+3)} dx$

Simplified antiderivative: $\exp(2*x + 3)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q404. $3x^1(3x^2+6)^2 dx$

Simplified antiderivative: $9*x**2*(x**4 + 6*x**2 + 12)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q405. $(3x+6)e^{(3x^2+6)} dx$

Simplified antiderivative: $(\exp(3*x**2)/2 + \sqrt{3}*\sqrt{\pi}*\operatorname{erfi}(\sqrt{3}*x))*\exp(6) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q406. $(3x+6)/(3x^2+6) dx$

Simplified antiderivative: $\log(x**2 + 2)/2 + \sqrt{2}*\operatorname{atan}(\sqrt{2}*x/2) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q407. $\cos(3x+6) dx$

Simplified antiderivative: $\sin(3*x + 6)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q408. $\sin(3x+6) dx$

Simplified antiderivative: $-\cos(3*x + 6)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q409. $(3x+6)(3x^2+6x+6)^2 dx$

Simplified antiderivative: $9*x*(5*x**5 + 36*x**4 + 120*x**3 + 240*x**2 + 300*x + 240)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q410. $e^{(3x+6)} dx$

Simplified antiderivative: $\exp(3*x + 6)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q411. $4x^2(4x^3+11)^3 dx$ **Simplified antiderivative:** $4x^3(16x^9 + 176x^6 + 726x^3 + 1331)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q412. $(4x+4)e^{(4x^2+11)} dx$ **Simplified antiderivative:** $(\exp(4x^2)/2 - \sqrt{\pi})\operatorname{erfi}(2x)\exp(11) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q413. $(4x+4)/(4x^2+11) dx$ **Simplified antiderivative:** $\log(x^2 + 11/4)/2 - 2\sqrt{11}\operatorname{atan}(2\sqrt{11}x/11)/11 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q414. $\cos(4x+4) dx$ **Simplified antiderivative:** $\sin(4x - 4)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q415. $\sin(4x+4) dx$ **Simplified antiderivative:** $-\cos(4x - 4)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q416. $(4x+4)(4x^2-4x+11)^3 dx$ **Simplified antiderivative:** $2x(112x^7 - 512x^6 + 2128x^5 - 5152x^4 + 10850x^3 - 16016x^2 + 19481x - 18634)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q417. $e^{(4x+4)} dx$ **Simplified antiderivative:** $\exp(4x - 4)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q418. $5x^3(5x^4+5)^4 dx$ **Simplified antiderivative:** $625x^4(x^{16} + 5x^{12} + 10x^8 + 10x^4 + 5)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q419. $(5x+1)e^{(5x^2+5)} dx$ **Simplified antiderivative:** $(5\exp(5x^2) - \sqrt{5})\sqrt{\pi}\operatorname{erfi}(\sqrt{5}x)\exp(5)/10 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q420. $(5x+1)/(5x^2+5) dx$ **Simplified antiderivative:** $\log(x^2 + 1)/2 - \operatorname{atan}(x)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q421. $\cos(5x+1) dx$ **Simplified antiderivative:** $\sin(5x - 1)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q422. $\sin(5x+1) dx$ **Simplified antiderivative:** $-\cos(5x - 1)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q423. $(5x+1)(5x^2+1x+5)^4 dx$ **Simplified antiderivative:** $x(393750x^9 - 437500x^8 + 2165625x^7 - 1845000x^6 + 4572750x^5 - 2936052x^4 + 4652550x^3 - 2163000x^2 + 2283750x - 787500)/1260 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q424. $e^{(5x+1)} dx$ **Simplified antiderivative:** $\exp(5x - 1)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q425. $6x^4(6x^5+10)^5 dx$ **Simplified antiderivative:** $x^{25}(7776x^{25/5} + 15552x^{20} + 64800x^{15} + 144000x^{10} + 180000x^5 + 120000) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q426. $(6x+2) e^{(6x^2+10)} dx$ **Simplified antiderivative:** $(3\exp(6x^2) + \sqrt{6}\sqrt{\pi})\operatorname{erfi}(\sqrt{6}x)\exp(10)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q427. $(6x+2)/(6x^2+10) dx$ **Simplified antiderivative:** $\log(x^2 + 5/3)/2 + \sqrt{15}\operatorname{atan}(\sqrt{15}x/5)/15 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q428. $\cos(6x+2) dx$ **Simplified antiderivative:** $\sin(6x + 2)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q429. $\sin(6x+2) dx$ **Simplified antiderivative:** $-\cos(6x + 2)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q430. $(6x+2)(6x^2+2x+10)^5 dx$ **Simplified antiderivative:** $8x^{11}(112266x^{11} + 244944x^{10} + 1347192x^9 + 2189880x^8 + 6268185x^7 + 7726752x^6 + 14668808x^5 + 13592040x^4 + 18306750x^3 + 12320000x^2 + 11550000x + 5775000)/231 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q431. $e^{(6x+2)} dx$ **Simplified antiderivative:** $\exp(6x + 2)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q432. $7x^0(7x^1+4)^6 dx$ **Simplified antiderivative:** $7x^{16807}x^6 + 67228x^{15} + 115248x^{14} + 109760x^{13} + 62720x^{12} + 21504x + 4096) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q433. $(7x+5) e^{(7x^2+4)} dx$ **Simplified antiderivative:** $(7\exp(7x^2) + 5\sqrt{7}\sqrt{\pi})\operatorname{erfi}(\sqrt{7}x)\exp(4)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q434. $(7x+5)/(7x^2+4) dx$ **Simplified antiderivative:** $\log(x^2 + 4/7)/2 + 5\sqrt{7}\operatorname{atan}(\sqrt{7}x/2)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q435. $\cos(7x+5) dx$ **Simplified antiderivative:** $\sin(7x + 5)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q436. $\sin(7x+5) dx$ **Simplified antiderivative:** $-\cos(7x + 5)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q437. $(7x+5)(7x^2+5x+4)^{1/12} dx$ **Simplified antiderivative:** $x(147x^{11} + 280x^{10} + 318x^9 + 240x^8)/12 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q438. $e^{(7x+5)} dx$ **Simplified antiderivative:** $\exp(7x + 5)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q439. $8x^{1/8}(8x^2+9)^{7/8} dx$ **Simplified antiderivative:** $x^{11/8}(1048576x^{14} + 9437184x^{12} + 37158912x^{10} + 83607552x^8 + 117573120x^6 + 105815808x^4 + 59521392x^2 + 19131876) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q440. $(8x+5)e^{(8x^2+9)} dx$ **Simplified antiderivative:** $(4\exp(8x^2) - 5\sqrt{2}\sqrt{\pi}\operatorname{erfi}(\sqrt{2}\sqrt{x})\exp(9))/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q441. $(8x+5)/(8x^2+9) dx$ **Simplified antiderivative:** $\log(x^2 + 9/8)/2 - 5\sqrt{2}\operatorname{atan}(\sqrt{2}\sqrt{x}/3)/12 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q442. $\cos(8x+5) dx$ **Simplified antiderivative:** $\sin(8x - 5)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q443. $\sin(8x+5) dx$ **Simplified antiderivative:** $-\cos(8x - 5)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q444. $(8x+5)(8x^2+5x+9)^{1/2} dx$ **Simplified antiderivative:** $x(256x^5 - 576x^4 + 1314x^3 - 1565x^2 + 1647x - 1215)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q445. $e^{(8x+5)} dx$ **Simplified antiderivative:** $\exp(8x - 5)/8 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q446. $9x^{1/2}(9x^3+3)^{1/8} dx$ **Simplified antiderivative:** $x^{11/8}(14348907x^{24} + 43046721x^{21} + 57395628x^{18} + 44641044x^{15} + 22320522x^{12} + 7440174x^9 + 1653372x^6 + 236196x^3 + 19683) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q447. $(9x+2)e^{(9x^2+3)} dx$ **Simplified antiderivative:** $(\exp(9x^2)/2 - \sqrt{\pi}\operatorname{erfi}(3x)/3)\exp(3) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q448. $(9x+2)/(9x^2+3) dx$ **Simplified antiderivative:** $\log(x^2 + 1/3)/2 - 2\sqrt{3}\operatorname{atan}(\sqrt{3}x)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q449. $\cos(9x+2) dx$ **Simplified antiderivative:** $\sin(9x - 2)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q450. $\sin(9x+2) \, dx$ **Simplified antiderivative:** $-\cos(9x - 2)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q451. $(9x+2)(9x^2+2x+3)^3 \, dx$ **Simplified antiderivative:** $x^{229635}x^{**7} - 233280x^{**6} + 396900x^{**5} - 261072x^{**4} + 222250x^{**3} - 97440x^{**2} + 49140x - 15120)/280 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q452. $e^{(9x+2)} \, dx$ **Simplified antiderivative:** $\exp(9x - 2)/9 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q453. $1x^{(3)}(1x^4+8)^9 \, dx$ **Simplified antiderivative:** $x^{**4}(x^{**36} + 80x^{**32} + 2880x^{**28} + 61440x^{**24} + 860160x^{**20} + 8257536x^{**16} + 55050240x^{**12} + 251658240x^{**8} + 754974720x^{**4} + 1342177280)/40 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q454. $(1x+1) e^{(1x^2+8)} \, dx$ **Simplified antiderivative:** $(\exp(x^{**2}) + \sqrt{\pi})\operatorname{erfi}(x))\exp(8)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q455. $(1x+1)/(1x^2+8) \, dx$ **Simplified antiderivative:** $\log(x^{**2} + 8)/2 + \sqrt{2}\operatorname{atan}(\sqrt{2}x/4)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q456. $\cos(1x+1) \, dx$ **Simplified antiderivative:** $\sin(x + 1) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q457. $\sin(1x+1) \, dx$ **Simplified antiderivative:** $-\cos(x + 1) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q458. $(1x+1)(1x^2+1x+8)^4 \, dx$ **Simplified antiderivative:** $x^{126}x^{**9} + 700x^{**8} + 6615x^{**7} + 24840x^{**6} + 122010x^{**5} + 322812x^{**4} + 1018080x^{**3} + 1881600x^{**2} + 3870720x + 5160960)/1260 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q459. $e^{(1x+1)} \, dx$ **Simplified antiderivative:** $\exp(x + 1) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q460. $2x^{(4)}(2x^5+2)^2 \, dx$ **Simplified antiderivative:** $8x^{**5}(x^{**10} + 3x^{**5} + 3)/15 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q461. $(2x+4) e^{(2x^2+2)} \, dx$ **Simplified antiderivative:** $(\exp(2x^{**2})/2 + \sqrt{2})\sqrt{\pi}\operatorname{erfi}(\sqrt{2}x))\exp(2) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q462. $(2x+4)/(2x^2+2) \, dx$ **Simplified antiderivative:** $\log(x^{**2} + 1)/2 + 2\operatorname{atan}(x) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q463. $\cos(2x+4) \, dx$

Simplified antiderivative: $\sin(2^*x + 4)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q464. $\sin(2x+4) \, dx$

Simplified antiderivative: $-\cos(2^*x + 4)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q465. $(2x+4)(2x^2+4x+2)^5 \, dx$

Simplified antiderivative: $16^*x^{11} + 144^*x^{10} + 858^*x^9 + 3080^*x^8 + 7425^*x^7 + 12672^*x^6 + 15708^*x^5 + 14256^*x^4 + 9405^*x^3 + 4400^*x^2 + 1386^*x + 264)/33 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q466. $e^{(2x+4)} \, dx$

Simplified antiderivative: $\exp(2^*x + 4)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q467. $3x^{(0)}(3x^1+7)^3 \, dx$

Simplified antiderivative: $3^*x^{27^*x^3 + 252^*x^2 + 882^*x + 1372)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q468. $(3x+6) e^{(3x^2+7)} \, dx$

Simplified antiderivative: $(\exp(3^*x^2)/2 - \sqrt{3})\sqrt{\pi} \operatorname{erfi}(\sqrt{3}^*x) \exp(7) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q469. $(3x+6)/(3x^2+7) \, dx$

Simplified antiderivative: $\log(x^2 + 7/3)/2 - 2\sqrt{21} \operatorname{atan}(\sqrt{21}^*x/7)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q470. $\cos(3x+6) \, dx$

Simplified antiderivative: $\sin(3^*x - 6)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q471. $\sin(3x+6) \, dx$

Simplified antiderivative: $-\cos(3^*x - 6)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q472. $(3x+6)(3x^2+6x+7)^1 \, dx$

Simplified antiderivative: $3^*x^3 - 16^*x^2 + 38^*x - 56)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q473. $e^{(3x+6)} \, dx$

Simplified antiderivative: $\exp(3^*x - 6)/3 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q474. $4x^{(1)}(4x^2+1)^4 \, dx$

Simplified antiderivative: $x^{512^*x^8/5 + 128^*x^6 + 64^*x^4 + 16^*x^2 + 2) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q475. $(4x+3) e^{(4x^2+1)} \, dx$

Simplified antiderivative: $E(2\exp(4^*x^2) - 3\sqrt{\pi})\operatorname{erfi}(2^*x)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q476. $(4x+3)/(4x^2+1) dx$

Simplified antiderivative: $\log(x^2 + 1/4)/2 - 3 \cdot \text{atan}(2x)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q477. $\cos(4x+3) dx$

Simplified antiderivative: $\sin(4x - 3)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q478. $\sin(4x+3) dx$

Simplified antiderivative: $-\cos(4x - 3)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q479. $(4x+3)(4x^2+3x+1)^2 dx$

Simplified antiderivative: $x(160x^{15} - 432x^{14} + 525x^{13} - 375x^{12} + 165x - 45)/15 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q480. $e^{(4x+3)} dx$

Simplified antiderivative: $\exp(4x - 3)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q481. $5x^2(5x^3+6)^5 dx$

Simplified antiderivative: $x^3(15625x^{15}/18 + 6250x^{12} + 18750x^9 + 30000x^6 + 27000x^3 + 12960) + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q482. $(5x+0) e^{(5x^2+6)} dx$

Simplified antiderivative: $\exp(5x^2 + 6)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q483. $(5x+0)/(5x^2+6) dx$

Simplified antiderivative: $\log(5x^2 + 6)/2 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q484. $\cos(5x+0) dx$

Simplified antiderivative: $\sin(5x)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q485. $\sin(5x+0) dx$

Simplified antiderivative: $-\cos(5x)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q486. $(5x+0)(5x^2+0x+6)^3 dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q487. $e^{(5x+0)} dx$

Simplified antiderivative: $\exp(5x)/5 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q488. $6x^3(6x^4+11)^6 dx$

Simplified antiderivative: $3x^4(46656x^{24} + 598752x^{20} + 3293136x^{16} + 10062360x^{12} + 18447660x^8 + 20292426x^4 + 12400927)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q489. $(6x+3)e^{(6x^2+11)}dx$ **Simplified antiderivative:** $(2\exp(6x^2) + \sqrt{6}\sqrt{\pi})\operatorname{erfi}(\sqrt{6}x)\exp(11)/4 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q490. $(6x+3)/(6x^2+11)dx$ **Simplified antiderivative:** $\log(x^2 + 11/6)/2 + \sqrt{66}\operatorname{atan}(\sqrt{66}x/11)/22 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q491. $\cos(6x+3)dx$ **Simplified antiderivative:** $\sin(6x + 3)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q492. $\sin(6x+3)dx$ **Simplified antiderivative:** $-\cos(6x + 3)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q493. $(6x+3)(6x^2+3x+11)^4dx$ **Simplified antiderivative:** $3x(9072x^9 + 25200x^8 + 111510x^7 + 206280x^6 + 475965x^5 + 615951x^4 + 912450x^3 + 821590x^2 + 791945x + 512435)/35 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q494. $e^{(6x+3)}dx$ **Simplified antiderivative:** $\exp(6x + 3)/6 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q495. $7x^4(7x^5+5)^7dx$ **Simplified antiderivative:** $7x^5(823543x^{35} + 4705960x^{30} + 11764900x^{25} + 16807000x^{20} + 15006250x^{15} + 8575000x^{10} + 3062500x^5 + 625000)/40 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q496. $(7x+6)e^{(7x^2+5)}dx$ **Simplified antiderivative:** $(7\exp(7x^2) + 6\sqrt{7}\sqrt{\pi})\operatorname{erfi}(\sqrt{7}x)\exp(5)/14 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q497. $(7x+6)/(7x^2+5)dx$ **Simplified antiderivative:** $\log(x^2 + 5/7)/2 + 6\sqrt{35}\operatorname{atan}(\sqrt{35}x/5)/35 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q498. $\cos(7x+6)dx$ **Simplified antiderivative:** $\sin(7x + 6)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q499. $\sin(7x+6)dx$ **Simplified antiderivative:** $-\cos(7x + 6)/7 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q500. $(7x+6)(7x^2+6x+5)^5dx$ **Simplified antiderivative:** $x(1294139x^{11} + 7260624x^{10} + 22660638x^9 + 48143480x^8 + 76556865x^7 + 94862592x^6 + 93618932x^5 + 74154960x^4 + 46930125x^3 + 23430000x^2 + 8868750x + 2475000)/132 + C$

Steps: 1) identify a possible inner function $u=g(x)$; 2) calculate du and rewrite the integral in u ; 3) integrate and substitute back. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Category 3: Integration by Parts (ILATE Rule)

Integration by parts (LIATE)

Q1. $x \sin x \, dx$

Simplified antiderivative: $-x \cos(x) + \sin(x) + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q2. $x \cos x \, dx$

Simplified antiderivative: $x \sin(x) + \cos(x) + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q3. $x e^x \, dx$

Simplified antiderivative: $(x - 1) \exp(x) + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q4. $x \ln x \, dx$

Simplified antiderivative: $x^2(2 \log(x) - 1)/4 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q5. $x^2 e^x \, dx$

Simplified antiderivative: $(x^2 - 2x + 2) \exp(x) + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q6. $x^2 \sin x \, dx$

Simplified antiderivative: $-x^2 \cos(x) + 2x \sin(x) + 2 \cos(x) + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q7. $x^2 \cos x \, dx$

Simplified antiderivative: $x^2 \sin(x) + 2x \cos(x) - 2 \sin(x) + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q8. $e^x \sin x \, dx$

Simplified antiderivative: $-\sqrt{2} \exp(x) \cos(x + \pi/4)/2 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q9. $e^x \cos x \, dx$

Simplified antiderivative: $\sqrt{2} \exp(x) \sin(x + \pi/4)/2 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q10. $\ln x \, dx$

Simplified antiderivative: $x(\log(x) - 1) + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q11. $x \arctan x \, dx$

Simplified antiderivative: $x^2 \operatorname{atan}(x)/2 - x/2 + \operatorname{atan}(x)/2 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q12. $x^2 \ln x \, dx$

Simplified antiderivative: $x^3(3 \log(x) - 1)/9 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q13. $x^3 e^{2x} \, dx$

Simplified antiderivative: $(4x^3 - 6x^2 + 6x - 3) \exp(2x)/8 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q14. $x \sin(3x) dx$

Simplified antiderivative: $-x^2 \cos(3x)/3 + \sin(3x)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q15. $x^2 \cos(2x) dx$

Simplified antiderivative: $x^{*2} \sin(2^*x)/2 + x^* \cos(2^*x)/2 - \sin(2^*x)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q16. $x \ln(2x) dx$

Simplified antiderivative: $x^{*2} (2^* \log(2^*x) - 1)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q17. $\arctan x dx$

Simplified antiderivative: $x^* \operatorname{atan}(x) - \log(x^{*2} + 1)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q18. $x^2 \arctan x dx$

Simplified antiderivative: $x^{*3} \operatorname{atan}(x)/3 - x^{*2}/6 + \log(x^{*2} + 1)/6 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q19. $x^3 \ln x dx$

Simplified antiderivative: $x^{*4} (4^* \log(x) - 1)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q20. $e^{(2x)} \sin(3x) dx$

Simplified antiderivative: $(2^* \sin(3^*x) - 3^* \cos(3^*x))^* \exp(2^*x)/13 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q21. $x^3 e^{(2x)} dx$

Simplified antiderivative: $(4^* x^{*3} - 6^* x^{*2} + 6^* x - 3)^* \exp(2^*x)/8 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q22. $x^2 \sin(2x) dx$

Simplified antiderivative: $-x^{*2} \cos(2^*x)/2 + x^* \sin(2^*x)/2 + \cos(2^*x)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q23. $x^2 \cos(2x) dx$

Simplified antiderivative: $x^{*2} \sin(2^*x)/2 + x^* \cos(2^*x)/2 - \sin(2^*x)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q24. $x^2 \ln(2x) dx$

Simplified antiderivative: $x^{*3} (3^* \log(2^*x) - 1)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q25. $e^{(2x)} \sin(4x) dx$

Simplified antiderivative: $(\sin(4^*x) - 2^* \cos(4^*x))^* \exp(2^*x)/10 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q26. $x^3 \arctan(2x) dx$

Simplified antiderivative: $x^{*4} \operatorname{atan}(2^*x)/4 - x^{*3}/24 + x/32 - \operatorname{atan}(2^*x)/64 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q27. $x^2 \ln(x^3+6) dx$

Simplified antiderivative: $x^3 \log(x^3 + 6)/3 - x^3/3 + 2 \log(x^3 + 6) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q28. $x^4 e^{(3x)} dx$

Simplified antiderivative: $(27x^4 - 36x^3 + 36x^2 - 24x + 8) \exp(3x)/81 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q29. $x^3 \sin(3x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q30. $x^3 \cos(3x) dx$

Simplified antiderivative: $x^3 \sin(3x)/3 + x^2 \cos(3x)/3 - 2x \sin(3x)/9 - 2 \cos(3x)/27 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q31. $x^3 \ln(3x) dx$

Simplified antiderivative: $x^4 (4 \log(3x) - 1)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q32. $e^{(3x)} \sin(7x) dx$

Simplified antiderivative: $(3 \sin(7x) - 7 \cos(7x)) \exp(3x)/58 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q33. $x^4 \arctan(3x) dx$

Simplified antiderivative: $x^5 \operatorname{atan}(3x)/5 - x^4/60 + x^2/270 - \log(9x^2 + 1)/2430 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q34. $x^3 \ln(x^4+11) dx$

Simplified antiderivative: $x^4 \log(x^4 + 11)/4 - x^4/4 + 11 \log(x^4 + 11)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q35. $x^5 e^{(4x)} dx$

Simplified antiderivative: $(128x^5 - 160x^4 + 160x^3 - 120x^2 + 60x - 15) \exp(4x)/512 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q36. $x^4 \sin(4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q37. $x^4 \cos(4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q38. $x^4 \ln(4x) dx$

Simplified antiderivative: $x^5 (5 \log(4x) - 1)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q39. $e^{(4x)} \sin(10x) dx$

Simplified antiderivative: $(2 \sin(10x) - 5 \cos(10x)) \exp(4x)/58 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q40. $x^5 \arctan(4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q41. $x^4 \ln(x^5+5) dx$

Simplified antiderivative: $x^5 \log(x^5 + 5)/5 - x^5/5 + \log(x^5 + 5) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q42. $x^6 e^{(5x)} dx$

Simplified antiderivative: $(3125x^{**6} - 3750x^{**5} + 3750x^{**4} - 3000x^{**3} + 1800x^{**2} - 720x + 144)*\exp(5x)/15625 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q43. $x^5 \sin(5x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q44. $x^5 \cos(5x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q45. $x^5 \ln(5x) dx$

Simplified antiderivative: $x^{**6}*(6*\log(5*x) - 1)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q46. $e^{(5x)} \sin(13x) dx$

Simplified antiderivative: $(5*\sin(13*x) - 13*\cos(13*x))*\exp(5*x)/194 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q47. $x^6 \arctan(5x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q48. $x^5 \ln(x^6+10) dx$

Simplified antiderivative: $x^{**6}*\log(x^{**6} + 10)/6 - x^{**6}/6 + 5*\log(x^{**6} + 10)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q49. $x^7 e^{(6x)} dx$

Simplified antiderivative: $(1944x^{**7} - 2268x^{**6} + 2268x^{**5} - 1890x^{**4} + 1260x^{**3} - 630x^{**2} + 210x - 35)*\exp(6*x)/11664 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q50. $x^1 \sin(6x) dx$

Simplified antiderivative: $-x*\cos(6*x)/6 + \sin(6*x)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q51. $x^1 \cos(6x) dx$

Simplified antiderivative: $x*\sin(6*x)/6 + \cos(6*x)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q52. $x^1 \ln(6x) dx$

Simplified antiderivative: $x^{**2}*(2*\log(6*x) - 1)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q53. $e^{(6x)} \sin(3x) dx$

Simplified antiderivative: $(2*\sin(3*x) - \cos(3*x))*\exp(6*x)/15 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q54. $x^7 \arctan(6x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q55. $x^1 \ln(x^7+4) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q56. $x^8 e^{(7x)} dx$

Simplified antiderivative: $(823543x^{**8} - 941192x^{**7} + 941192x^{**6} - 806736x^{**5} + 576240x^{**4} - 329280x^{**3} + 141120x^{**2} - 40320x + 5760)*\exp(7*x)/5764801 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q57. $x^2 \sin(7x) dx$

Simplified antiderivative: $-x^2 \cos(7x)/7 + 2x \sin(7x)/49 + 2 \cos(7x)/343 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q58. $x^2 \cos(7x) dx$

Simplified antiderivative: $x^2 \sin(7x)/7 + 2x \cos(7x)/49 - 2 \sin(7x)/343 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q59. $x^2 \ln(7x) dx$

Simplified antiderivative: $x^3 (3 \log(7x) - 1)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q60. $e^{7x} \sin(6x) dx$

Simplified antiderivative: $(7 \sin(6x) - 6 \cos(6x)) \exp(7x)/85 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q61. $x^8 \arctan(7x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q62. $x^2 \ln(x^8+9) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q63. $x^9 e^{8x} dx$

Simplified antiderivative: $(1048576x^{**9} - 1179648x^{**8} + 1179648x^{**7} - 1032192x^{**6} + 774144x^{**5} - 483840x^{**4} + 241920x^{**3} - 90720x^{**2} + 22680x - 2835) \exp(8x)/8388608 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q64. $x^3 \sin(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q65. $x^3 \cos(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q66. $x^3 \ln(8x) dx$

Simplified antiderivative: $x^4 (4 \log(8x) - 1)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q67. $e^{8x} \sin(9x) dx$

Simplified antiderivative: $(8 \sin(9x) - 9 \cos(9x)) \exp(8x)/145 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q68. $x^9 \arctan(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q69. $x^3 \ln(x^9+3) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q70. $x^2 e^{9x} dx$

Simplified antiderivative: $(81x^{**2} - 18x + 2) \exp(9x)/729 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q71. $x^4 \sin(9x) dx$

Simplified antiderivative: $-x^4 \cos(9x)/9 + 4x^3 \sin(9x)/81 + 4x^2 \cos(9x)/243 - 8x \sin(9x)/2187 - 8 \cos(9x)/19683 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q72. $x^4 \cos(9x) dx$

Simplified antiderivative: $x^{**4}\sin(9x)/9 + 4x^{**3}\cos(9x)/81 - 4x^{**2}\sin(9x)/243 - 8x\cos(9x)/2187 + 8\sin(9x)/19683 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q73. $x^4 \ln(9x) dx$

Simplified antiderivative: $x^{**5}(5\log(9x) - 1)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q74. $e^{(9x)} \sin(12x) dx$

Simplified antiderivative: $(3\sin(12x) - 4\cos(12x))\exp(9x)/75 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q75. $x^2 \arctan(9x) dx$

Simplified antiderivative: $x^{**3}\operatorname{atan}(9x)/3 - x^{**2}/54 + \log(81x^{**2} + 1)/4374 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q76. $x^4 \ln(x^2+8) dx$

Simplified antiderivative: $x^{**5}\log(x^{**2} + 8)/5 - 2x^{**5}/25 + 16x^{**3}/15 - 128x/5 + 256\sqrt{2}\operatorname{atan}(\sqrt{2}x/4)/5 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q77. $x^3 e^{(1x)} dx$

Simplified antiderivative: $(x^{**3} - 3x^{**2} + 6x - 6)\exp(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q78. $x^5 \sin(1x) dx$

Simplified antiderivative: $-x^{**5}\cos(x) + 5x^{**4}\sin(x) + 20x^{**3}\cos(x) - 60x^{**2}\sin(x) - 120x\cos(x) + 120\sin(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q79. $x^5 \cos(1x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q80. $x^5 \ln(1x) dx$

Simplified antiderivative: $x^{**6}(6\log(x) - 1)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q81. $e^{(1x)} \sin(2x) dx$

Simplified antiderivative: $(\sin(2x) - 2\cos(2x))\exp(x)/5 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q82. $x^3 \arctan(1x) dx$

Simplified antiderivative: $x^{**4}\operatorname{atan}(x)/4 - x^{**3}/12 + x/4 - \operatorname{atan}(x)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q83. $x^5 \ln(x^3+2) dx$

Simplified antiderivative: $x^{**6}\log(x^{**3} + 2)/6 - x^{**6}/12 + x^{**3}/3 - 2\log(x^{**3} + 2)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q84. $x^4 e^{(2x)} dx$

Simplified antiderivative: $(2x^{**4} - 4x^{**3} + 6x^{**2} - 6x + 3)\exp(2x)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q85. $x^1 \sin(2x) dx$

Simplified antiderivative: $-x\cos(2x)/2 + \sin(2x)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q86. $x^1 \cos(2x) dx$ **Simplified antiderivative:** $x \sin(2x)/2 + \cos(2x)/4 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q87. $x^1 \ln(2x) dx$ **Simplified antiderivative:** $x^{**2} (2 \log(2x) - 1)/4 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q88. $e^{(2x)} \sin(5x) dx$ **Simplified antiderivative:** $(2 \sin(5x) - 5 \cos(5x)) \exp(2x)/29 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q89. $x^4 \arctan(2x) dx$ **Simplified antiderivative:** $x^{**5} \operatorname{atan}(2x)/5 - x^{**4}/40 + x^{**2}/80 - \log(4x^{**2} + 1)/320 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q90. $x^1 \ln(x^4+7) dx$ **Simplified antiderivative:** $x^{**2} \log(x^{**4} + 7)/2 - x^{**2} + \sqrt{7} \operatorname{atan}(\sqrt{7} x^{**2}/7) + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q91. $x^5 e^{(3x)} dx$ **Simplified antiderivative:** $(81x^{**5} - 135x^{**4} + 180x^{**3} - 180x^{**2} + 120x - 40) \exp(3x)/243 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q92. $x^2 \sin(3x) dx$ **Simplified antiderivative:** $-x^{**2} \cos(3x)/3 + 2x \sin(3x)/9 + 2 \cos(3x)/27 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q93. $x^2 \cos(3x) dx$ **Simplified antiderivative:** $x^{**2} \sin(3x)/3 + 2x \cos(3x)/9 - 2 \sin(3x)/27 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q94. $x^2 \ln(3x) dx$ **Simplified antiderivative:** $x^{**3} (3 \log(3x) - 1)/9 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q95. $e^{(3x)} \sin(8x) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q96. $x^5 \arctan(3x) dx$** **Simplified antiderivative:** $x^{**6} \operatorname{atan}(3x)/6 - x^{**5}/90 + x^{**3}/486 - x/1458 + \operatorname{atan}(3x)/4374 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q97. $x^2 \ln(x^5+1) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q98. $x^6 e^{(4x)} dx$** **Simplified antiderivative:** $(256x^{**6} - 384x^{**5} + 480x^{**4} - 480x^{**3} + 360x^{**2} - 180x + 45) \exp(4x)/1024 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q99. $x^3 \sin(4x) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q100. $x^3 \cos(4x) dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q101. $x^3 \ln(4x) dx$ **Simplified antiderivative:** $x^4(4\log(4x) - 1)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q102. $e^{(4x)} \sin(11x) dx$ **Simplified antiderivative:** $(4\sin(11x) - 11\cos(11x))\exp(4x)/137 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q103. $x^6 \arctan(4x) dx$ **Simplified antiderivative:** $x^{**4}\text{atan}(4*x)/7 - x^{**6}/168 + x^{**4}/1792 - x^{**2}/14336 + \log(16*x^{**2} + 1)/229376 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q104. $x^3 \ln(x^6+6) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q105. $x^7 e^{(5x)} dx$** **Simplified antiderivative:** $(15625*x^{**7} - 21875*x^{**6} + 26250*x^{**5} - 26250*x^{**4} + 21000*x^{**3} - 12600*x^{**2} + 5040*x - 1008)\exp(5*x)/78125 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q106. $x^4 \sin(5x) dx$ **Simplified antiderivative:** $-x^{**4}\cos(5*x)/5 + 4*x^{**3}\sin(5*x)/25 + 12*x^{**2}\cos(5*x)/125 - 24*x\sin(5*x)/625 - 24\cos(5*x)/3125 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q107. $x^4 \cos(5x) dx$ **Simplified antiderivative:** $x^{**4}\sin(5*x)/5 + 4*x^{**3}\cos(5*x)/25 - 12*x^{**2}\sin(5*x)/125 - 24*x\cos(5*x)/625 + 24\sin(5*x)/3125 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q108. $x^4 \ln(5x) dx$ **Simplified antiderivative:** $x^{**5}(5\log(5*x) - 1)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q109. $e^{(5x)} \sin(1x) dx$ **Simplified antiderivative:** $(5\sin(x) - \cos(x))\exp(5*x)/26 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q110. $x^7 \arctan(5x) dx$ **Simplified antiderivative:** $x^{**8}\text{atan}(5*x)/8 - x^{**7}/280 + x^{**5}/5000 - x^{**3}/75000 + x/625000 - \text{atan}(5*x)/3125000 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q111. $x^4 \ln(x^7+11) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q112. $x^8 e^{(6x)} dx$** **Simplified antiderivative:** $(1458*x^{**8} - 1944*x^{**7} + 2268*x^{**6} - 2268*x^{**5} + 1890*x^{**4} - 1260*x^{**3} + 630*x^{**2} - 210*x + 35)\exp(6*x)/8748 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q113. $x^5 \sin(6x) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q114. $x^5 \cos(6x) dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q115. $x^5 \ln(6x) dx$** **Simplified antiderivative:** $x^{**6}(6\log(6*x) - 1)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q116. $e^{(6x)} \sin(4x) dx$ **Simplified antiderivative:** $(3\sin(4x) - 2\cos(4x))\exp(6x)/26 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q117. $x^8 \arctan(6x) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q118. $x^5 \ln(x^8+5) dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q119. $x^9 e^{(7x)} dx$** **Simplified antiderivative:** $(5764801x^{**9} - 7411887x^{**8} + 8470728x^{**7} - 8470728x^{**6} + 7260624x^{**5} - 5186160x^{**4} + 2963520x^{**3} - 1270080x^{**2} + 362880x - 51840)\exp(7x)/40353607 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q120. $x^1 \sin(7x) dx$ **Simplified antiderivative:** $-x\cos(7x)/7 + \sin(7x)/49 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q121. $x^1 \cos(7x) dx$ **Simplified antiderivative:** $x\sin(7x)/7 + \cos(7x)/49 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q122. $x^1 \ln(7x) dx$ **Simplified antiderivative:** $x^{**2}(2\log(7x) - 1)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q123. $e^{(7x)} \sin(7x) dx$ **Simplified antiderivative:** $-\sqrt{2}\exp(7x)\cos(7x + \pi/4)/14 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q124. $x^9 \arctan(7x) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q125. $x^1 \ln(x^9+10) dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q126. $x^2 e^{(8x)} dx$** **Simplified antiderivative:** $(32x^{**2} - 8x + 1)\exp(8x)/256 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q127. $x^2 \sin(8x) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q128. $x^2 \cos(8x) dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q129. $x^2 \ln(8x) dx$** **Simplified antiderivative:** $x^{**3}(3\log(8x) - 1)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q130. $e^{(8x)} \sin(10x) dx$ **Simplified antiderivative:** $(4\sin(10x) - 5\cos(10x))\exp(8x)/82 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q131. $x^2 \arctan(8x) dx$ **Simplified antiderivative:** $x^{**3}\operatorname{atan}(8x)/3 - x^{**2}/48 + \log(64x^{**2} + 1)/3072 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q132. $x^2 \ln(x^2+4) dx$

Simplified antiderivative: $x^3 \log(x^2 + 4)/3 - 2x^3/9 + 8x/3 - 16 \operatorname{atan}(x/2)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q133. $x^3 e^{(9x)} dx$

Simplified antiderivative: $(243x^3 - 81x^2 + 18x - 2) \exp(9x)/2187 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q134. $x^3 \sin(9x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q135. $x^3 \cos(9x) dx$

Simplified antiderivative: $x^3 \sin(9x)/9 + x^2 \cos(9x)/27 - 2x \sin(9x)/243 - 2 \cos(9x)/2187 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q136. $x^3 \ln(9x) dx$

Simplified antiderivative: $x^4 (4 \log(9x) - 1)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q137. $e^{(9x)} \sin(13x) dx$

Simplified antiderivative: $(9 \sin(13x) - 13 \cos(13x)) \exp(9x)/250 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q138. $x^3 \arctan(9x) dx$

Simplified antiderivative: $x^4 \operatorname{atan}(9x)/4 - x^3/108 + x/2916 - \operatorname{atan}(9x)/26244 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q139. $x^3 \ln(x^3+9) dx$

Simplified antiderivative: $x^4 \log(x^3 + 9)/4 - 3x^4/16 + 27x/4 - 9 \cdot 3^{2/3} \log(x + 3^{2/3})/4 + 9 \cdot 3^{2/3} \log(x^2 - 3^{2/3}x + 3^{1/3})/8 - 27 \cdot 3^{1/6} \operatorname{atan}(2 \cdot 3^{5/6}x/9 - \sqrt{3}/3)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q140. $x^4 e^{(1x)} dx$

Simplified antiderivative: $(x^4 - 4x^3 + 12x^2 - 24x + 24) \exp(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q141. $x^4 \sin(1x) dx$

Simplified antiderivative: $-x^4 \cos(x) + 4x^3 \sin(x) + 12x^2 \cos(x) - 24x \sin(x) - 24 \cos(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q142. $x^4 \cos(1x) dx$

Simplified antiderivative: $x^4 \sin(x) + 4x^3 \cos(x) - 12x^2 \sin(x) - 24x \cos(x) + 24 \sin(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q143. $x^4 \ln(1x) dx$

Simplified antiderivative: $x^5 (5 \log(x) - 1)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q144. $e^{(1x)} \sin(3x) dx$

Simplified antiderivative: $(\sin(3x) - 3 \cos(3x)) \exp(x)/10 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q145. $x^4 \arctan(1x) dx$

Simplified antiderivative: $x^{**5} \operatorname{atan}(x)/5 - x^{**4}/20 + x^{**2}/10 - \log(x^{**2} + 1)/10 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q146. $x^4 \ln(x^4+3) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q147. $x^5 e^{(2x)} \, dx$

Simplified antiderivative: $(4x^{**5} - 10x^{**4} + 20x^{**3} - 30x^{**2} + 30x - 15) \exp(2x)/8 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q148. $x^5 \sin(2x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q149. $x^5 \cos(2x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q150. $x^5 \ln(2x) \, dx$

Simplified antiderivative: $x^{**6}(6 \log(2x) - 1)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q151. $e^{(2x)} \sin(6x) \, dx$

Simplified antiderivative: $(\sin(6x) - 3 \cos(6x)) \exp(2x)/20 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q152. $x^5 \arctan(2x) \, dx$

Simplified antiderivative: $x^{**6} \operatorname{atan}(2x)/6 - x^{**5}/60 + x^{**3}/144 - x/192 + \operatorname{atan}(2x)/384 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q153. $x^5 \ln(x^5+8) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q154. $x^6 e^{(3x)} \, dx$

Simplified antiderivative: $(81x^{**6} - 162x^{**5} + 270x^{**4} - 360x^{**3} + 360x^{**2} - 240x + 80) \exp(3x)/243 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q155. $x^1 \sin(3x) \, dx$

Simplified antiderivative: $-x \cos(3x)/3 + \sin(3x)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q156. $x^1 \cos(3x) \, dx$

Simplified antiderivative: $x \sin(3x)/3 + \cos(3x)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q157. $x^1 \ln(3x) \, dx$

Simplified antiderivative: $x^{**2}(2 \log(3x) - 1)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q158. $e^{(3x)} \sin(9x) \, dx$

Simplified antiderivative: $(\sin(9x) - 3 \cos(9x)) \exp(3x)/30 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q159. $x^6 \arctan(3x) \, dx$

Simplified antiderivative: $x^{**7} \operatorname{atan}(3x)/7 - x^{**6}/126 + x^{**4}/756 - x^{**2}/3402 + \log(9x^{**2} + 1)/30618 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q160. $x^1 \ln(x^6+2) \, dx$

Simplified antiderivative: $x^{**2} \log(x^{**6} + 2)/2 - 3x^{**2/2} + 2^{**}(1/3) \log(x^{**2} + 2^{**}(1/3))/2 - 2^{**}(1/3) \log(x^{**4} - 2^{**}(1/3)x^{**2} + 2^{**}(2/3))/4 + 2^{**}(1/3) \sqrt{3} \operatorname{atan}(\sqrt{3}) (2^{**}(2/3)x^{**2} - 1)/3)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q161. $x^7 e^{(4x)} \, dx$

Simplified antiderivative: $(1024x^{**7} - 1792x^{**6} + 2688x^{**5} - 3360x^{**4} + 3360x^{**3} - 2520x^{**2} + 1260x - 315) \exp(4x)/4096 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q162. $x^2 \sin(4x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q163. $x^2 \cos(4x) \, dx$

Simplified antiderivative: $x^{**2} \sin(4x)/4 + x \cos(4x)/8 - \sin(4x)/32 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q164. $x^2 \ln(4x) \, dx$

Simplified antiderivative: $x^{**3} (3 \log(4x) - 1)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q165. $e^{(4x)} \sin(12x) \, dx$

Simplified antiderivative: $(\sin(12x) - 3 \cos(12x)) \exp(4x)/40 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q166. $x^7 \arctan(4x) \, dx$

Simplified antiderivative: $x^{**8} \operatorname{atan}(4x)/8 - x^{**7}/224 + x^{**5}/2560 - x^{**3}/24576 + x/131072 - \operatorname{atan}(4x)/524288 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q167. $x^2 \ln(x^7+7) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q168. $x^8 e^{(5x)} \, dx$

Simplified antiderivative: $(78125x^{**8} - 125000x^{**7} + 175000x^{**6} - 210000x^{**5} + 210000x^{**4} - 168000x^{**3} + 100800x^{**2} - 40320x + 8064) \exp(5x)/390625 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q169. $x^3 \sin(5x) \, dx$

Simplified antiderivative: $-x^{**3} \cos(5x)/5 + 3x^{**2} \sin(5x)/25 + 6x \cos(5x)/125 - 6 \sin(5x)/625 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q170. $x^3 \cos(5x) \, dx$

Simplified antiderivative: $x^{**3} \sin(5x)/5 + 3x^{**2} \cos(5x)/25 - 6x \sin(5x)/125 - 6 \cos(5x)/625 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q171. $x^3 \ln(5x) \, dx$

Simplified antiderivative: $x^{**4} (4 \log(5x) - 1)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q172. $e^{(5x)} \sin(2x) \, dx$

Simplified antiderivative: $(5 \sin(2x) - 2 \cos(2x)) \exp(5x)/29 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q173. $x^8 \arctan(5x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q174. $x^3 \ln(x^8+1) \, dx$

Simplified antiderivative: $x^{**4} \log(x^{**8} + 1)/4 - x^{**4}/2 + \operatorname{atan}(x^{**4})/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q175. $x^9 e^{(6x)} dx$

Simplified antiderivative: $(972x^{10} - 1458x^9 + 1944x^8 - 2268x^7 + 2268x^6 - 1890x^5 + 1260x^4 - 630x^3 + 210x^2 - 35x + 35)\exp(6x)/5832 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q176. $x^4 \sin(6x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q177. $x^4 \cos(6x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q178. $x^4 \ln(6x) dx$

Simplified antiderivative: $x^5(5\log(6x) - 1)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q179. $e^{(6x)} \sin(5x) dx$

Simplified antiderivative: $(6\sin(5x) - 5\cos(5x))\exp(6x)/61 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q180. $x^9 \arctan(6x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q181. $x^4 \ln(x^9+6) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q182. $x^2 e^{(7x)} dx$

Simplified antiderivative: $(49x^3 - 14x^2 + 2)\exp(7x)/343 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q183. $x^5 \sin(7x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q184. $x^5 \cos(7x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q185. $x^5 \ln(7x) dx$

Simplified antiderivative: $x^6(6\log(7x) - 1)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q186. $e^{(7x)} \sin(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q187. $x^2 \arctan(7x) dx$

Simplified antiderivative: $x^3 \operatorname{atan}(7x)/3 - x^2/42 + \log(49x^2 + 1)/2058 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q188. $x^5 \ln(x^2+11) dx$

Simplified antiderivative: $x^6 \log(x^2 + 11)/6 - x^6/18 + 11x^4/12 - 121x^2/6 + 1331 \log(x^2 + 11)/6 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q189. $x^3 e^{(8x)} dx$

Simplified antiderivative: $(256x^4 - 96x^3 + 24x^2 - 3)\exp(8x)/2048 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q190. $x^1 \sin(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q191. $x^1 \cos(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q192. $x^1 \ln(8x) dx$

Simplified antiderivative: $x^{**2}*(2*\log(8*x) - 1)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q193. $e^{(8x)} \sin(11x) dx$

Simplified antiderivative: $(8*\sin(11*x) - 11*\cos(11*x))*\exp(8*x)/185 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q194. $x^3 \arctan(8x) dx$

Simplified antiderivative: $x^{**4}*\text{atan}(8*x)/4 - x^{**3}/96 + x/2048 - \text{atan}(8*x)/16384 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q195. $x^1 \ln(x^3+5) dx$

Simplified antiderivative: $x^{**2}*\log(x^{**3} + 5)/2 - 3*x^{**2}/4 - 5^{**}(2/3)*\log(x + 5^{**}(1/3))/2 + 5^{**}(2/3)*\log(x^{**2} - 5^{**}(1/3)*x + 5^{**}(2/3))/4 + \sqrt{3}*5^{**}(2/3)*\text{atan}(\sqrt{3}*(2*5^{**}(2/3)*x - 5)/15)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q196. $x^4 e^{(9x)} dx$

Simplified antiderivative: $(2187*x^{**4} - 972*x^{**3} + 324*x^{**2} - 72*x + 8)*\exp(9*x)/19683 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q197. $x^2 \sin(9x) dx$

Simplified antiderivative: $-x^{**2}*\cos(9*x)/9 + 2*x*\sin(9*x)/81 + 2*\cos(9*x)/729 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q198. $x^2 \cos(9x) dx$

Simplified antiderivative: $x^{**2}*\sin(9*x)/9 + 2*x*\cos(9*x)/81 - 2*\sin(9*x)/729 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q199. $x^2 \ln(9x) dx$

Simplified antiderivative: $x^{**3}*(3*\log(9*x) - 1)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q200. $e^{(9x)} \sin(1x) dx$

Simplified antiderivative: $(9*\sin(x) - \cos(x))*\exp(9*x)/82 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q201. $x^4 \arctan(9x) dx$

Simplified antiderivative: $x^{**5}*\text{atan}(9*x)/5 - x^{**4}/180 + x^{**2}/7290 - \log(81*x^{**2} + 1)/590490 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q202. $x^2 \ln(x^4+10) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q203. $x^5 e^{(1x)} dx$

Simplified antiderivative: $(x^{**5} - 5*x^{**4} + 20*x^{**3} - 60*x^{**2} + 120*x - 120)*\exp(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q204. $x^3 \sin(1x) dx$

Simplified antiderivative: $-x^{**3}*\cos(x) + 3*x^{**2}*\sin(x) + 6*x*\cos(x) - 6*\sin(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q205. $x^3 \cos(1x) \, dx$ **Simplified antiderivative:** $x^3 \sin(x) + 3x^2 \cos(x) - 6x \sin(x) - 6 \cos(x) + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q206. $x^3 \ln(1x) \, dx$ **Simplified antiderivative:** $x^4(4 \log(x) - 1)/16 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q207. $e^{(1x)} \sin(4x) \, dx$ **Simplified antiderivative:** $(\sin(4x) - 4 \cos(4x)) \exp(x)/17 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q208. $x^5 \arctan(1x) \, dx$ **Simplified antiderivative:** $x^6 \arctan(x)/6 - x^5/30 + x^3/18 - x/6 + \arctan(x)/6 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q209. $x^3 \ln(x^5+4) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q210. $x^6 e^{(2x)} \, dx$** **Simplified antiderivative:** $(4x^6 - 12x^5 + 30x^4 - 60x^3 + 90x^2 - 90x + 45) \exp(2x)/8 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q211. $x^4 \sin(2x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q212. $x^4 \cos(2x) \, dx$** **Simplified antiderivative:** $x^4 \sin(2x)/2 + x^3 \cos(2x) - 3x^2 \sin(2x)/2 - 3x \cos(2x)/2 + 3 \sin(2x)/4 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q213. $x^4 \ln(2x) \, dx$ **Simplified antiderivative:** $x^5(5 \log(2x) - 1)/25 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q214. $e^{(2x)} \sin(7x) \, dx$ **Simplified antiderivative:** $(2 \sin(7x) - 7 \cos(7x)) \exp(2x)/53 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q215. $x^6 \arctan(2x) \, dx$ **Simplified antiderivative:** $x^7 \arctan(2x)/7 - x^6/84 + x^4/224 - x^2/448 + \log(4x^2 + 1)/1792 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q216. $x^4 \ln(x^6+9) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q217. $x^7 e^{(3x)} \, dx$** **Simplified antiderivative:** $(243x^7 - 567x^6 + 1134x^5 - 1890x^4 + 2520x^3 - 2520x^2 + 1680x - 560) \exp(3x)/729 + C$

Steps: 1) choose u and dv ; 2) calculate du and v ; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q218. $x^5 \sin(3x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q219. $x^5 \cos(3x) \, dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q220. $x^5 \ln(3x) \, dx$**

Simplified antiderivative: $x^{**6}(6*\log(3*x) - 1)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q221. $e^{(3x)} \sin(10x) dx$

Simplified antiderivative: $(3*\sin(10*x) - 10*\cos(10*x))*\exp(3*x)/109 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q222. $x^7 \arctan(3x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q223. $x^5 \ln(x^7+3) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q224. $x^8 e^{(4x)} dx$

Simplified antiderivative: $(512*x^{**8} - 1024*x^{**7} + 1792*x^{**6} - 2688*x^{**5} + 3360*x^{**4} - 3360*x^{**3} + 2520*x^{**2} - 1260*x + 315)*\exp(4*x)/2048 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q225. $x^1 \sin(4x) dx$

Simplified antiderivative: $-x*\cos(4*x)/4 + \sin(4*x)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q226. $x^1 \cos(4x) dx$

Simplified antiderivative: $x*\sin(4*x)/4 + \cos(4*x)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q227. $x^1 \ln(4x) dx$

Simplified antiderivative: $x^{**2}*(2*\log(4*x) - 1)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q228. $e^{(4x)} \sin(13x) dx$

Simplified antiderivative: $(4*\sin(13*x) - 13*\cos(13*x))*\exp(4*x)/185 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q229. $x^8 \arctan(4x) dx$

Simplified antiderivative: $x^{**9}*\text{atan}(4*x)/9 - x^{**8}/288 + x^{**6}/3456 - x^{**4}/36864 + x^{**2}/294912 - \log(16*x^{**2} + 1)/4718592 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q230. $x^1 \ln(x^8+8) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q231. $x^9 e^{(5x)} dx$

Simplified antiderivative: $(390625*x^{**9} - 703125*x^{**8} + 1125000*x^{**7} - 1575000*x^{**6} + 1890000*x^{**5} - 1890000*x^{**4} + 1512000*x^{**3} - 907200*x^{**2} + 362880*x - 72576)*\exp(5*x)/1953125 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q232. $x^2 \sin(5x) dx$

Simplified antiderivative: $-x^{**2}*\cos(5*x)/5 + 2*x*\sin(5*x)/25 + 2*\cos(5*x)/125 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q233. $x^2 \cos(5x) dx$

Simplified antiderivative: $x^{**2}*\sin(5*x)/5 + 2*x*\cos(5*x)/25 - 2*\sin(5*x)/125 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q234. $x^2 \ln(5x) dx$

Simplified antiderivative: $x^{**3}*(3*\log(5*x) - 1)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q235. $e^{(5x)} \sin(3x) dx$

Simplified antiderivative: $(5\sin(3x) - 3\cos(3x)) \cdot \exp(5x)/34 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q236. $x^9 \arctan(5x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q237. $x^2 \ln(x^9+2) dx$

Simplified antiderivative: $x^{**3} \log(x^{**9} + 2)/3 - x^{**3} + 2^{**}(1/3) \log(x^{**3} + 2^{**}(1/3))/3 - 2^{**}(1/3) \log(x^{**6} - 2^{**}(1/3) \cdot x^{**3} + 2^{**}(2/3))/6 + 2^{**}(1/3) \sqrt{3} \operatorname{atan}(\sqrt{3} \cdot (2^{**}(2/3) \cdot x^{**3} - 1)/3)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q238. $x^2 e^{(6x)} dx$

Simplified antiderivative: $(18x^{**2} - 6x + 1) \cdot \exp(6x)/108 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q239. $x^3 \sin(6x) dx$

Simplified antiderivative: $-x^{**3} \cos(6x)/6 + x^{**2} \sin(6x)/12 + x \cos(6x)/36 - \sin(6x)/216 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q240. $x^3 \cos(6x) dx$

Simplified antiderivative: $x^{**3} \sin(6x)/6 + x^{**2} \cos(6x)/12 - x \sin(6x)/36 - \cos(6x)/216 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q241. $x^3 \ln(6x) dx$

Simplified antiderivative: $x^{**4} \cdot (4 \log(6x) - 1)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q242. $e^{(6x)} \sin(6x) dx$

Simplified antiderivative: $-\sqrt{2} \cdot \exp(6x) \cdot \cos(6x + \pi/4)/12 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q243. $x^2 \arctan(6x) dx$

Simplified antiderivative: $x^{**3} \operatorname{atan}(6x)/3 - x^{**2}/36 + \log(36x^{**2} + 1)/1296 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q244. $x^3 \ln(x^2+7) dx$

Simplified antiderivative: $x^{**4} \log(x^{**2} + 7)/4 - x^{**4}/8 + 7x^{**2}/4 - 49 \log(x^{**2} + 7)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q245. $x^3 e^{(7x)} dx$

Simplified antiderivative: $(343x^{**3} - 147x^{**2} + 42x - 6) \cdot \exp(7x)/2401 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q246. $x^4 \sin(7x) dx$

Simplified antiderivative: $-x^{**4} \cos(7x)/7 + 4x^{**3} \sin(7x)/49 + 12x^{**2} \cos(7x)/343 - 24x \sin(7x)/2401 - 24 \cos(7x)/16807 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q247. $x^4 \cos(7x) dx$

Simplified antiderivative: $x^{**4} \sin(7x)/7 + 4x^{**3} \cos(7x)/49 - 12x^{**2} \sin(7x)/343 - 24x \cos(7x)/2401 + 24 \sin(7x)/16807 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q248. $x^4 \ln(7x) \, dx$ **Simplified antiderivative:** $x^{5/5}(5 \log(7x) - 1)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q249. $e^{(7x)} \sin(9x) \, dx$ **Simplified antiderivative:** $(7 \sin(9x) - 9 \cos(9x)) \exp(7x)/130 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q250. $x^3 \arctan(7x) \, dx$ **Simplified antiderivative:** $x^{4/4} \arctan(7x)/4 - x^{3/84} + x/1372 - \arctan(7x)/9604 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q251. $x^4 \ln(x^3+1) \, dx$ **Simplified antiderivative:** $x^{5/5} \log(x^{3/5} + 1)/5 - 3x^{5/25} + 3x^{2/10} + \log(x + 1)/5 - \log(x^{2/10} - x + 1)/10 - \sqrt{3} \arctan(\sqrt{3}(2x - 1)/3)/5 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q252. $x^4 e^{(8x)} \, dx$ **Simplified antiderivative:** $(512x^{4/4} - 256x^{3/3} + 96x^{2/2} - 24x + 3) \exp(8x)/4096 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q253. $x^5 \sin(8x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q254. $x^5 \cos(8x) \, dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q255. $x^5 \ln(8x) \, dx$** **Simplified antiderivative:** $x^{6/6}(6 \log(8x) - 1)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q256. $e^{(8x)} \sin(12x) \, dx$ **Simplified antiderivative:** $(2 \sin(12x) - 3 \cos(12x)) \exp(8x)/52 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q257. $x^4 \arctan(8x) \, dx$ **Simplified antiderivative:** $x^{5/5} \arctan(8x)/5 - x^{4/160} + x^{2/5120} - \log(64x^{2/2} + 1)/327680 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q258. $x^5 \ln(x^4+6) \, dx$ **Simplified antiderivative:** $x^{6/6} \log(x^{4/6} + 6)/6 - x^{6/9} + 2x^{2/2} - 2\sqrt{6} \arctan(\sqrt{6}x^{2/6})/6 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q259. $x^5 e^{(9x)} \, dx$ **Simplified antiderivative:** $(19683x^{5/5} - 10935x^{4/4} + 4860x^{3/3} - 1620x^{2/2} + 360x - 40) \exp(9x)/177147 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q260. $x^1 \sin(9x) \, dx$ **Simplified antiderivative:** $-x \cos(9x)/9 + \sin(9x)/81 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q261. $x^1 \cos(9x) \, dx$ **Simplified antiderivative:** $x \sin(9x)/9 + \cos(9x)/81 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u \, dv = uv - \int v \, du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q262. $x^1 \ln(9x) dx$ **Simplified antiderivative:** $x^{**2}*(2*\log(9*x) - 1)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q263. $e^{(9x)} \sin(2x) dx$ **Simplified antiderivative:** $(9*\sin(2*x) - 2*\cos(2*x))*\exp(9*x)/85 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q264. $x^5 \arctan(9x) dx$ **Simplified antiderivative:** $x^{**6}*\text{atan}(9*x)/6 - x^{**5}/270 + x^{**3}/13122 - x/354294 + \text{atan}(9*x)/3188646 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q265. $x^1 \ln(x^5+11) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q266. $x^6 e^{(1x)} dx$ **Simplified antiderivative:** $(x^{**6} - 6*x^{**5} + 30*x^{**4} - 120*x^{**3} + 360*x^{**2} - 720*x + 720)*\exp(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q267. $x^2 \sin(1x) dx$ **Simplified antiderivative:** $-x^{**2}*\cos(x) + 2*x*\sin(x) + 2*\cos(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q268. $x^2 \cos(1x) dx$ **Simplified antiderivative:** $x^{**2}*\sin(x) + 2*x*\cos(x) - 2*\sin(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q269. $x^2 \ln(1x) dx$ **Simplified antiderivative:** $x^{**3}*(3*\log(x) - 1)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q270. $e^{(1x)} \sin(5x) dx$ **Simplified antiderivative:** $(\sin(5*x) - 5*\cos(5*x))*\exp(x)/26 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q271. $x^6 \arctan(1x) dx$ **Simplified antiderivative:** $x^{**7}*\text{atan}(x)/7 - x^{**6}/42 + x^{**4}/28 - x^{**2}/14 + \log(x^{**2} + 1)/14 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q272. $x^2 \ln(x^6+5) dx$ **Simplified antiderivative:** $x^{**3}*\log(x^{**6} + 5)/3 - 2*x^{**3}/3 + 2*\sqrt{5}*\text{atan}(\sqrt{5}*x^{**3}/5)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q273. $x^7 e^{(2x)} dx$ **Simplified antiderivative:** $(8*x^{**7} - 28*x^{**6} + 84*x^{**5} - 210*x^{**4} + 420*x^{**3} - 630*x^{**2} + 630*x - 315)*\exp(2*x)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q274. $x^3 \sin(2x) dx$ **Simplified antiderivative:** $-x^{**3}*\cos(2*x)/2 + 3*x^{**2}*\sin(2*x)/4 + 3*x*\cos(2*x)/4 - 3*\sin(2*x)/8 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q275. $x^3 \cos(2x) dx$ **Simplified antiderivative:** $x^{**3}*\sin(2*x)/2 + 3*x^{**2}*\cos(2*x)/4 - 3*x*\sin(2*x)/4 - 3*\cos(2*x)/8 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q276. $x^3 \ln(2x) dx$

Simplified antiderivative: $x^{**4}(4*\log(2*x) - 1)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q277. $e^{(2x)} \sin(8x) dx$

Simplified antiderivative: $(\sin(8*x) - 4*\cos(8*x))*\exp(2*x)/34 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q278. $x^7 \arctan(2x) dx$

Simplified antiderivative: $x^{**8}\text{atan}(2*x)/8 - x^{**7}/112 + x^{**5}/320 - x^{**3}/768 + x/1024 - \text{atan}(2*x)/2048 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q279. $x^3 \ln(x^7+10) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q280. $x^8 e^{(3x)} dx$

Simplified antiderivative: $(729*x^{**8} - 1944*x^{**7} + 4536*x^{**6} - 9072*x^{**5} + 15120*x^{**4} - 20160*x^{**3} + 20160*x^{**2} - 13440*x + 4480)*\exp(3*x)/2187 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q281. $x^4 \sin(3x) dx$

Simplified antiderivative: $-x^{**4}*\cos(3*x)/3 + 4*x^{**3}*\sin(3*x)/9 + 4*x^{**2}*\cos(3*x)/9 - 8*x*\sin(3*x)/27 - 8*\cos(3*x)/81 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q282. $x^4 \cos(3x) dx$

Simplified antiderivative: $x^{**4}*\sin(3*x)/3 + 4*x^{**3}*\cos(3*x)/9 - 4*x^{**2}*\sin(3*x)/9 - 8*x*\cos(3*x)/27 + 8*\sin(3*x)/81 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q283. $x^4 \ln(3x) dx$

Simplified antiderivative: $x^{**5}(5*\log(3*x) - 1)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q284. $e^{(3x)} \sin(11x) dx$

Simplified antiderivative: $(3*\sin(11*x) - 11*\cos(11*x))*\exp(3*x)/130 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q285. $x^8 \arctan(3x) dx$

Simplified antiderivative: $x^{**9}\text{atan}(3*x)/9 - x^{**8}/216 + x^{**6}/1458 - x^{**4}/8748 + x^{**2}/39366 - \log(9*x^{**2} + 1)/354294 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q286. $x^4 \ln(x^8+4) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q287. $x^9 e^{(4x)} dx$

Simplified antiderivative: $(2048*x^{**9} - 4608*x^{**8} + 9216*x^{**7} - 16128*x^{**6} + 24192*x^{**5} - 30240*x^{**4} + 30240*x^{**3} - 22680*x^{**2} + 11340*x - 2835)*\exp(4*x)/8192 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q288. $x^5 \sin(4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q289. $x^5 \cos(4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q290. $x^5 \ln(4x) dx$

Simplified antiderivative: $x^{**6}(6*\log(4*x) - 1)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q291. $e^{4x} \sin(1x) dx$

Simplified antiderivative: $(4*\sin(x) - \cos(x))*\exp(4*x)/17 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q292. $x^9 \arctan(4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q293. $x^5 \ln(x^9+9) dx$

Simplified antiderivative: $x^{**6}*\log(x^{**9} + 9)/6 - x^{**6}/4 - 3^{**}(1/3)*\log(x^{**3} + 3^{**}(2/3))/2 + 3^{**}(1/3)*\log(x^{**6} - 3^{**}(2/3)*x^{**3} + 3^{**}(1/3))/4 + 3^{**}(5/6)*\operatorname{atan}(2^{**}3^{**}(5/6)*x^{**3}/9 - \sqrt{3}/3)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q294. $x^2 e^{5x} dx$

Simplified antiderivative: $(25*x^{**2} - 10*x + 2)*\exp(5*x)/125 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q295. $x^1 \sin(5x) dx$

Simplified antiderivative: $-x*\cos(5*x)/5 + \sin(5*x)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q296. $x^1 \cos(5x) dx$

Simplified antiderivative: $x*\sin(5*x)/5 + \cos(5*x)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q297. $x^1 \ln(5x) dx$

Simplified antiderivative: $x^{**2}*(2*\log(5*x) - 1)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q298. $e^{5x} \sin(4x) dx$

Simplified antiderivative: $(5*\sin(4*x) - 4*\cos(4*x))*\exp(5*x)/41 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q299. $x^2 \arctan(5x) dx$

Simplified antiderivative: $x^{**3}*\operatorname{atan}(5*x)/3 - x^{**2}/30 + \log(25*x^{**2} + 1)/750 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q300. $x^1 \ln(x^2+3) dx$

Simplified antiderivative: $x^{**2}*\log(x^{**2} + 3)/2 - x^{**2}/2 + 3*\log(x^{**2} + 3)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q301. $x^3 e^{6x} dx$

Simplified antiderivative: $(36*x^{**3} - 18*x^{**2} + 6*x - 1)*\exp(6*x)/216 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q302. $x^2 \sin(6x) dx$

Simplified antiderivative: $-x^{**2}*\cos(6*x)/6 + x*\sin(6*x)/18 + \cos(6*x)/108 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q303. $x^2 \cos(6x) dx$

Simplified antiderivative: $x^{**2}*\sin(6*x)/6 + x*\cos(6*x)/18 - \sin(6*x)/108 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q304. $x^2 \ln(6x) dx$

Simplified antiderivative: $x^{**3}*(3*\log(6*x) - 1)/9 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q305. $e^{(6x)} \sin(7x) dx$

Simplified antiderivative: $(6*\sin(7*x) - 7*\cos(7*x))*\exp(6*x)/85 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q306. $x^3 \arctan(6x) dx$

Simplified antiderivative: $x^{**4}*\text{atan}(6*x)/4 - x^{**3}/72 + x/864 - \text{atan}(6*x)/5184 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q307. $x^2 \ln(x^3+8) dx$

Simplified antiderivative: $x^{**3}*\log(x^{**3} + 8)/3 - x^{**3}/3 + 8*\log(x^{**3} + 8)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q308. $x^4 e^{(7x)} dx$

Simplified antiderivative: $(2401*x^{**4} - 1372*x^{**3} + 588*x^{**2} - 168*x + 24)*\exp(7*x)/16807 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q309. $x^3 \sin(7x) dx$

Simplified antiderivative: $-x^{**3}*\cos(7*x)/7 + 3*x^{**2}*\sin(7*x)/49 + 6*x*\cos(7*x)/343 - 6*\sin(7*x)/2401 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q310. $x^3 \cos(7x) dx$

Simplified antiderivative: $x^{**3}*\sin(7*x)/7 + 3*x^{**2}*\cos(7*x)/49 - 6*x*\sin(7*x)/343 - 6*\cos(7*x)/2401 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q311. $x^3 \ln(7x) dx$

Simplified antiderivative: $x^{**4}*(4*\log(7*x) - 1)/16 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q312. $e^{(7x)} \sin(10x) dx$

Simplified antiderivative: $(7*\sin(10*x) - 10*\cos(10*x))*\exp(7*x)/149 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q313. $x^4 \arctan(7x) dx$

Simplified antiderivative: $x^{**5}*\text{atan}(7*x)/5 - x^{**4}/140 + x^{**2}/3430 - \log(49*x^{**2} + 1)/168070 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q314. $x^3 \ln(x^4+2) dx$

Simplified antiderivative: $x^{**4}*\log(x^{**4} + 2)/4 - x^{**4}/4 + \log(x^{**4} + 2)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q315. $x^5 e^{(8x)} dx$

Simplified antiderivative: $(4096*x^{**5} - 2560*x^{**4} + 1280*x^{**3} - 480*x^{**2} + 120*x - 15)*\exp(8*x)/32768 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q316. $x^4 \sin(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q317. $x^4 \cos(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q318. $x^4 \ln(8x) dx$

Simplified antiderivative: $x^{5/2}(5 \log(8x) - 1)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q319. $e^{(8x)} \sin(13x) dx$

Simplified antiderivative: $(8 \sin(13x) - 13 \cos(13x)) \exp(8x)/233 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q320. $x^5 \arctan(8x) dx$

Simplified antiderivative: $x^{5/2} \operatorname{atan}(8x)/6 - x^{5/2}/240 + x^{3/2}/9216 - x/196608 + \operatorname{atan}(8x)/1572864 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q321. $x^4 \ln(x^5+7) dx$

Simplified antiderivative: $x^{5/2} \log(x^{5/2} + 7)/5 - x^{5/2}/5 + 7 \log(x^{5/2} + 7)/5 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q322. $x^6 e^{(9x)} dx$

Simplified antiderivative: $(59049x^{5/2} - 39366x^{5/2} + 21870x^{3/2} - 9720x^{3/2} + 3240x^{3/2} - 720x + 80) \exp(9x)/531441 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q323. $x^5 \sin(9x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q324. $x^5 \cos(9x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q325. $x^5 \ln(9x) dx$

Simplified antiderivative: $x^{5/2}(6 \log(9x) - 1)/36 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q326. $e^{(9x)} \sin(3x) dx$

Simplified antiderivative: $(3 \sin(3x) - \cos(3x)) \exp(9x)/30 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q327. $x^6 \arctan(9x) dx$

Simplified antiderivative: $x^{5/2} \operatorname{atan}(9x)/7 - x^{5/2}/378 + x^{3/2}/20412 - x^{3/2}/826686 + \log(81x^{5/2} + 1)/66961566 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q328. $x^5 \ln(x^6+1) dx$

Simplified antiderivative: $x^{5/2} \log(x^{5/2} + 1)/6 - x^{5/2}/6 + \log(x^{5/2} + 1)/6 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q329. $x^7 e^{(1x)} dx$

Simplified antiderivative: $(x^{5/2} - 7x^{5/2} + 42x^{5/2} - 210x^{5/2} + 840x^{5/2} - 2520x^{5/2} + 5040x - 5040) \exp(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q330. $x^1 \sin(1x) dx$

Simplified antiderivative: $-x \cos(x) + \sin(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q331. $x^1 \cos(1x) dx$

Simplified antiderivative: $x \sin(x) + \cos(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q332. $x^1 \ln(1x) dx$

Simplified antiderivative: $x^{**2}*(2*\log(x) - 1)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q333. $e^{(1x)} \sin(6x) dx$

Simplified antiderivative: $(\sin(6*x) - 6*\cos(6*x))*\exp(x)/37 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q334. $x^7 \arctan(1x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q335. $x^1 \ln(x^7+6) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q336. $x^8 e^{(2x)} dx$

Simplified antiderivative: $(2*x^{**8} - 8*x^{**7} + 28*x^{**6} - 84*x^{**5} + 210*x^{**4} - 420*x^{**3} + 630*x^{**2} - 630*x + 315)*\exp(2*x)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q337. $e^{(2x)} \sin(9x) dx$

Simplified antiderivative: $(2*\sin(9*x) - 9*\cos(9*x))*\exp(2*x)/85 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q338. $x^8 \arctan(2x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q339. $x^2 \ln(x^8+11) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q340. $x^9 e^{(3x)} dx$

Simplified antiderivative: $(243*x^{**9} - 729*x^{**8} + 1944*x^{**7} - 4536*x^{**6} + 9072*x^{**5} - 15120*x^{**4} + 20160*x^{**3} - 20160*x^{**2} + 13440*x - 4480)*\exp(3*x)/729 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q341. $e^{(3x)} \sin(12x) dx$

Simplified antiderivative: $(\sin(12*x) - 4*\cos(12*x))*\exp(3*x)/51 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q342. $x^9 \arctan(3x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q343. $x^3 \ln(x^9+5) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q344. $x^2 e^{(4x)} dx$

Simplified antiderivative: $(8*x^{**2} - 4*x + 1)*\exp(4*x)/32 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q345. $e^{(4x)} \sin(2x) dx$

Simplified antiderivative: $(2*\sin(2*x) - \cos(2*x))*\exp(4*x)/10 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q346. $x^2 \arctan(4x) dx$

Simplified antiderivative: $x^{**3}*\operatorname{atan}(4*x)/3 - x^{**2}/24 + \log(16*x^{**2} + 1)/384 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q347. $x^4 \ln(x^2+10) dx$

Simplified antiderivative: $x^{**5} \log(x^{**2} + 10)/5 - 2x^{**5}/25 + 4x^{**3}/3 - 40x + 40\sqrt{10} \operatorname{atan}(\sqrt{10}x/10) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q348. $x^3 e^{(5x)} dx$

Simplified antiderivative: $(125x^{**3} - 75x^{**2} + 30x - 6) \exp(5x)/625 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q349. $e^{(5x)} \sin(5x) dx$

Simplified antiderivative: $-\sqrt{2} \exp(5x) \cos(5x + \pi/4)/10 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q350. $x^3 \arctan(5x) dx$

Simplified antiderivative: $x^{**4} \operatorname{atan}(5x)/4 - x^{**3}/60 + x/500 - \operatorname{atan}(5x)/2500 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q351. $x^5 \ln(x^3+4) dx$

Simplified antiderivative: $x^{**6} \log(x^{**3} + 4)/6 - x^{**6}/12 + 2x^{**3}/3 - 8 \log(x^{**3} + 4)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q352. $x^4 e^{(6x)} dx$

Simplified antiderivative: $(54x^{**4} - 36x^{**3} + 18x^{**2} - 6x + 1) \exp(6x)/324 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q353. $e^{(6x)} \sin(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q354. $x^4 \arctan(6x) dx$

Simplified antiderivative: $x^{**5} \operatorname{atan}(6x)/5 - x^{**4}/120 + x^{**2}/2160 - \log(36x^{**2} + 1)/77760 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q355. $x^1 \ln(x^4+9) dx$

Simplified antiderivative: $x^{**2} \log(x^{**4} + 9)/2 - x^{**2} + 3 \operatorname{atan}(x^{**2}/3) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q356. $x^5 e^{(7x)} dx$

Simplified antiderivative: $(16807x^{**5} - 12005x^{**4} + 6860x^{**3} - 2940x^{**2} + 840x - 120) \exp(7x)/117649 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q357. $e^{(7x)} \sin(11x) dx$

Simplified antiderivative: $(7 \sin(11x) - 11 \cos(11x)) \exp(7x)/170 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q358. $x^5 \arctan(7x) dx$

Simplified antiderivative: $x^{**6} \operatorname{atan}(7x)/6 - x^{**5}/210 + x^{**3}/6174 - x/100842 + \operatorname{atan}(7x)/705894 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q359. $x^2 \ln(x^5+3) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q360. $x^6 e^{(8x)} dx$

Simplified antiderivative: $(16384x^{**6} - 12288x^{**5} + 7680x^{**4} - 3840x^{**3} + 1440x^{**2} - 360x + 45) \exp(8x)/131072 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q361. $e^{(8x)} \sin(1x) dx$

Simplified antiderivative: $(8\sin(x) - \cos(x))\exp(8x)/65 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q362. $x^6 \arctan(8x) dx$

Simplified antiderivative: $x^{**7}\text{atan}(8x)/7 - x^{**6}/336 + x^{**4}/14336 - x^{**2}/458752 + \log(64x^{**2} + 1)/29360128 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q363. $x^3 \ln(x^6+8) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q364. $x^7 e^{(9x)} dx$

Simplified antiderivative: $(531441x^{**7} - 413343x^{**6} + 275562x^{**5} - 153090x^{**4} + 68040x^{**3} - 22680x^{**2} + 5040x - 560)\exp(9x)/4782969 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q365. $e^{(9x)} \sin(4x) dx$

Simplified antiderivative: $(9\sin(4x) - 4\cos(4x))\exp(9x)/97 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q366. $x^7 \arctan(9x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q367. $x^4 \ln(x^7+2) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q368. $x^8 e^{(1x)} dx$

Simplified antiderivative: $(x^{**8} - 8x^{**7} + 56x^{**6} - 336x^{**5} + 1680x^{**4} - 6720x^{**3} + 20160x^{**2} - 40320x + 40320)\exp(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q369. $e^{(1x)} \sin(7x) dx$

Simplified antiderivative: $(\sin(7x) - 7\cos(7x))\exp(x)/50 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q370. $x^8 \arctan(1x) dx$

Simplified antiderivative: $x^{**9}\text{atan}(x)/9 - x^{**8}/72 + x^{**6}/54 - x^{**4}/36 + x^{**2}/18 - \log(x^{**2} + 1)/18 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q371. $x^5 \ln(x^8+7) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q372. $x^9 e^{(2x)} dx$

Simplified antiderivative: $(4x^{**9} - 18x^{**8} + 72x^{**7} - 252x^{**6} + 756x^{**5} - 1890x^{**4} + 3780x^{**3} - 5670x^{**2} + 5670x - 2835)\exp(2x)/8 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q373. $e^{(2x)} \sin(10x) dx$

Simplified antiderivative: $(\sin(10x) - 5\cos(10x))\exp(2x)/52 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q374. $x^9 \arctan(2x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q375. $x^1 \ln(x^9+1) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q376. $x^2 e^{(3x)} dx$

Simplified antiderivative: $(9x^{**2} - 6x + 2)\exp(3x)/27 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q377. $e^{(3x)} \sin(13x) dx$ **Simplified antiderivative:** $(3\sin(13x) - 13\cos(13x))\exp(3x)/178 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q378. $x^2 \arctan(3x) dx$ **Simplified antiderivative:** $x^3 \arctan(3x)/3 - x^2/18 + \log(9x^2 + 1)/162 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q379. $x^2 \ln(x^2+6) dx$ **Simplified antiderivative:** $x^3 \log(x^2 + 6)/3 - 2x^3/9 + 4x - 4\sqrt{6} \arctan(\sqrt{6}x/6) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q380. $x^3 e^{(4x)} dx$ **Simplified antiderivative:** $(32x^3 - 24x^2 + 12x - 3)\exp(4x)/128 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q381. $e^{(4x)} \sin(3x) dx$ **Simplified antiderivative:** $(4\sin(3x) - 3\cos(3x))\exp(4x)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q382. $x^3 \arctan(4x) dx$ **Simplified antiderivative:** $x^4 \arctan(4x)/4 - x^3/48 + x/256 - \arctan(4x)/1024 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q383. $x^3 \ln(x^3+11) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q384. $x^4 e^{(5x)} dx$** **Simplified antiderivative:** $(625x^4 - 500x^3 + 300x^2 - 120x + 24)\exp(5x)/3125 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q385. $e^{(5x)} \sin(6x) dx$ **Simplified antiderivative:** $(5\sin(6x) - 6\cos(6x))\exp(5x)/61 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q386. $x^4 \arctan(5x) dx$ **Simplified antiderivative:** $x^5 \arctan(5x)/5 - x^4/100 + x^2/1250 - \log(25x^2 + 1)/31250 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q387. $x^4 \ln(x^4+5) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q388. $x^5 e^{(6x)} dx$** **Simplified antiderivative:** $(324x^5 - 270x^4 + 180x^3 - 90x^2 + 30x - 5)\exp(6x)/1944 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q389. $e^{(6x)} \sin(9x) dx$ **Simplified antiderivative:** $(2\sin(9x) - 3\cos(9x))\exp(6x)/39 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q390. $x^5 \arctan(6x) dx$ **Simplified antiderivative:** $x^6 \arctan(6x)/6 - x^5/180 + x^3/3888 - x/46656 + \arctan(6x)/279936 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q391. $x^5 \ln(x^5+10) dx$

Simplified antiderivative: $x^{**6} \log(x^{**5} + 10)/6 - 5*x^{**6}/36 + 25*x/3 - 5*10^{**(1/5)} \log(x + 10^{**(1/5)})/3 - 5*(-10^{**(1/5)}/12 + 2^{**(1/5)}*5^{**(7/10)}/12 - 10^{**(1/5)}* \sqrt[5]{\sqrt[5]{5}/8 + 5/8}/3) \log(x - 10^{**(1/5)}/4 + 2^{**(1/5)}*5^{**(7/10)}/4 - 10^{**(1/5)}* \sqrt[5]{\sqrt[5]{5}/8 + 5/8}) - 5*(-10^{**(1/5)}/12 + 2^{**(1/5)}*5^{**(7/10)}/12 - 10^{**(1/5)}* \sqrt[5]{\sqrt[5]{5}/8 + 5/8}/3) \log(x - 10^{**(1/5)}/4 + 2^{**(1/5)}*5^{**(7/10)}/4 + 10^{**(1/5)}* \sqrt[5]{\sqrt[5]{5}/8 + 5/8}) - 5*(-2^{**(1/5)}*5^{**(7/10)}/12 - 10^{**(1/5)}/12 - 10^{**(1/5)}* \sqrt[5]{\sqrt[5]{5}/8 - \sqrt[5]{5}/3}) \log(x - 2^{**(1/5)}*5^{**(7/10)}/4 - 10^{**(1/5)}/4 - 10^{**(1/5)}* \sqrt[5]{\sqrt[5]{5}/8 - \sqrt[5]{5}/3}) - 5*(-2^{**(1/5)}*5^{**(7/10)}/12 - 10^{**(1/5)}/12 + 10^{**(1/5)}* \sqrt[5]{\sqrt[5]{5}/8 - \sqrt[5]{5}/3}) \log(x - 2^{**(1/5)}*5^{**(7/10)}/4 - 10^{**(1/5)}/4 + 10^{**(1/5)}* \sqrt[5]{\sqrt[5]{5}/8 - \sqrt[5]{5}/3}) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q392. $x^6 e^{(7x)} dx$

Simplified antiderivative: $(117649*x^{**6} - 100842*x^{**5} + 72030*x^{**4} - 41160*x^{**3} + 17640*x^{**2} - 5040*x + 720)*\exp(7*x)/823543 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q393. $e^{(7x)} \sin(12x) dx$

Simplified antiderivative: $(7*\sin(12*x) - 12*\cos(12*x))*\exp(7*x)/193 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q394. $x^6 \arctan(7x) dx$

Simplified antiderivative: $x^{**7}*\operatorname{atan}(7*x)/7 - x^{**6}/294 + x^{**4}/9604 - x^{**2}/235298 + \log(49*x^{**2} + 1)/11529602 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q395. $x^1 \ln(x^6+4) dx$

Simplified antiderivative: $x^{**2} \log(x^{**6} + 4)/2 - 3*x^{**2}/2 + 2^{**(2/3)} \log(x^{**2} + 2^{**(2/3)})/2 - 2^{**(2/3)} \log(x^{**4} - 2^{**(2/3)}*x^{**2} + 2*2^{**(1/3)})/4 + 2^{**(2/3)} \sqrt[3]{3} \operatorname{atan}(\sqrt[3]{3}*(2^{**(1/3)}*x^{**2} - 1)/3)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q396. $x^7 e^{(8x)} dx$

Simplified antiderivative: $(131072*x^{**7} - 114688*x^{**6} + 86016*x^{**5} - 53760*x^{**4} + 26880*x^{**3} - 10080*x^{**2} + 2520*x - 315)*\exp(8*x)/1048576 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q397. $e^{(8x)} \sin(2x) dx$

Simplified antiderivative: $(4*\sin(2*x) - \cos(2*x))*\exp(8*x)/34 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q398. $x^7 \arctan(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q399. $x^2 \ln(x^7+9) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q400. $x^8 e^{(9x)} dx$

Simplified antiderivative: $(4782969*x^{**8} - 4251528*x^{**7} + 3306744*x^{**6} - 2204496*x^{**5} + 1224720*x^{**4} - 544320*x^{**3} + 181440*x^{**2} - 40320*x + 4480)*\exp(9*x)/43046721 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q401. $e^{(9x)} \sin(5x) dx$

Simplified antiderivative: $(9*\sin(5*x) - 5*\cos(5*x))*\exp(9*x)/106 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q402. $x^8 \arctan(9x) dx$

Simplified antiderivative: $x^{**9}*\operatorname{atan}(9*x)/9 - x^{**8}/648 + x^{**6}/39366 - x^{**4}/2125764 + x^{**2}/86093442 - \log(81*x^{**2} + 1)/6973568802 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q403. $x^3 \ln(x^8+3) dx$

Simplified antiderivative: $x^{**4} \log(x^{**8} + 3)/4 - x^{**4}/2 + \sqrt[3]{3} \operatorname{atan}(\sqrt[3]{3}*x^{**4}/3)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q404. $x^9 e^{(1x)} dx$

Simplified antiderivative: $(x^{**9} - 9*x^{**8} + 72*x^{**7} - 504*x^{**6} + 3024*x^{**5} - 15120*x^{**4} + 60480*x^{**3} - 181440*x^{**2} + 362880*x - 362880)*\exp(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q405. $e^{(1x)} \sin(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q406. $x^9 \arctan(1x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q407. $x^4 \ln(x^9+8) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q408. $x^2 e^{(2x)} dx$

Simplified antiderivative: $(2*x^{**2} - 2*x + 1)*\exp(2*x)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q409. $e^{(2x)} \sin(11x) dx$

Simplified antiderivative: $(2*\sin(11*x) - 11*\cos(11*x))*\exp(2*x)/125 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q410. $x^2 \arctan(2x) dx$

Simplified antiderivative: $x^{**3}*atan(2*x)/3 - x^{**2}/12 + \log(4*x^{**2} + 1)/48 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q411. $x^5 \ln(x^2+2) dx$

Simplified antiderivative: $x^{**6}*\log(x^{**2} + 2)/6 - x^{**6}/18 + x^{**4}/6 - 2*x^{**2}/3 + 4*\log(x^{**2} + 2)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q412. $x^3 e^{(3x)} dx$

Simplified antiderivative: $(9*x^{**3} - 9*x^{**2} + 6*x - 2)*\exp(3*x)/27 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q413. $e^{(3x)} \sin(1x) dx$

Simplified antiderivative: $(3*\sin(x) - \cos(x))*\exp(3*x)/10 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q414. $x^3 \arctan(3x) dx$

Simplified antiderivative: $x^{**4}*atan(3*x)/4 - x^{**3}/36 + x/108 - atan(3*x)/324 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q415. $x^1 \ln(x^3+7) dx$

Simplified antiderivative: $x^{**2}*\log(x^{**3} + 7)/2 - 3*x^{**2}/4 - 7^{**}(2/3)*\log(x + 7^{**}(1/3))/2 + 7^{**}(2/3)*\log(x^{**2} - 7^{**}(1/3)*x + 7^{**}(2/3))/4 + \sqrt{3}*7^{**}(2/3)*atan(\sqrt{3}*(2*7^{**}(2/3)*x - 7)/21)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q416. $x^4 e^{(4x)} dx$

Simplified antiderivative: $(32*x^{**4} - 32*x^{**3} + 24*x^{**2} - 12*x + 3)*\exp(4*x)/128 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q417. $e^{(4x)} \sin(4x) dx$

Simplified antiderivative: $(\sin(4*x) - \cos(4*x))*\exp(4*x)/8 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q418. $x^4 \arctan(4x) dx$

Simplified antiderivative: $x^{**5}*atan(4*x)/5 - x^{**4}/80 + x^{**2}/640 - \log(16*x^{**2} + 1)/10240 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q419. $x^2 \ln(x^4+1) dx$

Simplified antiderivative: $x^{**3} \log(x^{**4} + 1)/3 - 4*x^{**3}/9 + \sqrt{2} \log(x^{**2} - \sqrt{2}*x + 1)/6 - \sqrt{2} \log(x^{**2} + \sqrt{2}*x + 1)/6 + \sqrt{2} \operatorname{atan}(\sqrt{2}*x - 1/3 + \sqrt{2} \operatorname{atan}(\sqrt{2}*x + 1)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q420. $x^5 e^{(5x)} dx$

Simplified antiderivative: $(625*x^{**5} - 625*x^{**4} + 500*x^{**3} - 300*x^{**2} + 120*x - 24)*\exp(5*x)/3125 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q421. $e^{(5x)} \sin(7x) dx$

Simplified antiderivative: $(5*\sin(7*x) - 7*\cos(7*x))*\exp(5*x)/74 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q422. $x^5 \arctan(5x) dx$

Simplified antiderivative: $x^{**6} \operatorname{atan}(5*x)/6 - x^{**5}/150 + x^{**3}/2250 - x/18750 + \operatorname{atan}(5*x)/93750 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q423. $x^3 \ln(x^5+6) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q424. $x^6 e^{(6x)} dx$

Simplified antiderivative: $(324*x^{**6} - 324*x^{**5} + 270*x^{**4} - 180*x^{**3} + 90*x^{**2} - 30*x + 5)*\exp(6*x)/1944 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q425. $e^{(6x)} \sin(10x) dx$

Simplified antiderivative: $(3*\sin(10*x) - 5*\cos(10*x))*\exp(6*x)/68 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q426. $x^6 \arctan(6x) dx$

Simplified antiderivative: $x^{**7} \operatorname{atan}(6*x)/7 - x^{**6}/252 + x^{**4}/6048 - x^{**2}/108864 + \log(36*x^{**2} + 1)/3919104 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q427. $x^4 \ln(x^6+11) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q428. $x^7 e^{(7x)} dx$

Simplified antiderivative: $(117649*x^{**7} - 117649*x^{**6} + 100842*x^{**5} - 72030*x^{**4} + 41160*x^{**3} - 17640*x^{**2} + 5040*x - 720)*\exp(7*x)/823543 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q429. $e^{(7x)} \sin(13x) dx$

Simplified antiderivative: $(7*\sin(13*x) - 13*\cos(13*x))*\exp(7*x)/218 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q430. $x^7 \arctan(7x) dx$

Simplified antiderivative: $x^{**8} \operatorname{atan}(7*x)/8 - x^{**7}/392 + x^{**5}/13720 - x^{**3}/403368 + x/6588344 - \operatorname{atan}(7*x)/46118408 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q431. $x^5 \ln(x^7+5) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q432. $x^8 e^{(8x)} dx$

Simplified antiderivative: $(131072*x^{**8} - 131072*x^{**7} + 114688*x^{**6} - 86016*x^{**5} + 53760*x^{**4} - 26880*x^{**3} + 10080*x^{**2} - 2520*x + 315)*\exp(8*x)/1048576 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q433. $e^{(8x)} \sin(3x) dx$

Simplified antiderivative: $(8\sin(3x) - 3\cos(3x))\exp(8x)/73 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q434. $x^8 \arctan(8x) dx$

Simplified antiderivative: $x^{**9}\text{atan}(8x)/9 - x^{**8}/576 + x^{**6}/27648 - x^{**4}/1179648 + x^{**2}/37748736 - \log(64x^{**2} + 1)/2415919104 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q435. $x^1 \ln(x^8+10) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q436. $x^9 e^{(9x)} dx$

Simplified antiderivative: $(4782969x^{**9} - 4782969x^{**8} + 4251528x^{**7} - 3306744x^{**6} + 2204496x^{**5} - 1224720x^{**4} + 544320x^{**3} - 181440x^{**2} + 40320x - 4480)\exp(9x)/43046721 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q437. $e^{(9x)} \sin(6x) dx$

Simplified antiderivative: $(3\sin(6x) - 2\cos(6x))\exp(9x)/39 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q438. $x^9 \arctan(9x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q439. $x^2 \ln(x^9+4) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q440. $x^2 e^{(1x)} dx$

Simplified antiderivative: $(x^{**2} - 2x + 2)\exp(x) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q441. $e^{(1x)} \sin(9x) dx$

Simplified antiderivative: $(\sin(9x) - 9\cos(9x))\exp(x)/82 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q442. $x^2 \arctan(1x) dx$

Simplified antiderivative: $x^{**3}\text{atan}(x)/3 - x^{**2}/6 + \log(x^{**2} + 1)/6 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q443. $x^3 \ln(x^2+9) dx$

Simplified antiderivative: $x^{**4}\log(x^{**2} + 9)/4 - x^{**4}/8 + 9x^{**2}/4 - 81\log(x^{**2} + 9)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q444. $e^{(2x)} \sin(12x) dx$

Simplified antiderivative: $(\sin(12x) - 6\cos(12x))\exp(2x)/74 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q445. $x^4 \ln(x^3+3) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q446. $e^{(3x)} \sin(2x) dx$

Simplified antiderivative: $(3\sin(2x) - 2\cos(2x))\exp(3x)/13 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q447. $x^5 \ln(x^4+8) dx$

Simplified antiderivative: $x^{**6} \log(x^{**4} + 8)/6 - x^{**6}/9 + 8*x^{**2}/3 - 16*\sqrt{2}*\operatorname{atan}(\sqrt{2}*x^{**2}/4)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q448. $e^{(4x)} \sin(5x) dx$

Simplified antiderivative: $(4*\sin(5*x) - 5*\cos(5*x))*\exp(4*x)/41 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q449. $x^1 \ln(x^5+2) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q450. $e^{(5x)} \sin(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q451. $x^2 \ln(x^6+7) dx$

Simplified antiderivative: $x^{**3} \log(x^{**6} + 7)/3 - 2*x^{**3}/3 + 2*\sqrt{7}*\operatorname{atan}(\sqrt{7}*x^{**3}/7)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q452. $e^{(6x)} \sin(11x) dx$

Simplified antiderivative: $(6*\sin(11*x) - 11*\cos(11*x))*\exp(6*x)/157 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q453. $x^3 \ln(x^7+1) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q454. $e^{(7x)} \sin(1x) dx$

Simplified antiderivative: $(7*\sin(x) - \cos(x))*\exp(7*x)/50 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q455. $x^4 \ln(x^8+6) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q456. $e^{(8x)} \sin(4x) dx$

Simplified antiderivative: $(2*\sin(4*x) - \cos(4*x))*\exp(8*x)/20 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q457. $x^5 \ln(x^9+11) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q458. $e^{(9x)} \sin(7x) dx$

Simplified antiderivative: $(9*\sin(7*x) - 7*\cos(7*x))*\exp(9*x)/130 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q459. $x^1 \ln(x^2+5) dx$

Simplified antiderivative: $x^{**2} \log(x^{**2} + 5)/2 - x^{**2}/2 + 5*\log(x^{**2} + 5)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q460. $e^{(1x)} \sin(10x) dx$

Simplified antiderivative: $(\sin(10*x) - 10*\cos(10*x))*\exp(x)/101 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q461. $x^2 \ln(x^3+10) dx$

Simplified antiderivative: $x^{**3} \log(x^{**3} + 10)/3 - x^{**3}/3 + 10*\log(x^{**3} + 10)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q462. $e^{(2x)} \sin(13x) dx$

Simplified antiderivative: $(2*\sin(13*x) - 13*\cos(13*x))*\exp(2*x)/173 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q463. $x^3 \ln(x^4+4) dx$

Simplified antiderivative: $-x^{7/4} + \log((x^4 + 4)^{(x^{7/4} + 1)}) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q464. $e^{(3x)} \sin(3x) dx$

Simplified antiderivative: $-\sqrt{2} \cdot \exp(3x) \cdot \cos(3x + \pi/4)/6 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q465. $x^4 \ln(x^5+9) dx$

Simplified antiderivative: $x^{10} \log(x^5 + 9)/5 - x^{10}/5 + 9 \log(x^5 + 9)/5 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q466. $e^{(4x)} \sin(6x) dx$

Simplified antiderivative: $(2 \sin(6x) - 3 \cos(6x)) \exp(4x)/26 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q467. $x^5 \ln(x^6+3) dx$

Simplified antiderivative: $x^{12} \log(x^6 + 3)/6 - x^{12}/6 + \log(x^6 + 3)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q468. $e^{(5x)} \sin(9x) dx$

Simplified antiderivative: $(5 \sin(9x) - 9 \cos(9x)) \exp(5x)/106 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q469. $x^1 \ln(x^7+8) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q470. $e^{(6x)} \sin(12x) dx$

Simplified antiderivative: $(\sin(12x) - 2 \cos(12x)) \exp(6x)/30 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q471. $x^2 \ln(x^8+2) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q472. $e^{(7x)} \sin(2x) dx$

Simplified antiderivative: $(7 \sin(2x) - 2 \cos(2x)) \exp(7x)/53 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q473. $x^3 \ln(x^9+7) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q474. $e^{(8x)} \sin(5x) dx$

Simplified antiderivative: $(8 \sin(5x) - 5 \cos(5x)) \exp(8x)/89 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q475. $x^4 \ln(x^2+1) dx$

Simplified antiderivative: $x^{10} \log(x^2 + 1)/5 - 2x^{10}/25 + 2x^{10}/15 - 2x/5 + 2 \operatorname{atan}(x)/5 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q476. $e^{(9x)} \sin(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q477. $x^5 \ln(x^3+6) dx$

Simplified antiderivative: $x^{16} \log(x^3 + 6)/6 - x^{16}/12 + x^{16}/3 - 6 \log(x^3 + 6) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q478. $e^{(1x)} \sin(11x) dx$

Simplified antiderivative: $(\sin(11x) - 11\cos(11x)) \cdot \exp(x)/122 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q479. $x^4 \ln(x^4+11) dx$

Simplified antiderivative: $x^2 \log(x^4 + 11)/2 - x^2 + \sqrt{11} \operatorname{atan}(\sqrt{11} x^2/11) + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q480. $e^{(2x)} \sin(1x) dx$

Simplified antiderivative: $(2\sin(x) - \cos(x)) \cdot \exp(2x)/5 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q481. $x^2 \ln(x^5+5) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q482. $e^{(3x)} \sin(4x) dx$

Simplified antiderivative: $(3\sin(4x) - 4\cos(4x)) \cdot \exp(3x)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q483. $x^3 \ln(x^6+10) dx$

Simplified antiderivative: $x^4 \log(x^6 + 10)/4 - 3x^4/8 - 10^{2/3} \log(x^2 + 10^{1/3})/4 + 10^{2/3} \log(x^4 - 10^{1/3} x^2 + 10^{2/3})/8 + 10^{2/3} \sqrt{3} \operatorname{atan}(\sqrt{3} (10^{2/3} x^2 - 5)/15)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q484. $e^{(4x)} \sin(7x) dx$

Simplified antiderivative: $(4\sin(7x) - 7\cos(7x)) \cdot \exp(4x)/65 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q485. $x^4 \ln(x^7+4) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q486. $e^{(5x)} \sin(10x) dx$

Simplified antiderivative: $(\sin(10x) - 2\cos(10x)) \cdot \exp(5x)/25 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q487. $x^5 \ln(x^8+9) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q488. $e^{(6x)} \sin(13x) dx$

Simplified antiderivative: $(6\sin(13x) - 13\cos(13x)) \cdot \exp(6x)/205 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q489. $x^1 \ln(x^9+3) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q490. $e^{(7x)} \sin(3x) dx$

Simplified antiderivative: $(7\sin(3x) - 3\cos(3x)) \cdot \exp(7x)/58 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q491. $x^2 \ln(x^2+8) dx$

Simplified antiderivative: $x^3 \log(x^2 + 8)/3 - 2x^3/9 + 16x/3 - 32\sqrt{2} \operatorname{atan}(\sqrt{2} x/4)/3 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q492. $e^{(8x)} \sin(6x) dx$

Simplified antiderivative: $(4\sin(6x) - 3\cos(6x))\exp(8x)/50 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q493. $x^3 \ln(x^3+2) dx$

Simplified antiderivative: $x^4 \log(x^3 + 2)/4 - 3x^4/16 + 3x^2/2 - 2^{1/3} \log(x + 2^{1/3})/2 + 2^{1/3} \log(x^2 - 2^{1/3}x + 2^{2/3})/4 - 2^{1/3} \sqrt{3} \operatorname{atan}(\sqrt{3}(2^{2/3}x - 1)/3)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q494. $e^{(9x)} \sin(9x) dx$

Simplified antiderivative: $-\sqrt{2} \exp(9x) \cos(9x + \pi/4)/18 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q495. $x^4 \ln(x^4+7) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q496. $e^{(1x)} \sin(12x) dx$

Simplified antiderivative: $(\sin(12x) - 12\cos(12x))\exp(x)/145 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q497. $x^5 \ln(x^5+1) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q498. $e^{(2x)} \sin(2x) dx$

Simplified antiderivative: $-\sqrt{2} \exp(2x) \cos(2x + \pi/4)/4 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q499. $x^1 \ln(x^6+6) dx$

Simplified antiderivative: $x^2 \log(x^6 + 6)/2 - 3x^2/2 + 6^{1/3} \log(x^2 + 6^{1/3})/2 - 6^{1/3} \log(x^4 - 6^{1/3}x^2 + 6^{2/3})/4 + 2^{1/3} 3^{5/6} \operatorname{atan}(2^{2/3} 3^{1/6} x^2/3 - \sqrt{3}/3)/2 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q500. $e^{(3x)} \sin(5x) dx$

Simplified antiderivative: $(3\sin(5x) - 5\cos(5x))\exp(3x)/34 + C$

Steps: 1) choose u and dv; 2) calculate du and v; 3) apply integral $u dv = uv - \int v du$; 4) evaluate the remaining integral and check by differentiation. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Category 4: Integration by Partial Fractions

Partial-fraction decomposition

Q1. $1/(x^2-1) dx$

Simplified antiderivative: $\log(x - 1)/2 - \log(x + 1)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q2. $1/((x-2)(x-3)) dx$

Simplified antiderivative: $\log(x - 3) - \log(x - 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q3. $(2x+1)/(x^2-x-2) dx$

Simplified antiderivative: $5 \cdot \log(x - 2)/3 + \log(x + 1)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q4. $1/(x^2-5x+6) dx$

Simplified antiderivative: $\log(x - 3) - \log(x - 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q5. $(3x+5)/(x^2+3x+2) dx$

Simplified antiderivative: $2 \cdot \log(x + 1) + \log(x + 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q6. $1/(x(x+1)) dx$

Simplified antiderivative: $\log(x) - \log(x + 1) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q7. $(x+2)/(x^2-4) dx$

Simplified antiderivative: $\log(x - 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q8. $1/(x^2+4x+3) dx$

Simplified antiderivative: $\log(x + 1)/2 - \log(x + 3)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q9. $(2x+3)/(x^2+2x-3) dx$

Simplified antiderivative: $5 \cdot \log(x - 1)/4 + 3 \cdot \log(x + 3)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q10. $1/(x(x-1)^2) dx$

Simplified antiderivative: $((x - 1) \cdot (\log(x) - \log(x - 1)) - 1)/(x - 1) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q11. $(x^2+1)/(x(x-1)) dx$

Simplified antiderivative: $x - \log(x) + 2 \cdot \log(x - 1) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q12. $1/(x^2-4x+4) dx$

Simplified antiderivative: $-1/(x - 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q13. $(x+1)/(x^2+1) dx$

Simplified antiderivative: $\log(x^2 + 1)/2 + \operatorname{atan}(x) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q14. $1/((x+1)(x^2+1)) \, dx$

Simplified antiderivative: $\log(x + 1)/2 - \log(x^2 + 1)/4 + \text{atan}(x)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q15. $(2x^2+3x+1)/(x^3-x) \, dx$

Simplified antiderivative: $-\log(x) + 3*\log(x - 1) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q16. $1/(x^2-9) \, dx$

Simplified antiderivative: $\log(x - 3)/6 - \log(x + 3)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q17. $(x+4)/(x^2+5x+6) \, dx$

Simplified antiderivative: $2*\log(x + 2) - \log(x + 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q18. $1/(x(x^2+1)) \, dx$

Simplified antiderivative: $\log(x) - \log(x^2 + 1)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q19. $(3x^2+1)/(x^3+x) \, dx$

Simplified antiderivative: $\log(x^3 + x) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q20. $(x^2+2)/(x^3-x^2) \, dx$

Simplified antiderivative: $-2*\log(x) + 3*\log(x - 1) + 2/x + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q21. $(2x+3)/((x-6)(x+8)) \, dx$

Simplified antiderivative: $9*\log(x - 6)/14 + 19*\log(x + 8)/14 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q22. $1/((x+2)(x+6)) \, dx$

Simplified antiderivative: $\log(x + 2)/4 - \log(x + 6)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q23. $(2x+3)/(x^2+7x+6) \, dx$

Simplified antiderivative: $-\log(x + 1) + 3*\log(x + 6) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q24. $1/(x(x+2)) \, dx$

Simplified antiderivative: $\log(x)/2 - \log(x + 2)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q25. $(2x^2+3x+6)/(x^3+2x^2-6x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q26. $1/((x-2)^2(x+6)) \, dx$

Simplified antiderivative: $((x - 2)*(-\log(x - 2) + \log(x + 6)) - 8)/(64*(x - 2)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q27. $(x+2)/(x^2+6x+8) \, dx$

Simplified antiderivative: $\log(x + 4) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q28. $(3x+0)/((x-11)(x+6)) \, dx$

Simplified antiderivative: $33\log(x - 11)/17 + 18\log(x + 6)/17 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q29. $1/((x+3)(x+11)) \, dx$

Simplified antiderivative: $\log(x + 3)/8 - \log(x + 11)/8 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q30. $(3x+0)/(x^2+11x+11) \, dx$

Simplified antiderivative: $3*(7 - \sqrt{77})*\log(x - \sqrt{77}/2 + 11/2)/14 + 3*(7 + \sqrt{77})*\log(x + \sqrt{77}/2 + 11/2)/14 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q31. $1/(x(x+3)) \, dx$

Simplified antiderivative: $\log(x)/3 - \log(x + 3)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q32. $(3x^2+0x+11)/(x^3+3x^2-11x) \, dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q33. $1/((x-3)^2(x+11)) \, dx$

Simplified antiderivative: $((x - 3)*(-\log(x - 3) + \log(x + 11)) - 14)/(196*(x - 3)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q34. $(x+3)/(x^2+11x+6) \, dx$

Simplified antiderivative: $(97 - 5*\sqrt{97})*\log(x - \sqrt{97}/2 + 11/2)/194 + (5*\sqrt{97} + 97)*\log(x + \sqrt{97}/2 + 11/2)/194 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q35. $(4x+3)/((x-5)(x+4)) \, dx$

Simplified antiderivative: $23*\log(x - 5)/9 + 13*\log(x + 4)/9 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q36. $1/((x+4)(x+5)) \, dx$

Simplified antiderivative: $\log(x + 4) - \log(x + 5) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q37. $(4x+3)/(x^2+15x+5) \, dx$

Simplified antiderivative: $(410 - 27*\sqrt{205})*\log(x - \sqrt{205}/2 + 15/2)/205 + (27*\sqrt{205} + 410)*\log(x + \sqrt{205}/2 + 15/2)/205 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q38. $1/(x(x+4)) \, dx$

Simplified antiderivative: $\log(x)/4 - \log(x + 4)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q39. $(4x^2+3x+5)/(x^3+4x^2-5x) \, dx$

Simplified antiderivative: $-\log(x) + 2*\log(x - 1) + 3*\log(x + 5) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q40. $1/((x-4)^2(x+5)) \, dx$

Simplified antiderivative: $((x - 4)*(-\log(x - 4) + \log(x + 5)) - 9)/(81*(x - 4)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q41. $(x+4)/(x^2+5x+4) dx$

Simplified antiderivative: $\log(x + 1) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q42. $(5x+6)/((x-10)(x+2)) dx$

Simplified antiderivative: $14 \cdot \log(x - 10)/3 + \log(x + 2)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q43. $1/((x+5)(x+10)) dx$

Simplified antiderivative: $\log(x + 5)/5 - \log(x + 10)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q44. $(5x+6)/(x^2+19x+10) dx$

Simplified antiderivative: $(1605 - 83 \cdot \sqrt{321}) \cdot \log(x - \sqrt{321}/2 + 19/2)/642 + (83 \cdot \sqrt{321} + 1605) \cdot \log(x + \sqrt{321}/2 + 19/2)/642 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q45. $1/(x(x+5)) dx$

Simplified antiderivative: $\log(x)/5 - \log(x + 5)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q46. $(5x^2+6x+10)/(x^3+5x^2-10x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q47. $1/((x-5)^2(x+10)) dx$

Simplified antiderivative: $((x - 5) \cdot (-\log(x - 5) + \log(x + 10)) - 15)/(225 \cdot (x - 5)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q48. $(x+5)/(x^2+10x+2) dx$

Simplified antiderivative: $\log(x^2 + 10x + 2)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q49. $(6x+4)/((x-4)(x+9)) dx$

Simplified antiderivative: $20 \cdot \log(x - 4)/13 + 58 \cdot \log(x + 9)/13 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q50. $1/((x+6)(x+4)) dx$

Simplified antiderivative: $\log(x + 4)/2 - \log(x + 6)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q51. $(6x+4)/(x^2+10x+4) dx$

Simplified antiderivative: $(63 - 17 \cdot \sqrt{21}) \cdot \log(x - \sqrt{21} + 5)/21 + (63 + 17 \cdot \sqrt{21}) \cdot \log(x + \sqrt{21} + 5)/21 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q52. $1/(x(x+6)) dx$

Simplified antiderivative: $\log(x)/6 - \log(x + 6)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q53. $(6x^2+4x+4)/(x^3+6x^2-4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q54. $1/((x-6)^2(x+4)) dx$

Simplified antiderivative: $((x - 6) \cdot (-\log(x - 6) + \log(x + 4)) - 10)/(100 \cdot (x - 6)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q55. $(x+6)/(x^2+4x+9) dx$

Simplified antiderivative: $\log(x^2 + 4x + 9)/2 + 4\sqrt{5}\operatorname{atan}(\sqrt{5}(x + 2)/5)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q56. $(7x+1)/((x-9)(x+7)) \, dx$

Simplified antiderivative: $31\log(x - 9)/8 + 25\log(x + 7)/8 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q57. $1/((x+7)(x+9)) \, dx$

Simplified antiderivative: $\log(x + 7)/2 - \log(x + 9)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q58. $(7x+1)/(x^2+14x+9) \, dx$

Simplified antiderivative: $(14 - 5\sqrt{10})\log(x - 2\sqrt{10} + 7)/4 + (14 + 5\sqrt{10})\log(x + 2\sqrt{10} + 7)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q59. $1/(x(x+7)) \, dx$

Simplified antiderivative: $\log(x)/7 - \log(x + 7)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q60. $(7x^2+1x+9)/(x^3+7x^2-9x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q61. $1/((x-7)^2(x+9)) \, dx$

Simplified antiderivative: $((x - 7)(-\log(x - 7) + \log(x + 9)) - 16)/(256(x - 7)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q62. $(x+7)/(x^2+9x+7) \, dx$

Simplified antiderivative: $(5\sqrt{53} + 53)\log(x - \sqrt{53}/2 + 9/2)/106 + (53 - 5\sqrt{53})\log(x + \sqrt{53}/2 + 9/2)/106 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q63. $(8x+2)/((x-3)(x+5)) \, dx$

Simplified antiderivative: $13\log(x - 3)/4 + 19\log(x + 5)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q64. $1/((x+8)(x+3)) \, dx$

Simplified antiderivative: $\log(x + 3)/5 - \log(x + 8)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q65. $(8x+2)/(x^2+18x+3) \, dx$

Simplified antiderivative: $(312 - 35\sqrt{78})\log(x - \sqrt{78} + 9)/78 + (35\sqrt{78} + 312)\log(x + \sqrt{78} + 9)/78 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q66. $1/(x(x+8)) \, dx$

Simplified antiderivative: $\log(x)/8 - \log(x + 8)/8 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q67. $(8x^2+2x+3)/(x^3+8x^2-3x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q68. $1/((x-8)^2(x+3)) \, dx$

Simplified antiderivative: $((x - 8)(-\log(x - 8) + \log(x + 3)) - 11)/(121(x - 8)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q69. $(x+8)/(x^2+3x+5) \, dx$

Simplified antiderivative: $\log(x^2 + 3x + 5)/2 + 13\sqrt{11}\operatorname{atan}(\sqrt{11}(2x + 3)/11)/11 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q70. $(9x+5)/((x-8)(x+3)) \, dx$

Simplified antiderivative: $7\log(x - 8) + 2\log(x + 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q71. $1/((x+9)(x+8)) \, dx$

Simplified antiderivative: $\log(x + 8) - \log(x + 9) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q72. $(9x+5)/(x^2+22x+8) \, dx$

Simplified antiderivative: $(1017 - 94\sqrt{113})\log(x - \sqrt{113} + 11)/226 + (94\sqrt{113} + 1017)\log(x + \sqrt{113} + 11)/226 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q73. $1/(x(x+9)) \, dx$

Simplified antiderivative: $\log(x)/9 - \log(x + 9)/9 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q74. $(9x^2+5x+8)/(x^3+9x^2-8x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q75. $1/((x-9)^2(x+8)) \, dx$

Simplified antiderivative: $((x - 9)(-\log(x - 9) + \log(x + 8)) - 17)/(289(x - 9)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q76. $(x+9)/(x^2+8x+3) \, dx$

Simplified antiderivative: $(13 + 5\sqrt{13})\log(x - \sqrt{13} + 4)/26 + (13 - 5\sqrt{13})\log(x + \sqrt{13} + 4)/26 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q77. $(1x+5)/((x-2)(x+1)) \, dx$

Simplified antiderivative: $-\log(x - 2) + 2\log(x + 1) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q78. $1/((x+1)(x+2)) \, dx$

Simplified antiderivative: $\log(x + 1) - \log(x + 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q79. $(1x+5)/(x^2+4x+2) \, dx$

Simplified antiderivative: $(2 - 7\sqrt{2})\log(x - \sqrt{2} + 2)/4 + (2 + 7\sqrt{2})\log(x + \sqrt{2} + 2)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q80. $(1x^2+5x+2)/(x^3+1x^2-2x) \, dx$

Simplified antiderivative: $-\log(x) - 2\log(x - 1)/3 + 8\log(x + 2)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q81. $1/((x-1)^2(x+2)) \, dx$

Simplified antiderivative: $((x - 1)(-\log(x - 1) + \log(x + 2)) - 3)/(9(x - 1)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q82. $(x+1)/(x^2+2x+1) \, dx$

Simplified antiderivative: $\log(x + 1) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q83. $(2x+2)/((x-7)(x+8)) \, dx$ **Simplified antiderivative:** $4\log(x - 7)/5 + 6\log(x + 8)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q84. $1/((x+2)(x+7)) \, dx$ **Simplified antiderivative:** $\log(x + 2)/5 - \log(x + 7)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q85. $(2x+2)/(x^2+8x+7) \, dx$ **Simplified antiderivative:** $-2\log(x + 1)/3 + 8\log(x + 7)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q86. $(2x^2-2x+7)/(x^3+2x^2-7x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q87. $1/((x-2)^2(x+7)) \, dx$ **Simplified antiderivative:** $((x - 2)*(-\log(x - 2) + \log(x + 7)) - 9)/(81*(x - 2)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q88. $(x+2)/(x^2+7x+8) \, dx$ **Simplified antiderivative:** $(17 - 3*\sqrt{17})*\log(x - \sqrt{17}/2 + 7/2)/34 + (3*\sqrt{17} + 17)*\log(x + \sqrt{17}/2 + 7/2)/34 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q89. $(3x+1)/((x-1)(x+6)) \, dx$ **Simplified antiderivative:** $4\log(x - 1)/7 + 17\log(x + 6)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q90. $1/((x+3)(x+1)) \, dx$ **Simplified antiderivative:** $\log(x + 1)/2 - \log(x + 3)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q91. $(3x+1)/(x^2+12x+1) \, dx$ **Simplified antiderivative:** $(105 - 17*\sqrt{35})*\log(x - \sqrt{35} + 6)/70 + (17*\sqrt{35} + 105)*\log(x + \sqrt{35} + 6)/70 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q92. $(3x^2+1x+1)/(x^3+3x^2-1x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q93. $1/((x-3)^2(x+1)) \, dx$ **Simplified antiderivative:** $((x - 3)*(-\log(x - 3) + \log(x + 1)) - 4)/(16*(x - 3)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q94. $(x+3)/(x^2+1x+6) \, dx$ **Simplified antiderivative:** $\log(x^2 + x + 6)/2 + 5*\sqrt{23}*atan(\sqrt{23}*(2*x + 1)/23)/23 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q95. $(4x+4)/((x-6)(x+4)) \, dx$ **Simplified antiderivative:** $14\log(x - 6)/5 + 6\log(x + 4)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q96. $1/((x+4)(x+6)) \, dx$ **Simplified antiderivative:** $\log(x + 4)/2 - \log(x + 6)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q97. $(4x+4)/(x^2+16x+6) \, dx$ **Simplified antiderivative:** $(58 - 7\sqrt{58})\log(x - \sqrt{58} + 8)/29 + (7\sqrt{58} + 58)\log(x + \sqrt{58} + 8)/29 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q98. $(4x^2+4x+6)/(x^3+4x^2-6x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q99. $1/((x-4)^2(x+6)) \, dx$ **Simplified antiderivative:** $((x - 4)(-\log(x - 4) + \log(x + 6)) - 10)/(100(x - 4)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q100. $(x+4)/(x^2+6x+4) \, dx$ **Simplified antiderivative:** $(\sqrt{5} + 5)\log(x - \sqrt{5} + 3)/10 + (5 - \sqrt{5})\log(x + \sqrt{5} + 3)/10 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q101. $(5x+6)/((x-11)(x+2)) \, dx$ **Simplified antiderivative:** $49\log(x - 11)/13 + 16\log(x + 2)/13 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q102. $1/((x+5)(x+11)) \, dx$ **Simplified antiderivative:** $\log(x + 5)/6 - \log(x + 11)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q103. $(5x+6)/(x^2+7x+11) \, dx$ **Simplified antiderivative:** $(25 - 47\sqrt{5})\log(x - \sqrt{5}/2 + 7/2)/10 + (25 + 47\sqrt{5})\log(x + \sqrt{5}/2 + 7/2)/10 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q104. $(5x^2+6x+11)/(x^3+5x^2-11x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q105. $1/((x-5)^2(x+11)) \, dx$ **Simplified antiderivative:** $((x - 5)(-\log(x - 5) + \log(x + 11)) - 16)/(256(x - 5)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q106. $(x+5)/(x^2+11x+2) \, dx$ **Simplified antiderivative:** $(113 - \sqrt{113})\log(x - \sqrt{113}/2 + 11/2)/226 + (\sqrt{113} + 113)\log(x + \sqrt{113}/2 + 11/2)/226 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q107. $(6x+3)/((x-5)(x+9)) \, dx$ **Simplified antiderivative:** $27\log(x - 5)/14 + 57\log(x + 9)/14 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q108. $1/((x+6)(x+5)) \, dx$ **Simplified antiderivative:** $\log(x + 5) - \log(x + 6) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q109. $(6x+3)/(x^2+11x+5) \, dx$ **Simplified antiderivative:** $3(101 - 12\sqrt{101})\log(x - \sqrt{101}/2 + 11/2)/101 + 3(101 + 12\sqrt{101})\log(x + \sqrt{101}/2 + 11/2)/101 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q110. $(6x^2+3x+5)/(x^3+6x^2-5x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q111. $1/((x-6)^2(x+5)) \, dx$ **Simplified antiderivative:** $((x - 6)(-\log(x - 6) + \log(x + 5)) - 11)/(121(x - 6)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q112. $(x+6)/(x^2+5x+9) dx$

Simplified antiderivative: $\log(x^2 + 5x + 9)/2 + 7\sqrt{11}\operatorname{atan}(\sqrt{11}(2x + 5)/11)/11 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q113. $(7x+0)/((x-10)(x+7)) dx$

Simplified antiderivative: $70\log(x - 10)/17 + 49\log(x + 7)/17 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q114. $1/((x+7)(x+10)) dx$

Simplified antiderivative: $\log(x + 7)/3 - \log(x + 10)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q115. $(7x+0)/(x^2+15x+10) dx$

Simplified antiderivative: $7(37 - 3\sqrt{185})\log(x - \sqrt{185}/2 + 15/2)/74 + 7(37 + 3\sqrt{185})\log(x + \sqrt{185}/2 + 15/2)/74 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q116. $(7x^2+0x+10)/(x^3+7x^2-10x) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q117. $1/((x-7)^2(x+10)) dx$

Simplified antiderivative: $((x - 7)(-\log(x - 7) + \log(x + 10)) - 17)/(289(x - 7)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q118. $(x+7)/(x^2+10x+7) dx$

Simplified antiderivative: $(\sqrt{2} + 3)\log(x - 3\sqrt{2} + 5)/6 + (3 - \sqrt{2})\log(x + 3\sqrt{2} + 5)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q119. $(8x+3)/((x-4)(x+5)) dx$

Simplified antiderivative: $35\log(x - 4)/9 + 37\log(x + 5)/9 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q120. $1/((x+8)(x+4)) dx$

Simplified antiderivative: $\log(x + 4)/4 - \log(x + 8)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q121. $(8x+3)/(x^2+19x+4) dx$

Simplified antiderivative: $(1380 - 73\sqrt{345})\log(x - \sqrt{345}/2 + 19/2)/345 + (73\sqrt{345} + 1380)\log(x + \sqrt{345}/2 + 19/2)/345 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q122. $(8x^2+3x+4)/(x^3+8x^2-4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q123. $1/((x-8)^2(x+4)) dx$

Simplified antiderivative: $((x - 8)(-\log(x - 8) + \log(x + 4)) - 12)/(144(x - 8)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q124. $(x+8)/(x^2+4x+5) dx$

Simplified antiderivative: $\log(x^2 + 4x + 5)/2 + 6\operatorname{atan}(x + 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q125. $(9x+6)/((x-9)(x+3)) dx$

Simplified antiderivative: $29\log(x - 9)/4 + 7\log(x + 3)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q126. $1/((x+9)(x+9)) \, dx$

Simplified antiderivative: $-1/(x + 9) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q127. $(9x+6)/(x^2+23x+9) \, dx$

Simplified antiderivative: $3*(1479 - 65*\sqrt{493})*\log(x - \sqrt{493}/2 + 23/2)/986 + 3*(65*\sqrt{493} + 1479)*\log(x + \sqrt{493}/2 + 23/2)/986 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q128. $(9x^2+6x+9)/(x^3+9x^2-9x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q129. $1/((x-9)^2(x+9)) \, dx$

Simplified antiderivative: $((x - 9)*(-\log(x - 9) + \log(x + 9)) - 18)/(324*(x - 9)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q130. $(x+9)/(x^2+9x+3) \, dx$

Simplified antiderivative: $(23 + 3*\sqrt{69})*\log(x - \sqrt{69}/2 + 9/2)/46 + (23 - 3*\sqrt{69})*\log(x + \sqrt{69}/2 + 9/2)/46 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q131. $(1x+4)/((x-3)(x+1)) \, dx$

Simplified antiderivative: $-\log(x - 3)/4 + 5*\log(x + 1)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q132. $1/((x+1)(x+3)) \, dx$

Simplified antiderivative: $\log(x + 1)/2 - \log(x + 3)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q133. $(1x+4)/(x^2+5x+3) \, dx$

Simplified antiderivative: $(1 - \sqrt{13})*\log(x - \sqrt{13}/2 + 5/2)/2 + (1 + \sqrt{13})*\log(x + \sqrt{13}/2 + 5/2)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q134. $(1x^2+4x+3)/(x^3+1x^2-3x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q135. $1/((x-1)^2(x+3)) \, dx$

Simplified antiderivative: $((x - 1)*(-\log(x - 1) + \log(x + 3)) - 4)/(16*(x - 1)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q136. $(x+1)/(x^2+3x+1) \, dx$

Simplified antiderivative: $(5 - \sqrt{5})*\log(x - \sqrt{5}/2 + 3/2)/10 + (\sqrt{5} + 5)*\log(x + \sqrt{5}/2 + 3/2)/10 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q137. $(2x+1)/((x-8)(x+8)) \, dx$

Simplified antiderivative: $15*\log(x - 8)/16 + 17*\log(x + 8)/16 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q138. $1/((x+2)(x+8)) \, dx$

Simplified antiderivative: $\log(x + 2)/6 - \log(x + 8)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q139. $(2x+1)/(x^2+9x+8) \, dx$

Simplified antiderivative: $-3*\log(x + 1)/7 + 17*\log(x + 8)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q140. $(2x^2 - 1x + 8)/(x^3 + 2x^2 - 8x) \, dx$

Simplified antiderivative: $-\log(x) + 7 \cdot \log(x - 2)/6 + 11 \cdot \log(x + 4)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q141. $1/((x-2)^2(x+8)) \, dx$

Simplified antiderivative: $((x - 2) \cdot (-\log(x - 2) + \log(x + 8)) - 10)/(100 \cdot (x - 2)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q142. $(x+2)/(x^2+8x+8) \, dx$

Simplified antiderivative: $(2 - \sqrt{2}) \cdot \log(x - 2 \cdot \sqrt{2}) + 4/4 + (\sqrt{2} + 2) \cdot \log(x + 2 \cdot \sqrt{2}) + 4/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q143. $(3x+2)/((x-2)(x+6)) \, dx$

Simplified antiderivative: $\log(x - 2) + 2 \cdot \log(x + 6) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q144. $1/((x+3)(x+2)) \, dx$

Simplified antiderivative: $\log(x + 2) - \log(x + 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q145. $(3x+2)/(x^2+13x+2) \, dx$

Simplified antiderivative: $(69 - 5 \cdot \sqrt{161}) \cdot \log(x - \sqrt{161}/2 + 13/2)/46 + (5 \cdot \sqrt{161} + 69) \cdot \log(x + \sqrt{161}/2 + 13/2)/46 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q146. $(3x^2+2x+2)/(x^3+3x^2-2x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q147. $1/((x-3)^2(x+2)) \, dx$

Simplified antiderivative: $((x - 3) \cdot (-\log(x - 3) + \log(x + 2)) - 5)/(25 \cdot (x - 3)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q148. $(x+3)/(x^2+2x+6) \, dx$

Simplified antiderivative: $\log(x^2 + 2x + 6)/2 + 2 \cdot \sqrt{5} \cdot \operatorname{atan}(\sqrt{5} \cdot (x + 1)/5)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q149. $(4x+5)/((x-7)(x+4)) \, dx$

Simplified antiderivative: $3 \cdot \log(x - 7) + \log(x + 4) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q150. $1/((x+4)(x+7)) \, dx$

Simplified antiderivative: $\log(x + 4)/3 - \log(x + 7)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q151. $(4x+5)/(x^2+17x+7) \, dx$

Simplified antiderivative: $(6 - \sqrt{29}) \cdot \log(x - 3 \cdot \sqrt{29}/2 + 17/2)/3 + (\sqrt{29} + 6) \cdot \log(x + 3 \cdot \sqrt{29}/2 + 17/2)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q152. $(4x^2+5x+7)/(x^3+4x^2-7x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q153. $1/((x-4)^2(x+7)) \, dx$

Simplified antiderivative: $((x - 4) \cdot (-\log(x - 4) + \log(x + 7)) - 11)/(121 \cdot (x - 4)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q154. $(x+4)/(x^2+7x+4) dx$

Simplified antiderivative: $(\sqrt{33} + 33) \log(x - \sqrt{33})/2 + 7/2/66 + (33 - \sqrt{33}) \log(x + \sqrt{33})/2 + 7/2/66 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q155. $(5x+5)/((x-1)(x+2)) dx$

Simplified antiderivative: $5 \log(x + 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q156. $1/((x+5)(x+1)) dx$

Simplified antiderivative: $\log(x + 1)/4 - \log(x + 5)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q157. $(5x+5)/(x^2+8x+1) dx$

Simplified antiderivative: $5(3 - \sqrt{15}) \log(x - \sqrt{15}) + 4/6 + 5(3 + \sqrt{15}) \log(x + \sqrt{15}) + 4/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q158. $(5x^2+5x+1)/(x^3+5x^2-1x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q159. $1/((x-5)^2(x+1)) dx$

Simplified antiderivative: $((x - 5)(-\log(x - 5) + \log(x + 1)) - 6)/(36(x - 5)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q160. $(x+5)/(x^2+1x+2) dx$

Simplified antiderivative: $\log(x^2 + x + 2)/2 + 9\sqrt{7} \operatorname{atan}(\sqrt{7}(2x + 1)/7)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q161. $(6x+2)/((x-6)(x+9)) dx$

Simplified antiderivative: $34 \log(x - 6)/15 + 56 \log(x + 9)/15 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q162. $1/((x+6)(x+6)) dx$

Simplified antiderivative: $-1/(x + 6) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q163. $(6x+2)/(x^2+12x+6) dx$

Simplified antiderivative: $(90 - 19\sqrt{30}) \log(x - \sqrt{30}) + 6/30 + (90 + 19\sqrt{30}) \log(x + \sqrt{30}) + 6/30 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q164. $(6x^2+2x+6)/(x^3+6x^2-6x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q165. $1/((x-6)^2(x+6)) dx$

Simplified antiderivative: $((x - 6)(-\log(x - 6) + \log(x + 6)) - 12)/(144(x - 6)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q166. $(x+6)/(x^2+6x+9) dx$

Simplified antiderivative: $((x + 3) \log(x + 3) - 3)/(x + 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q167. $(7x+1)/((x-11)(x+7)) dx$

Simplified antiderivative: $13 \log(x - 11)/3 + 8 \log(x + 7)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q168. $1/((x+7)(x+11)) \, dx$

Simplified antiderivative: $\log(x + 7)/4 - \log(x + 11)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q169. $(7x+1)/(x^2+16x+11) \, dx$

Simplified antiderivative: $(371 - 55\sqrt{53})\log(x - \sqrt{53}) + 8/106 + (371 + 55\sqrt{53})\log(x + \sqrt{53}) + 8/106 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q170. $(7x^2+1x+11)/(x^3+7x^2-11x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q171. $1/((x-7)^2(x+11)) \, dx$

Simplified antiderivative: $((x - 7)(-\log(x - 7) + \log(x + 11)) - 18)/(324(x - 7)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q172. $(x+7)/(x^2+11x+7) \, dx$

Simplified antiderivative: $(\sqrt{93} + 31)\log(x - \sqrt{93})/2 + 11/2/62 + (31 - \sqrt{93})\log(x + \sqrt{93})/2 + 11/2/62 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q173. $(8x+4)/((x-5)(x+5)) \, dx$

Simplified antiderivative: $22\log(x - 5)/5 + 18\log(x + 5)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q174. $1/((x+8)(x+5)) \, dx$

Simplified antiderivative: $\log(x + 5)/3 - \log(x + 8)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q175. $(8x+4)/(x^2+20x+5) \, dx$

Simplified antiderivative: $2*(10 - \sqrt{95})\log(x - \sqrt{95}) + 10/5 + 2*(\sqrt{95} + 10)\log(x + \sqrt{95}) + 10/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q176. $(8x^2+4x+5)/(x^3+8x^2-5x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q177. $1/((x-8)^2(x+5)) \, dx$

Simplified antiderivative: $((x - 8)(-\log(x - 8) + \log(x + 5)) - 13)/(169(x - 8)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q178. $(x+8)/(x^2+5x+5) \, dx$

Simplified antiderivative: $(5 + 11\sqrt{5})\log(x - \sqrt{5})/2 + 5/2/10 + (5 - 11\sqrt{5})\log(x + \sqrt{5})/2 + 5/2/10 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q179. $(9x+6)/((x-10)(x+3)) \, dx$

Simplified antiderivative: $84\log(x - 10)/13 + 33\log(x + 3)/13 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q180. $1/((x+9)(x+10)) \, dx$

Simplified antiderivative: $\log(x + 9) - \log(x + 10) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q181. $(9x+6)/(x^2+11x+10) \, dx$

Simplified antiderivative: $-5\log(x + 1)/3 + 32\log(x + 10)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q182. $(9x^2+6x+10)/(x^3+9x^2-10x) \, dx$

Simplified antiderivative: $-\log(x) + 13\log(x-1)/11 + 97\log(x+10)/11 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q183. $1/((x-9)^2(x+10)) \, dx$

Simplified antiderivative: $((x-9)(-\log(x-9) + \log(x+10)) - 19)/(361(x-9)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q184. $(x+9)/(x^2+10x+3) \, dx$

Simplified antiderivative: $(2\sqrt{22} + 11)\log(x - \sqrt{22} + 5)/22 + (11 - 2\sqrt{22})\log(x + \sqrt{22} + 5)/22 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q185. $(1x+3)/((x-4)(x+1)) \, dx$

Simplified antiderivative: $\log(x-4)/5 + 4\log(x+1)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q186. $1/((x+1)(x+4)) \, dx$

Simplified antiderivative: $\log(x+1)/3 - \log(x+4)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q187. $(1x+3)/(x^2+6x+4) \, dx$

Simplified antiderivative: $(5 - 6\sqrt{5})\log(x - \sqrt{5} + 3)/10 + (5 + 6\sqrt{5})\log(x + \sqrt{5} + 3)/10 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q188. $(1x^2+3x+4)/(x^3+1x^2-4x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q189. $1/((x-1)^2(x+4)) \, dx$

Simplified antiderivative: $((x-1)(-\log(x-1) + \log(x+4)) - 5)/(25(x-1)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q190. $(x+1)/(x^2+4x+1) \, dx$

Simplified antiderivative: $(3 - \sqrt{3})\log(x - \sqrt{3} + 2)/6 + (\sqrt{3} + 3)\log(x + \sqrt{3} + 2)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q191. $(2x+0)/((x-9)(x+8)) \, dx$

Simplified antiderivative: $18\log(x-9)/17 + 16\log(x+8)/17 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q192. $1/((x+2)(x+9)) \, dx$

Simplified antiderivative: $\log(x+2)/7 - \log(x+9)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q193. $(2x+0)/(x^2+10x+9) \, dx$

Simplified antiderivative: $-\log(x+1)/4 + 9\log(x+9)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q194. $(2x^2+0x+9)/(x^3+2x^2-9x) \, dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q195. $1/((x-2)^2(x+9)) \, dx$

Simplified antiderivative: $((x-2)(-\log(x-2) + \log(x+9)) - 11)/(121(x-2)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q196. $(x+2)/(x^2+9x+8) dx$

Simplified antiderivative: $\log(x + 1)/7 + 6*\log(x + 8)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q197. $(3x+3)/((x-3)(x+6)) dx$

Simplified antiderivative: $4*\log(x - 3)/3 + 5*\log(x + 6)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q198. $1/((x+3)(x+3)) dx$

Simplified antiderivative: $-1/(x + 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q199. $(3x+3)/(x^2+14x+3) dx$

Simplified antiderivative: $3*(23 - 3*\sqrt{46})*\log(x - \sqrt{46}) + 7/46 + 3*(3*\sqrt{46} + 23)*\log(x + \sqrt{46}) + 7/46 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q200. $(3x^2+3x+3)/(x^3+3x^2-3x) dx$

Simplified antiderivative: $-\log(x) + 2*\log(x^{**2} + 3*x - 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q201. $1/((x-3)^2(x+3)) dx$

Simplified antiderivative: $((x - 3)*(-\log(x - 3) + \log(x + 3)) - 6)/(36*(x - 3)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q202. $(x+3)/(x^2+3x+6) dx$

Simplified antiderivative: $\log(x^{**2} + 3*x + 6)/2 + \sqrt{15}*\operatorname{atan}(\sqrt{15}*(2*x + 3)/15)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q203. $(4x+6)/((x-8)(x+4)) dx$

Simplified antiderivative: $19*\log(x - 8)/6 + 5*\log(x + 4)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q204. $1/((x+4)(x+8)) dx$

Simplified antiderivative: $\log(x + 4)/4 - \log(x + 8)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q205. $(4x+6)/(x^2+18x+8) dx$

Simplified antiderivative: $(146 - 15*\sqrt{73})*\log(x - \sqrt{73}) + 9/73 + (15*\sqrt{73} + 146)*\log(x + \sqrt{73}) + 9/73 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q206. $(4x^2+6x+8)/(x^3+4x^2-8x) dx$

Simplified antiderivative: $-\log(x) + 5*\log(x^{**2} + 4*x - 8)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q207. $1/((x-4)^2(x+8)) dx$

Simplified antiderivative: $((x - 4)*(-\log(x - 4) + \log(x + 8)) - 12)/(144*(x - 4)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q208. $(x+4)/(x^2+8x+4) dx$

Simplified antiderivative: $\log(x^{**2} + 8*x + 4)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q209. $(5x+4)/((x-2)(x+2)) \, dx$

Simplified antiderivative: $3 \cdot \log(x-2)/2 + 7 \cdot \log(x+2)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q210. $1/((x+5)(x+2)) \, dx$

Simplified antiderivative: $\log(x+2)/3 - \log(x+5)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q211. $(5x+4)/(x^2+9x+2) \, dx$

Simplified antiderivative: $(365 - 53 \cdot \sqrt{73}) \cdot \log(x - \sqrt{73}/2 + 9/2)/146 + (365 + 53 \cdot \sqrt{73}) \cdot \log(x + \sqrt{73}/2 + 9/2)/146 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q212. $(5x^2+4x+2)/(x^3+5x^2-2x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q213. $1/((x-5)^2(x+2)) \, dx$

Simplified antiderivative: $((x-5) \cdot (-\log(x-5) + \log(x+2)) - 7)/(49 \cdot (x-5)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q214. $(x+5)/(x^2+2x+2) \, dx$

Simplified antiderivative: $\log(x^2+2x+2)/2 + 4 \cdot \operatorname{atan}(x+1) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q215. $(6x+1)/((x-7)(x+9)) \, dx$

Simplified antiderivative: $41 \cdot \log(x-7)/16 + 55 \cdot \log(x+9)/16 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q216. $1/((x+6)(x+7)) \, dx$

Simplified antiderivative: $\log(x+6) - \log(x+7) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q217. $(6x+1)/(x^2+13x+7) \, dx$

Simplified antiderivative: $(423 - 40 \cdot \sqrt{141}) \cdot \log(x - \sqrt{141}/2 + 13/2)/141 + (423 + 40 \cdot \sqrt{141}) \cdot \log(x + \sqrt{141}/2 + 13/2)/141 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q218. $(6x^2+1x+7)/(x^3+6x^2-7x) \, dx$

Simplified antiderivative: $-\log(x) + 3 \cdot \log(x-1)/2 + 11 \cdot \log(x+7)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q219. $1/((x-6)^2(x+7)) \, dx$

Simplified antiderivative: $((x-6) \cdot (-\log(x-6) + \log(x+7)) - 13)/(169 \cdot (x-6)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q220. $(x+6)/(x^2+7x+9) \, dx$

Simplified antiderivative: $(13 + 5 \cdot \sqrt{13}) \cdot \log(x - \sqrt{13}/2 + 7/2)/26 + (13 - 5 \cdot \sqrt{13}) \cdot \log(x + \sqrt{13}/2 + 7/2)/26 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q221. $(7x+2)/((x-1)(x+7)) \, dx$

Simplified antiderivative: $9 \cdot \log(x-1)/8 + 47 \cdot \log(x+7)/8 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q222. $1/((x+7)(x+1)) \, dx$

Simplified antiderivative: $\log(x + 1)/6 - \log(x + 7)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q223. $(7x+2)/(x^2+17x+1) dx$

Simplified antiderivative: $(399 - 23\sqrt{285})\log(x - \sqrt{285}/2 + 17/2)/114 + (23\sqrt{285} + 399)\log(x + \sqrt{285}/2 + 17/2)/114 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q224. $(7x^2+2x+1)/(x^3+7x^2-1x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q225. $1/((x-7)^2(x+1)) dx$

Simplified antiderivative: $((x - 7)(-\log(x - 7) + \log(x + 1)) - 8)/(64(x - 7)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q226. $(x+7)/(x^2+1x+7) dx$

Simplified antiderivative: $\log(x^2 + x + 7)/2 + 13\sqrt{3}\operatorname{atan}(\sqrt{3}(2x + 1)/9)/9 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q227. $(8x+5)/(x-6)(x+5) dx$

Simplified antiderivative: $53\log(x - 6)/11 + 35\log(x + 5)/11 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q228. $1/((x+8)(x+6)) dx$

Simplified antiderivative: $\log(x + 6)/2 - \log(x + 8)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q229. $(8x+5)/(x^2+21x+6) dx$

Simplified antiderivative: $(1668 - 79\sqrt{417})\log(x - \sqrt{417}/2 + 21/2)/417 + (79\sqrt{417} + 1668)\log(x + \sqrt{417}/2 + 21/2)/417 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q230. $(8x^2+5x+6)/(x^3+8x^2-6x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q231. $1/((x-8)^2(x+6)) dx$

Simplified antiderivative: $((x - 8)(-\log(x - 8) + \log(x + 6)) - 14)/(196(x - 8)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q232. $(x+8)/(x^2+6x+5) dx$

Simplified antiderivative: $7\log(x + 1)/4 - 3\log(x + 5)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q233. $(9x+5)/((x-11)(x+3)) dx$

Simplified antiderivative: $47\log(x - 11)/7 + 16\log(x + 3)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q234. $1/((x+9)(x+11)) dx$

Simplified antiderivative: $\log(x + 9)/2 - \log(x + 11)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q235. $(9x+5)/(x^2+12x+11) dx$

Simplified antiderivative: $-7\log(x + 1)/5 + 52\log(x + 11)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q236. $(9x^2+5x+11)/(x^3+9x^2-11x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q237. $\frac{1}{((x-9)^2(x+11))} dx$

Simplified antiderivative: $((x-9)*(-\log(x-9) + \log(x+11)) - 20)/(400*(x-9)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q238. $\frac{(x+9)}{(x^2+11x+3)} dx$

Simplified antiderivative: $(7*\sqrt{109} + 109)*\log(x - \sqrt{109}/2 + 11/2)/218 + (109 - 7*\sqrt{109})*\log(x + \sqrt{109}/2 + 11/2)/218 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q239. $\frac{(1x+2)}{((x-5)(x+1))} dx$

Simplified antiderivative: $\log(x^2 - 4*x - 5)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q240. $\frac{1}{((x+1)(x+5))} dx$

Simplified antiderivative: $\log(x+1)/4 - \log(x+5)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q241. $\frac{(1x+2)}{(x^2+7x+5)} dx$

Simplified antiderivative: $(29 - 11*\sqrt{29})*\log(x - \sqrt{29}/2 + 7/2)/58 + (29 + 11*\sqrt{29})*\log(x + \sqrt{29}/2 + 7/2)/58 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q242. $\frac{(1x^2+2x+5)}{(x^3+1x^2-5x)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q243. $\frac{1}{((x-1)^2(x+5))} dx$

Simplified antiderivative: $((x-1)*(-\log(x-1) + \log(x+5)) - 6)/(36*(x-1)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q244. $\frac{(x+1)}{(x^2+5x+1)} dx$

Simplified antiderivative: $(7 - \sqrt{21})*\log(x - \sqrt{21}/2 + 5/2)/14 + (\sqrt{21} + 7)*\log(x + \sqrt{21}/2 + 5/2)/14 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q245. $\frac{(2x+1)}{((x-10)(x+8))} dx$

Simplified antiderivative: $7*\log(x-10)/6 + 5*\log(x+8)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q246. $\frac{1}{((x+2)(x+10))} dx$

Simplified antiderivative: $\log(x+2)/8 - \log(x+10)/8 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q247. $\frac{(2x+1)}{(x^2+11x+10)} dx$

Simplified antiderivative: $-\log(x+1)/9 + 19*\log(x+10)/9 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q248. $\frac{(2x^2+1x+10)}{(x^3+2x^2-10x)} dx$

Simplified antiderivative: $-\log(x) + 3*\log(x^2 + 2*x - 10)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q249. $\frac{1}{((x-2)^2(x+10))} dx$

Simplified antiderivative: $((x-2)*(-\log(x-2) + \log(x+10)) - 12)/(144*(x-2)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q250. $\frac{(x+2)}{(x^2+10x+8)} dx$

Simplified antiderivative: $(17 - 3*\sqrt{17})*\log(x - \sqrt{17} + 5)/34 + (3*\sqrt{17} + 17)*\log(x + \sqrt{17} + 5)/34 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q251. $(3x+4)/((x-4)(x+6)) \, dx$

Simplified antiderivative: $8 \cdot \log(x - 4)/5 + 7 \cdot \log(x + 6)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q252. $1/((x+3)(x+4)) \, dx$

Simplified antiderivative: $\log(x + 3) - \log(x + 4) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q253. $(3x+4)/(x^2+15x+4) \, dx$

Simplified antiderivative: $(627 - 37 \cdot \sqrt{209}) \cdot \log(x - \sqrt{209}/2 + 15/2)/418 + (37 \cdot \sqrt{209} + 627) \cdot \log(x + \sqrt{209}/2 + 15/2)/418 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q254. $(3x^2+4x+4)/(x^3+3x^2-4x) \, dx$

Simplified antiderivative: $-\log(x) + 11 \cdot \log(x - 1)/5 + 9 \cdot \log(x + 4)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q255. $1/((x-3)^2(x+4)) \, dx$

Simplified antiderivative: $((x - 3) \cdot (-\log(x - 3) + \log(x + 4)) - 7)/(49 \cdot (x - 3)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q256. $(x+3)/(x^2+4x+6) \, dx$

Simplified antiderivative: $\log(x^2 + 4x + 6)/2 + \sqrt{2} \cdot \operatorname{atan}(\sqrt{2} \cdot (x + 2)/2)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q257. $(4x+6)/((x-9)(x+4)) \, dx$

Simplified antiderivative: $30 \cdot \log(x - 9)/13 + 22 \cdot \log(x + 4)/13 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q258. $1/((x+4)(x+9)) \, dx$

Simplified antiderivative: $\log(x + 4)/5 - \log(x + 9)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q259. $(4x+6)/(x^2+6x+9) \, dx$

Simplified antiderivative: $2 \cdot (2 \cdot (x + 3) \cdot \log(x + 3) + 9)/(x + 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q260. $(4x^2+6x+9)/(x^3+4x^2-9x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q261. $1/((x-4)^2(x+9)) \, dx$

Simplified antiderivative: $((x - 4) \cdot (-\log(x - 4) + \log(x + 9)) - 13)/(169 \cdot (x - 4)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q262. $(x+4)/(x^2+9x+4) \, dx$

Simplified antiderivative: $(65 - \sqrt{65}) \cdot \log(x - \sqrt{65}/2 + 9/2)/130 + (\sqrt{65} + 65) \cdot \log(x + \sqrt{65}/2 + 9/2)/130 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q263. $(5x+3)/((x-3)(x+2)) \, dx$

Simplified antiderivative: $12 \cdot \log(x - 3)/5 + 13 \cdot \log(x + 2)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q264. $1/((x+5)(x+3)) \, dx$

Simplified antiderivative: $\log(x + 3)/2 - \log(x + 5)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q265. $(5x+3)/(x^2+10x+3) dx$

Simplified antiderivative: $(55 - 14\sqrt{22})\log(x - \sqrt{22}) + 5)/22 + (55 + 14\sqrt{22})\log(x + \sqrt{22}) + 5)/22 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q266. $(5x^2+3x+3)/(x^2+5x^2-3x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q267. $1/((x-5)^2(x+3)) dx$

Simplified antiderivative: $((x - 5)(-\log(x - 5) + \log(x + 3)) - 8)/(64(x - 5)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q268. $(x+5)/(x^2+3x+2) dx$

Simplified antiderivative: $4\log(x + 1) - 3\log(x + 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q269. $(6x+0)/(x-8)(x+9) dx$

Simplified antiderivative: $48\log(x - 8)/17 + 54\log(x + 9)/17 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q270. $1/((x+6)(x+8)) dx$

Simplified antiderivative: $\log(x + 6)/2 - \log(x + 8)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q271. $(6x+0)/(x^2+14x+8) dx$

Simplified antiderivative: $3(41 - 7\sqrt{41})\log(x - \sqrt{41}) + 7)/41 + 3(41 + 7\sqrt{41})\log(x + \sqrt{41}) + 7)/41 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q272. $(6x^2+0x+8)/(x^3+6x^2-8x) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q273. $1/((x-6)^2(x+8)) dx$

Simplified antiderivative: $((x - 6)(-\log(x - 6) + \log(x + 8)) - 14)/(196(x - 6)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q274. $(x+6)/(x^2+8x+9) dx$

Simplified antiderivative: $(2\sqrt{7} + 7)\log(x - \sqrt{7}) + 4)/14 + (7 - 2\sqrt{7})\log(x + \sqrt{7}) + 4)/14 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q275. $(7x+3)/(x-2)(x+7) dx$

Simplified antiderivative: $17\log(x - 2)/9 + 46\log(x + 7)/9 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q276. $1/((x+7)(x+2)) dx$

Simplified antiderivative: $\log(x + 2)/5 - \log(x + 7)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q277. $(7x+3)/(x^2+18x+2) dx$

Simplified antiderivative: $(553 - 60\sqrt{79})\log(x - \sqrt{79}) + 9)/158 + (60\sqrt{79} + 553)\log(x + \sqrt{79}) + 9)/158 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q278. $(7x^2+3x+2)/(x^3+7x^2-2x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q279. $1/((x-7)^2(x+2)) \, dx$

Simplified antiderivative: $((x-7)(-\log(x-7) + \log(x+2)) - 9)/(81(x-7)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q280. $(x+7)/(x^2+2x+7) \, dx$

Simplified antiderivative: $\log(x^2 + 2x + 7)/2 + \sqrt{6} \operatorname{atan}(\sqrt{6}(x+1)/6) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q281. $(8x+6)/((x-7)(x+5)) \, dx$

Simplified antiderivative: $31 \log(x-7)/6 + 17 \log(x+5)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q282. $1/((x+8)(x+7)) \, dx$

Simplified antiderivative: $\log(x+7) - \log(x+8) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q283. $(8x+6)/(x^2+22x+7) \, dx$

Simplified antiderivative: $(456 - 41\sqrt{114})\log(x - \sqrt{114} + 11)/114 + (41\sqrt{114} + 456)\log(x + \sqrt{114} + 11)/114 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q284. $(8x^2+6x+7)/(x^3+8x^2-7x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q285. $1/((x-8)^2(x+7)) \, dx$

Simplified antiderivative: $((x-8)(-\log(x-8) + \log(x+7)) - 15)/(225(x-8)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q286. $(x+8)/(x^2+7x+5) \, dx$

Simplified antiderivative: $(29 + 9\sqrt{29})\log(x - \sqrt{29}/2 + 7/2)/58 + (29 - 9\sqrt{29})\log(x + \sqrt{29}/2 + 7/2)/58 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q287. $(9x+4)/((x-1)(x+3)) \, dx$

Simplified antiderivative: $5 \log(x-1)/4 + 31 \log(x+3)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q288. $1/((x+9)(x+1)) \, dx$

Simplified antiderivative: $\log(x+1)/8 - \log(x+9)/8 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q289. $(9x+4)/(x^2+13x+1) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q290. $(9x^2+4x+1)/(x^3+9x^2-1x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q291. $1/((x-9)^2(x+1)) \, dx$

Simplified antiderivative: $((x-9)(-\log(x-9) + \log(x+1)) - 10)/(100(x-9)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q292. $(x+9)/(x^2+1x+3) \, dx$

Simplified antiderivative: $\log(x^2 + x + 3)/2 + 17\sqrt{11} \operatorname{atan}(\sqrt{11}(2x+1)/11)/11 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q293. $(1x+1)/((x-6)(x+1)) \, dx$

Simplified antiderivative: $5 \cdot \log(x - 6)/7 + 2 \cdot \log(x + 1)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q294. $1/((x+1)(x+6)) \, dx$

Simplified antiderivative: $\log(x + 1)/5 - \log(x + 6)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q295. $(1x+1)/(x^2+8x+6) \, dx$

Simplified antiderivative: $(2 - \sqrt{10}) \cdot \log(x - \sqrt{10} + 4)/4 + (2 + \sqrt{10}) \cdot \log(x + \sqrt{10} + 4)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q296. $(1x^2+1x+6)/(x^3+1x^2-6x) \, dx$

Simplified antiderivative: $-\log(x) + 4 \cdot \log(x - 2)/5 + 6 \cdot \log(x + 3)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q297. $1/((x-1)^2(x+6)) \, dx$

Simplified antiderivative: $((x - 1) \cdot (-\log(x - 1) + \log(x + 6)) - 7)/(49 \cdot (x - 1)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q298. $(x+1)/(x^2+6x+1) \, dx$

Simplified antiderivative: $(2 - \sqrt{2}) \cdot \log(x - 2 \cdot \sqrt{2} + 3)/4 + (\sqrt{2} + 2) \cdot \log(x + 2 \cdot \sqrt{2} + 3)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q299. $(2x+2)/((x-11)(x+8)) \, dx$

Simplified antiderivative: $24 \cdot \log(x - 11)/19 + 14 \cdot \log(x + 8)/19 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q300. $1/((x+2)(x+11)) \, dx$

Simplified antiderivative: $\log(x + 2)/9 - \log(x + 11)/9 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q301. $(2x+2)/(x^2+12x+11) \, dx$

Simplified antiderivative: $2 \cdot \log(x + 1) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q302. $(2x^2+2x+11)/(x^3+2x^2-11x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q303. $1/((x-2)^2(x+11)) \, dx$

Simplified antiderivative: $((x - 2) \cdot (-\log(x - 2) + \log(x + 11)) - 13)/(169 \cdot (x - 2)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q304. $(x+2)/(x^2+11x+8) \, dx$

Simplified antiderivative: $(89 - 7 \cdot \sqrt{89}) \cdot \log(x - \sqrt{89}/2 + 11/2)/178 + (7 \cdot \sqrt{89} + 89) \cdot \log(x + \sqrt{89}/2 + 11/2)/178 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q305. $(3x+5)/((x-5)(x+6)) \, dx$

Simplified antiderivative: $20 \cdot \log(x - 5)/11 + 13 \cdot \log(x + 6)/11 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q306. $1/((x+3)(x+5)) \, dx$

Simplified antiderivative: $\log(x + 3)/2 - \log(x + 5)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q307. $(3x+5)/(x^2+16x+5) \, dx$ **Simplified antiderivative:** $(177 - 19\sqrt{59})\log(x - \sqrt{59} + 8)/118 + (19\sqrt{59} + 177)\log(x + \sqrt{59} + 8)/118 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q308. $(3x^2+5x+5)/(x^3+3x^2-5x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q309. $1/((x-3)^2(x+5)) \, dx$ **Simplified antiderivative:** $((x - 3)(-\log(x - 3) + \log(x + 5)) - 8)/(64(x - 3)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q310. $(x+3)/(x^2+5x+6) \, dx$ **Simplified antiderivative:** $\log(x + 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q311. $(4x+5)/((x-10)(x+4)) \, dx$ **Simplified antiderivative:** $5\log(x - 10)/2 + 3\log(x + 4)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q312. $1/((x+4)(x+10)) \, dx$ **Simplified antiderivative:** $\log(x + 4)/6 - \log(x + 10)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q313. $(4x+5)/(x^2+7x+10) \, dx$ **Simplified antiderivative:** $-13\log(x + 2)/3 + 25\log(x + 5)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q314. $(4x^2+5x+10)/(x^3+4x^2-10x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q315. $1/((x-4)^2(x+10)) \, dx$ **Simplified antiderivative:** $((x - 4)(-\log(x - 4) + \log(x + 10)) - 14)/(196(x - 4)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q316. $(x+4)/(x^2+10x+4) \, dx$ **Simplified antiderivative:** $(21 - \sqrt{21})\log(x - \sqrt{21} + 5)/42 + (\sqrt{21} + 21)\log(x + \sqrt{21} + 5)/42 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q317. $(5x+2)/((x-4)(x+2)) \, dx$ **Simplified antiderivative:** $3\log(x - 4) + 2\log(x + 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q318. $1/((x+5)(x+4)) \, dx$ **Simplified antiderivative:** $\log(x + 4) - \log(x + 5) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q319. $(5x+2)/(x^2+11x+4) \, dx$ **Simplified antiderivative:** $(525 - 59\sqrt{105})\log(x - \sqrt{105}/2 + 11/2)/210 + (525 + 59\sqrt{105})\log(x + \sqrt{105}/2 + 11/2)/210 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q320. $(5x^2+2x+4)/(x^3+5x^2-4x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q321. $1/((x-5)^2(x+4)) \, dx$ **Simplified antiderivative:** $((x - 5)(-\log(x - 5) + \log(x + 4)) - 9)/(81(x - 5)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q322. $(x+5)/(x^2+4x+2) dx$

Simplified antiderivative: $(2 + 3\sqrt{2})\log(x - \sqrt{2})/4 + (2 - 3\sqrt{2})\log(x + \sqrt{2})/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q323. $(6x+1)/((x-9)(x+9)) dx$

Simplified antiderivative: $55\log(x - 9)/18 + 53\log(x + 9)/18 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q324. $1/((x+6)(x+9)) dx$

Simplified antiderivative: $\log(x + 6)/3 - \log(x + 9)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q325. $(6x+1)/(x^2+15x+9) dx$

Simplified antiderivative: $(189 - 44\sqrt{21})\log(x - 3\sqrt{21}/2 + 15/2)/63 + (189 + 44\sqrt{21})\log(x + 3\sqrt{21}/2 + 15/2)/63 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q326. $(6x^2+1x+9)/(x^3+6x^2-9x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q327. $1/((x-6)^2(x+9)) dx$

Simplified antiderivative: $((x - 6)(-\log(x - 6) + \log(x + 9)) - 15)/(225(x - 6)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q328. $(x+6)/(x^2+9x+9) dx$

Simplified antiderivative: $(\sqrt{5} + 5)\log(x - 3\sqrt{5}/2 + 9/2)/10 + (5 - \sqrt{5})\log(x + 3\sqrt{5}/2 + 9/2)/10 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q329. $(7x+4)/((x-3)(x+7)) dx$

Simplified antiderivative: $5\log(x - 3)/2 + 9\log(x + 7)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q330. $1/((x+7)(x+3)) dx$

Simplified antiderivative: $\log(x + 3)/4 - \log(x + 7)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q331. $(7x+4)/(x^2+19x+3) dx$

Simplified antiderivative: $(2443 - 125\sqrt{349})\log(x - \sqrt{349}/2 + 19/2)/698 + (125\sqrt{349} + 2443)\log(x + \sqrt{349}/2 + 19/2)/698 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q332. $(7x^2+4x+3)/(x^3+7x^2-3x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q333. $1/((x-7)^2(x+3)) dx$

Simplified antiderivative: $((x - 7)(-\log(x - 7) + \log(x + 3)) - 10)/(100(x - 7)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q334. $(x+7)/(x^2+3x+7) dx$

Simplified antiderivative: $\log(x^2 + 3x + 7)/2 + 11\sqrt{19}\operatorname{atan}(\sqrt{19}(2x + 3)/19)/19 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q335. $(8x+6)/((x-8)(x+5)) dx$

Simplified antiderivative: $58\log(x - 8)/13 + 46\log(x + 5)/13 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q336. $1/((x+8)(x+8)) \, dx$

Simplified antiderivative: $-1/(x + 8) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q337. $(8x+6)/(x^2+10x+8) \, dx$

Simplified antiderivative: $(68 - 23\sqrt{17})\log(x - \sqrt{17}) + 5/17 + (68 + 23\sqrt{17})\log(x + \sqrt{17}) + 5/17 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q338. $(8x^2+6x+8)/(x^3+8x^2-8x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q339. $1/((x-8)^2(x+8)) \, dx$

Simplified antiderivative: $((x - 8)(-\log(x - 8) + \log(x + 8)) - 16)/(256(x - 8)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q340. $(x+8)/(x^2+8x+5) \, dx$

Simplified antiderivative: $(11 + 4\sqrt{11})\log(x - \sqrt{11}) + 4/22 + (11 - 4\sqrt{11})\log(x + \sqrt{11}) + 4/22 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q341. $(9x+3)/((x-2)(x+3)) \, dx$

Simplified antiderivative: $3\log(x - 2) + 6\log(x + 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q342. $1/((x+9)(x+2)) \, dx$

Simplified antiderivative: $\log(x + 2)/7 - \log(x + 9)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q343. $(9x+3)/(x^2+14x+2) \, dx$

Simplified antiderivative: $3(141 - 22\sqrt{47})\log(x - \sqrt{47}) + 7/94 + 3(141 + 22\sqrt{47})\log(x + \sqrt{47}) + 7/94 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q344. $(9x^2+3x+2)/(x^3+9x^2-2x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q345. $1/((x-9)^2(x+2)) \, dx$

Simplified antiderivative: $((x - 9)(-\log(x - 9) + \log(x + 2)) - 11)/(121(x - 9)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q346. $(x+9)/(x^2+2x+3) \, dx$

Simplified antiderivative: $\log(x^2 + 2x + 3)/2 + 4\sqrt{2}\operatorname{atan}(\sqrt{2}(x + 1)/2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q347. $(1x+0)/((x-7)(x+1)) \, dx$

Simplified antiderivative: $7\log(x - 7)/8 + \log(x + 1)/8 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q348. $1/((x+1)(x+7)) \, dx$

Simplified antiderivative: $\log(x + 1)/6 - \log(x + 7)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q349. $(1x+0)/(x^2+9x+7) \, dx$

Simplified antiderivative: $(53 - 9\sqrt{53})\log(x - \sqrt{53})/2 + 9/2/106 + (53 + 9\sqrt{53})\log(x + \sqrt{53})/2 + 9/2/106 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q350. $(1x^2+0x+7)/(x^3+1x^2-7x) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q351. $1/((x-1)^2(x+7)) dx$

Simplified antiderivative: $((x - 1)*(-\log(x - 1) + \log(x + 7)) - 8)/(64*(x - 1)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q352. $(x+1)/(x^2+7x+1) dx$

Simplified antiderivative: $(3 - \sqrt{5})*\log(x - 3*\sqrt{5}/2 + 7/2)/6 + (\sqrt{5} + 3)*\log(x + 3*\sqrt{5}/2 + 7/2)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q353. $(2x+3)/((x-1)(x+8)) dx$

Simplified antiderivative: $5*\log(x - 1)/9 + 13*\log(x + 8)/9 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q354. $1/((x+2)(x+1)) dx$

Simplified antiderivative: $\log(x + 1) - \log(x + 2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q355. $(2x+3)/(x^2+13x+1) dx$

Simplified antiderivative: $(33 - 2*\sqrt{165})*\log(x - \sqrt{165}/2 + 13/2)/33 + (2*\sqrt{165} + 33)*\log(x + \sqrt{165}/2 + 13/2)/33 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q356. $(2x^2+3x+1)/(x^3+2x^2-1x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q357. $1/((x-2)^2(x+1)) dx$

Simplified antiderivative: $((x - 2)*(-\log(x - 2) + \log(x + 1)) - 3)/(9*(x - 2)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q358. $(x+2)/(x^2+1x+8) dx$

Simplified antiderivative: $\log(x^2 + x + 8)/2 + 3*\sqrt{31}*atan(\sqrt{31}*(2*x + 1)/31)/31 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q359. $(3x+6)/((x-6)(x+6)) dx$

Simplified antiderivative: $2*\log(x - 6) + \log(x + 6) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q360. $1/((x+3)(x+6)) dx$

Simplified antiderivative: $\log(x + 3)/3 - \log(x + 6)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q361. $(3x+6)/(x^2+17x+6) dx$

Simplified antiderivative: $3*(265 - 13*\sqrt{265})*\log(x - \sqrt{265}/2 + 17/2)/530 + 3*(13*\sqrt{265} + 265)*\log(x + \sqrt{265}/2 + 17/2)/530 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q362. $(3x^2+6x+6)/(x^3+3x^2-6x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q363. $1/((x-3)^2(x+6)) dx$

Simplified antiderivative: $((x - 3)*(-\log(x - 3) + \log(x + 6)) - 9)/(81*(x - 3)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q364. $(x+3)/(x^2+6x+6) dx$ **Simplified antiderivative:** $\log(x^2 + 6x + 6)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q365. $(4x+4)/((x-11)(x+4)) dx$ **Simplified antiderivative:** $8\log(x - 11)/3 + 4\log(x + 4)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q366. $1/((x+4)(x+11)) dx$ **Simplified antiderivative:** $\log(x + 4)/7 - \log(x + 11)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q367. $(4x+4)/(x^2+8x+11) dx$ **Simplified antiderivative:** $2(1 - \sqrt{5})\log(x - \sqrt{5} + 4) + 2(1 + \sqrt{5})\log(x + \sqrt{5} + 4) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q368. $(4x^2+4x+11)/(x^3+4x^2-11x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q369. $1/((x-4)^2(x+11)) dx$ **Simplified antiderivative:** $((x - 4)(-\log(x - 4) + \log(x + 11)) - 15)/(225(x - 4)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q370. $(x+4)/(x^2+11x+4) dx$ **Simplified antiderivative:** $(35 - \sqrt{105})\log(x - \sqrt{105}/2 + 11/2)/70 + (\sqrt{105} + 35)\log(x + \sqrt{105}/2 + 11/2)/70 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q371. $(5x+1)/((x-5)(x+2)) dx$ **Simplified antiderivative:** $24\log(x - 5)/7 + 11\log(x + 2)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q372. $1/((x+5)(x+5)) dx$ **Simplified antiderivative:** $-1/(x + 5) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q373. $(5x+1)/(x^2+12x+5) dx$ **Simplified antiderivative:** $(5 - \sqrt{31})\log(x - \sqrt{31} + 6)/2 + (5 + \sqrt{31})\log(x + \sqrt{31} + 6)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q374. $(5x^2+1x+5)/(x^3+5x^2-5x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q375. $1/((x-5)^2(x+5)) dx$ **Simplified antiderivative:** $((x - 5)(-\log(x - 5) + \log(x + 5)) - 10)/(100(x - 5)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q376. $(x+5)/(x^2+5x+2) dx$ **Simplified antiderivative:** $(17 + 5\sqrt{17})\log(x - \sqrt{17}/2 + 5/2)/34 + (17 - 5\sqrt{17})\log(x + \sqrt{17}/2 + 5/2)/34 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q377. $(6x+2)/((x-10)(x+9)) dx$ **Simplified antiderivative:** $62\log(x - 10)/19 + 52\log(x + 9)/19 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q378. $1/((x+6)(x+10)) \, dx$ **Simplified antiderivative:** $\log(x + 6)/4 - \log(x + 10)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q379. $(6x+2)/(x^2+16x+10) \, dx$ **Simplified antiderivative:** $(54 - 23\sqrt{6})\log(x - 3\sqrt{6} + 8)/18 + (54 + 23\sqrt{6})\log(x + 3\sqrt{6} + 8)/18 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q380. $(6x^2+2x+10)/(x^3+6x^2-10x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q381. $1/((x-6)^2(x+10)) \, dx$ **Simplified antiderivative:** $((x - 6)(-\log(x - 6) + \log(x + 10)) - 16)/(256(x - 6)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q382. $(x+6)/(x^2+10x+9) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q383. $(7x+5)/((x-4)(x+7)) \, dx$ **Simplified antiderivative:** $3\log(x - 4) + 4\log(x + 7) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q384. $1/((x+7)(x+4)) \, dx$ **Simplified antiderivative:** $\log(x + 4)/3 - \log(x + 7)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q385. $(7x+5)/(x^2+20x+4) \, dx$ **Simplified antiderivative:** $(168 - 65\sqrt{6})\log(x - 4\sqrt{6} + 10)/48 + (65\sqrt{6} + 168)\log(x + 4\sqrt{6} + 10)/48 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q386. $(7x^2+5x+4)/(x^3+7x^2-4x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q387. $1/((x-7)^2(x+4)) \, dx$ **Simplified antiderivative:** $((x - 7)(-\log(x - 7) + \log(x + 4)) - 11)/(121(x - 7)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q388. $(x+7)/(x^2+4x+7) \, dx$ **Simplified antiderivative:** $\log(x^2 + 4x + 7)/2 + 5\sqrt{3}\operatorname{atan}(\sqrt{3}(x + 2)/3)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q389. $(8x+5)/((x-9)(x+5)) \, dx$ **Simplified antiderivative:** $67\log(x - 9)/14 + 45\log(x + 5)/14 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q390. $1/((x+8)(x+9)) \, dx$ **Simplified antiderivative:** $\log(x + 8) - \log(x + 9) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q391. $(8x+5)/(x^2+11x+9) \, dx$ **Simplified antiderivative:** $(340 - 49\sqrt{85})\log(x - \sqrt{85}/2 + 11/2)/85 + (340 + 49\sqrt{85})\log(x + \sqrt{85}/2 + 11/2)/85 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q392. $(8x^2+5x+9)/(x^3+8x^2-9x) \, dx$ **Simplified antiderivative:** $-\log(x) + 6\log(x - 1)/5 + 39\log(x + 9)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q393. $1/((x-8)^2(x+9)) \, dx$

Simplified antiderivative: $((x-8)*(-\log(x-8) + \log(x+9)) - 17)/(289*(x-8)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q394. $(x+8)/(x^2+9x+5) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q395. $(9x+2)/((x-3)(x+3)) \, dx$

Simplified antiderivative: $25*\log(x-3)/6 + 29*\log(x+3)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q396. $1/((x+9)(x+3)) \, dx$

Simplified antiderivative: $\log(x+3)/6 - \log(x+9)/6 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q397. $(9x+2)/(x^2+15x+3) \, dx$

Simplified antiderivative: $(1917 - 139*\sqrt{213})*\log(x - \sqrt{213})/2 + 15/2/426 + (1917 + 139*\sqrt{213})*\log(x + \sqrt{213})/2 + 15/2/426 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q398. $(9x^2+2x+3)/(x^3+9x^2-3x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q399. $1/((x-9)^2(x+3)) \, dx$

Simplified antiderivative: $((x-9)*(-\log(x-9) + \log(x+3)) - 12)/(144*(x-9)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q400. $(x+9)/(x^2+3x+3) \, dx$

Simplified antiderivative: $\log(x^2 + 3x + 3)/2 + 5*\sqrt{3}*atan(\sqrt{3}*(2x+3)/3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q401. $(1x+1)/((x-8)(x+1)) \, dx$

Simplified antiderivative: $\log(x-8) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q402. $1/((x+1)(x+8)) \, dx$

Simplified antiderivative: $\log(x+1)/7 - \log(x+8)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q403. $(1x+1)/(x^2+10x+8) \, dx$

Simplified antiderivative: $(17 - 4*\sqrt{17})*\log(x - \sqrt{17}) + 5/34 + (4*\sqrt{17} + 17)*\log(x + \sqrt{17}) + 5/34 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q404. $(1x^2+1x+8)/(x^3+1x^2-8x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q405. $1/((x-1)^2(x+8)) \, dx$

Simplified antiderivative: $((x-1)*(-\log(x-1) + \log(x+8)) - 9)/(81*(x-1)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q406. $(x+1)/(x^2+8x+1) \, dx$

Simplified antiderivative: $(5 - \sqrt{15})*\log(x - \sqrt{15}) + 4/10 + (\sqrt{15} + 5)*\log(x + \sqrt{15}) + 4/10 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q407. $(2x+4)/((x-2)(x+8)) \, dx$ **Simplified antiderivative:** $4\log(x-2)/5 + 6\log(x+8)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q408. $1/((x+2)(x+2)) \, dx$ **Simplified antiderivative:** $-1/(x+2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q409. $(2x+4)/(x^2+14x+2) \, dx$ **Simplified antiderivative:** $(47 - 5\sqrt{47})\log(x - \sqrt{47} + 7)/47 + (5\sqrt{47} + 47)\log(x + \sqrt{47} + 7)/47 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q410. $(2x^2+4x+2)/(x^3+2x^2-2x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q411. $1/((x-2)^2(x+2)) \, dx$ **Simplified antiderivative:** $((x-2)(-\log(x-2) + \log(x+2)) - 4)/(16(x-2)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q412. $(x+2)/(x^2+2x+8) \, dx$ **Simplified antiderivative:** $\log(x^2+2x+8)/2 + \sqrt{7}\operatorname{atan}(\sqrt{7}(x+1)/7)/7 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q413. $(3x+6)/((x-7)(x+6)) \, dx$ **Simplified antiderivative:** $15\log(x-7)/13 + 24\log(x+6)/13 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q414. $1/((x+3)(x+7)) \, dx$ **Simplified antiderivative:** $\log(x+3)/4 - \log(x+7)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q415. $(3x+6)/(x^2+5x+7) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q416. $(3x^2+6x+7)/(x^3+3x^2-7x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q417. $1/((x-3)^2(x+7)) \, dx$ **Simplified antiderivative:** $((x-3)(-\log(x-3) + \log(x+7)) - 10)/(100(x-3)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q418. $(x+3)/(x^2+7x+6) \, dx$ **Simplified antiderivative:** $2\log(x+1)/5 + 3\log(x+6)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q419. $(4x+3)/((x-1)(x+4)) \, dx$ **Simplified antiderivative:** $\log(x-1)/5 + 19\log(x+4)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q420. $1/((x+4)(x+1)) \, dx$ **Simplified antiderivative:** $\log(x+1)/3 - \log(x+4)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q421. $(4x+3)/(x^2+9x+1) \, dx$ **Simplified antiderivative:** $(22 - 3\sqrt{77})\log(x - \sqrt{77}/2 + 9/2)/11 + (22 + 3\sqrt{77})\log(x + \sqrt{77}/2 + 9/2)/11 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q422. $(4x^2-3x+1)/(x^3+4x^2-1x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q423. $1/((x-4)^2(x+1)) \, dx$

Simplified antiderivative: $((x-4)*(-\log(x-4) + \log(x+1)) - 5)/(25*(x-4)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q424. $(x+4)/(x^2+1x+4) \, dx$

Simplified antiderivative: $\log(x^2 + x + 4)/2 + 7*\sqrt{15}*\operatorname{atan}(\sqrt{15}*(2*x + 1)/15)/15 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q425. $(5x+0)/((x-6)(x+2)) \, dx$

Simplified antiderivative: $15*\log(x-6)/4 + 5*\log(x+2)/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q426. $1/((x+5)(x+6)) \, dx$

Simplified antiderivative: $\log(x+5) - \log(x+6) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q427. $(5x+0)/(x^2+13x+6) \, dx$

Simplified antiderivative: $(145 - 13*\sqrt{145})*\log(x - \sqrt{145}/2 + 13/2)/58 + (145 + 13*\sqrt{145})*\log(x + \sqrt{145}/2 + 13/2)/58 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q428. $(5x^2+0x+6)/(x^3+5x^2-6x) \, dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q429. $1/((x-5)^2(x+6)) \, dx$

Simplified antiderivative: $((x-5)*(-\log(x-5) + \log(x+6)) - 11)/(121*(x-5)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q430. $(x+5)/(x^2+6x+2) \, dx$

Simplified antiderivative: $(2*\sqrt{7} + 7)*\log(x - \sqrt{7} + 3)/14 + (7 - 2*\sqrt{7})*\log(x + \sqrt{7} + 3)/14 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q431. $(6x+3)/((x-11)(x+9)) \, dx$

Simplified antiderivative: $69*\log(x-11)/20 + 51*\log(x+9)/20 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q432. $1/((x+6)(x+11)) \, dx$

Simplified antiderivative: $\log(x+6)/5 - \log(x+11)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q433. $(6x+3)/(x^2+17x+11) \, dx$

Simplified antiderivative: $3*(35 - 16*\sqrt{5})*\log(x - 7*\sqrt{5}/2 + 17/2)/35 + 3*(35 + 16*\sqrt{5})*\log(x + 7*\sqrt{5}/2 + 17/2)/35 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q434. $(6x^2+3x+11)/(x^3+6x^2-11x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q435. $1/((x-6)^2(x+11)) \, dx$

Simplified antiderivative: $((x-6)*(-\log(x-6) + \log(x+11)) - 17)/(289*(x-6)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q436. $(x+6)/(x^2+11x+9) \, dx$ **Simplified antiderivative:** $(\sqrt{85} + 85) \cdot \log(x - \sqrt{85}/2 + 11/2)/170 + (85 - \sqrt{85}) \cdot \log(x + \sqrt{85}/2 + 11/2)/170 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q437. $(7x+6)/((x-5)(x+7)) \, dx$ **Simplified antiderivative:** $41 \cdot \log(x - 5)/12 + 43 \cdot \log(x + 7)/12 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q438. $1/((x+7)(x+5)) \, dx$ **Simplified antiderivative:** $\log(x + 5)/2 - \log(x + 7)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q439. $(7x+6)/(x^2+21x+5) \, dx$ **Simplified antiderivative:** $(2947 - 135 \cdot \sqrt{421}) \cdot \log(x - \sqrt{421}/2 + 21/2)/842 + (135 \cdot \sqrt{421} + 2947) \cdot \log(x + \sqrt{421}/2 + 21/2)/842 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q440. $(7x^2+6x+5)/(x^3+7x^2-5x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q441. $1/((x-7)^2(x+5)) \, dx$** **Simplified antiderivative:** $((x - 7) \cdot (-\log(x - 7) + \log(x + 5)) - 12)/(144 \cdot (x - 7)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q442. $(x+7)/(x^2+5x+7) \, dx$ **Simplified antiderivative:** $\log(x^2 + 5x + 7)/2 + 3 \cdot \sqrt{3} \cdot \operatorname{atan}(\sqrt{3} \cdot (2x + 5)/3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q443. $(8x+4)/((x-10)(x+5)) \, dx$ **Simplified antiderivative:** $76 \cdot \log(x - 10)/15 + 44 \cdot \log(x + 5)/15 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q444. $1/((x+8)(x+10)) \, dx$ **Simplified antiderivative:** $\log(x + 8)/2 - \log(x + 10)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q445. $(8x+4)/(x^2+12x+10) \, dx$ **Simplified antiderivative:** $(4 - \sqrt{26}) \cdot \log(x - \sqrt{26} + 6) + (4 + \sqrt{26}) \cdot \log(x + \sqrt{26} + 6) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q446. $(8x^2+4x+10)/(x^3+8x^2-10x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q447. $1/((x-8)^2(x+10)) \, dx$** **Simplified antiderivative:** $((x - 8) \cdot (-\log(x - 8) + \log(x + 10)) - 18)/(324 \cdot (x - 8)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q448. $(x+8)/(x^2+10x+5) \, dx$ **Simplified antiderivative:** $(3 \cdot \sqrt{5} + 10) \cdot \log(x - 2 \cdot \sqrt{5} + 5)/20 + (10 - 3 \cdot \sqrt{5}) \cdot \log(x + 2 \cdot \sqrt{5} + 5)/20 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q449. $(9x+1)/((x-4)(x+3)) \, dx$ **Simplified antiderivative:** $5 \cdot \log(x - 4) + 4 \cdot \log(x + 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q450. $1/((x+9)(x+4)) \, dx$

Simplified antiderivative: $\log(x + 4)/5 - \log(x + 9)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q451. $(9x+1)/(x^2+16x+4) \, dx$

Simplified antiderivative: $(270 - 73\sqrt{15})\log(x - 2\sqrt{15} + 8)/60 + (270 + 73\sqrt{15})\log(x + 2\sqrt{15} + 8)/60 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q452. $(9x^2-1x+4)/(x^3+9x^2-4x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q453. $1/((x-9)^2(x+4)) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q454. $(x+9)/(x^2+4x+3) \, dx$

Simplified antiderivative: $4\log(x + 1) - 3\log(x + 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q455. $(1x+2)/((x-9)(x+1)) \, dx$

Simplified antiderivative: $11\log(x - 9)/10 - \log(x + 1)/10 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q456. $1/((x+1)(x+9)) \, dx$

Simplified antiderivative: $\log(x + 1)/8 - \log(x + 9)/8 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q457. $(1x+2)/(x^2+11x+9) \, dx$

Simplified antiderivative: $(85 - 7\sqrt{85})\log(x - \sqrt{85}/2 + 11/2)/170 + (7\sqrt{85} + 85)\log(x + \sqrt{85}/2 + 11/2)/170 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q458. $(1x^2+2x+9)/(x^3+1x^2-9x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q459. $1/((x-1)^2(x+9)) \, dx$

Simplified antiderivative: $((x - 1)(-\log(x - 1) + \log(x + 9)) - 10)/(100(x - 1)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q460. $(x+1)/(x^2+9x+1) \, dx$

Simplified antiderivative: $(11 - \sqrt{77})\log(x - \sqrt{77}/2 + 9/2)/22 + (\sqrt{77} + 11)\log(x + \sqrt{77}/2 + 9/2)/22 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q461. $(2x+5)/((x-3)(x+8)) \, dx$

Simplified antiderivative: $\log(x^2 + 5x - 24) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q462. $1/((x+2)(x+3)) \, dx$

Simplified antiderivative: $\log(x + 2) - \log(x + 3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q463. $(2x+5)/(x^2+15x+3) \, dx$

Simplified antiderivative: $(213 - 10\sqrt{213})\log(x - \sqrt{213}/2 + 15/2)/213 + (10\sqrt{213} + 213)\log(x + \sqrt{213}/2 + 15/2)/213 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q464. $(2x^2+5x+3)/(x^3+2x^2-3x) \, dx$

Simplified antiderivative: $-\log(x) + 5\log(x - 1)/2 + \log(x + 3)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q465. $\frac{1}{((x-2)^2(x+3))} dx$

Simplified antiderivative: $((x-2)*(-\log(x-2) + \log(x+3)) - 5)/(25*(x-2)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q466. $\frac{(x+2)}{(x^2+3x+8)} dx$

Simplified antiderivative: $\log(x^2 + 3x + 8)/2 + \sqrt{23} \operatorname{atan}(\sqrt{23}*(2x+3)/23)/23 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q467. $\frac{(3x+5)}{(x-8)(x+6)} dx$

Simplified antiderivative: $19 \log(x-8)/14 + 23 \log(x+6)/14 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q468. $\frac{1}{((x+3)(x+8))} dx$

Simplified antiderivative: $\log(x+3)/5 - \log(x+8)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q469. $\frac{(3x+5)}{(x^2+6x+8)} dx$

Simplified antiderivative: $-11 \log(x+2)/2 + 17 \log(x+4)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q470. $\frac{(3x^2+5x+8)}{(x^3+3x^2-8x)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q471. $\frac{1}{((x-3)^2(x+8))} dx$

Simplified antiderivative: $((x-3)*(-\log(x-3) + \log(x+8)) - 11)/(121*(x-3)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q472. $\frac{(x+3)}{(x^2+8x+6)} dx$

Simplified antiderivative: $(10 - \sqrt{10}) \log(x - \sqrt{10} + 4)/20 + (\sqrt{10} + 10) \log(x + \sqrt{10} + 4)/20 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q473. $\frac{(4x+2)}{(x-2)(x+4)} dx$

Simplified antiderivative: $\log(x-2) + 3 \log(x+4) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q474. $\frac{1}{((x+4)(x+2))} dx$

Simplified antiderivative: $\log(x+2)/2 - \log(x+4)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q475. $\frac{(4x+2)}{(x^2+10x+2)} dx$

Simplified antiderivative: $(46 - 11 \sqrt{23}) \log(x - \sqrt{23} + 5)/23 + (46 + 11 \sqrt{23}) \log(x + \sqrt{23} + 5)/23 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q476. $\frac{(4x^2+2x+2)}{(x^3+4x^2-2x)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q477. $\frac{1}{((x-4)^2(x+2))} dx$

Simplified antiderivative: $((x-4)*(-\log(x-4) + \log(x+2)) - 6)/(36*(x-4)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q478. $\frac{(x+4)}{(x^2+2x+4)} dx$

Simplified antiderivative: $\log(x^2 + 2x + 4)/2 + \sqrt{3} \operatorname{atan}(\sqrt{3}*(x+1)/3) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q479. $(5x+1)/((x-7)(x+2)) \, dx$

Simplified antiderivative: $4\log(x-7) + \log(x+2) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q480. $1/((x+5)(x+7)) \, dx$

Simplified antiderivative: $\log(x+5)/2 - \log(x+7)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q481. $(5x+1)/(x^2+14x+7) \, dx$

Simplified antiderivative: $(105 - 17\sqrt{42})\log(x - \sqrt{42}) + 7/42 + (105 + 17\sqrt{42})\log(x + \sqrt{42}) + 7/42 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q482. $(5x^2+1x+7)/(x^3+5x^2-7x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q483. $1/((x-5)^2(x+7)) \, dx$

Simplified antiderivative: $((x-5)(-\log(x-5) + \log(x+7)) - 12)/(144(x-5)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q484. $(x+5)/(x^2+7x+2) \, dx$

Simplified antiderivative: $(3\sqrt{41} + 41)\log(x - \sqrt{41})/2 + 7/2/82 + (41 - 3\sqrt{41})\log(x + \sqrt{41})/2 + 7/2/82 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q485. $(6x+4)/((x-1)(x+9)) \, dx$

Simplified antiderivative: $\log(x-1) + 5\log(x+9) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q486. $1/((x+6)(x+1)) \, dx$

Simplified antiderivative: $\log(x+1)/5 - \log(x+6)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q487. $(6x+4)/(x^2+18x+1) \, dx$

Simplified antiderivative: $(12 - 5\sqrt{5})\log(x - 4\sqrt{5}) + 9/4 + (5\sqrt{5} + 12)\log(x + 4\sqrt{5}) + 9/4 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q488. $(6x^2+4x+1)/(x^3+6x^2-1x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q489. $1/((x-6)^2(x+1)) \, dx$

Simplified antiderivative: $((x-6)(-\log(x-6) + \log(x+1)) - 7)/(49(x-6)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q490. $(x+6)/(x^2+1x+9) \, dx$

Simplified antiderivative: $\log(x^2 + x + 9)/2 + 11\sqrt{35}\operatorname{atan}(\sqrt{35}(2x+1)/35)/35 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q491. $(7x+6)/((x-6)(x+7)) \, dx$

Simplified antiderivative: $36\log(x-6)/13 + 55\log(x+7)/13 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q492. $1/((x+7)(x+6)) \, dx$

Simplified antiderivative: $\log(x+6) - \log(x+7) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q493. $(7x+6)/(x^2+9x+6) \, dx$

Simplified antiderivative: $(133 - 25\sqrt{57})\log(x - \sqrt{57}/2 + 9/2)/38 + (133 + 25\sqrt{57})\log(x + \sqrt{57}/2 + 9/2)/38 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q494. $(7x^2+6x+6)/(x^3+7x^2-6x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q495. $1/((x-7)^2(x+6)) \, dx$

Simplified antiderivative: $((x - 7)(-\log(x - 7) + \log(x + 6)) - 13)/(169(x - 7)) + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q496. $(x+7)/(x^2+6x+7) \, dx$

Simplified antiderivative: $(1 + 2\sqrt{2})\log(x - \sqrt{2} + 3)/2 + (1 - 2\sqrt{2})\log(x + \sqrt{2} + 3)/2 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q497. $(8x+3)/((x-11)(x+5)) \, dx$

Simplified antiderivative: $85\log(x - 11)/16 + 43\log(x + 5)/16 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q498. $1/((x+8)(x+11)) \, dx$

Simplified antiderivative: $\log(x + 8)/3 - \log(x + 11)/3 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q499. $(8x+3)/(x^2+13x+11) \, dx$

Simplified antiderivative: $(20 - 11\sqrt{5})\log(x - 5\sqrt{5}/2 + 13/2)/5 + (20 + 11\sqrt{5})\log(x + 5\sqrt{5}/2 + 13/2)/5 + C$

Steps: 1) factor the denominator where possible; 2) decompose the rational function into partial fractions; 3) integrate each term and simplify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q500. $(8x^2+3x+11)/(x^3+8x^2-11x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Category 5: Trigonometric Integrals & Substitutions

Trigonometric identities and substitutions

Q1. $\sin^2 x \, dx$

Simplified antiderivative: $x/2 - \sin(2x)/4 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q2. $\cos^2 x \, dx$

Simplified antiderivative: $x/2 + \sin(2x)/4 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q3. $\sin^3 x \, dx$

Simplified antiderivative: $(\cos(2x) - 5)\cos(x)/6 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q4. $\cos^3 x \, dx$

Simplified antiderivative: $-\sin(x)^{2/3} + \sin(x) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q5. $\tan^2 x \, dx$

Simplified antiderivative: $-x + \tan(x) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q6. $\sec^2 x \, dx$

Simplified antiderivative: $\tan(x) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q7. $\sin x \cos x \, dx$

Simplified antiderivative: $\sin(x)^{2/2} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q8. $\tan^3 x \, dx$

Simplified antiderivative: $\log(\cos(x)) + 1/(2\cos(x)^2) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q9. $\sec^3 x \, dx$

Simplified antiderivative: $-\log(\sin(x) - 1)/4 + \log(\sin(x) + 1)/4 + \sin(x)/(2\cos(x)^2) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q10. $\sin^2 x \cos^3 x \, dx$

Simplified antiderivative: $-\sin(x)^{5/5} + \sin(x)^{3/3} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q11. $\sin^3 x \cos^2 x \, dx$

Simplified antiderivative: $\cos(x)^{5/5} - \cos(x)^{3/3} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q12. $\sin(2x)\cos(3x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q13. $1/(1+x^2) \, dx$

Simplified antiderivative: $\text{atan}(x) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q14. $\sqrt{4-x^2} \, dx$ **Simplified antiderivative:** $x\sqrt{4-x^2}/2 + 2\arcsin(x/2) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q15. $dx/\sqrt{9-x^2}$ **Simplified antiderivative:** $\arcsin(x/3) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q16. $\sqrt{x^2+4} \, dx$ **Simplified antiderivative:** $x\sqrt{x^2+4}/2 + 2\operatorname{asinh}(x/2) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q17. $dx/\sqrt{x^2+9}$ **Simplified antiderivative:** $\operatorname{asinh}(x/3) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q18. $\sqrt{x^2-16} \, dx$ **Simplified antiderivative:** $x\sqrt{x^2-16}/2 - 8\log(x + \sqrt{x^2-16}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q19. $dx/(x^2\sqrt{x^2-1})$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q20. $dx/(4+x^2)^{3/2}$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q21. $\sin^{2x} \cos^{3x} \, dx$** **Simplified antiderivative:** $-\sin(x)^{5/5} + \sin(x)^{3/3} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q22. $\tan^{2x} \sec^{3x} \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q23. $\sin(2x)\cos(-2x) \, dx$** **Simplified antiderivative:** $\sin(2x)^{2/4} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q24. $dx/\sqrt{4-x^2}$ **Simplified antiderivative:** $\arcsin(x/2) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q25. $dx/\sqrt{x^2+4}$ **Simplified antiderivative:** $\operatorname{asinh}(x/2) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q26. $\sqrt{x^2-4} \, dx$ **Simplified antiderivative:** $x\sqrt{x^2-4}/2 - 2\log(x + \sqrt{x^2-4}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q27. $\sin^{3x} \cos^{4x} \, dx$ **Simplified antiderivative:** $\cos(x)^{7/7} - \cos(x)^{5/5} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q28. $\tan^{3x} \sec^{4x} \, dx$ **Simplified antiderivative:** $(2 - 3\cos(x)^{2/2})/(12\cos(x)^{6/6}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q29. $\sin(3x)\cos(1x) \, dx$

Simplified antiderivative: $-\cos(2x)/4 - \cos(4x)/8 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q30. $\sqrt{9-x^2} \, dx$

Simplified antiderivative: $x\sqrt{9-x^2}/2 + 9\arcsin(x/3)/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q31. $\sqrt{x^2-9} \, dx$

Simplified antiderivative: $x\sqrt{x^2-9}/2 - 9\log(x + \sqrt{x^2-9})/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q32. $\sin^4 x \cos^5 x \, dx$

Simplified antiderivative: $(35\sin(x)^4 - 90\sin(x)^2 + 63)\sin(x)^5/315 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q33. $\tan^4 x \sec^5 x \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q34. $\sin(4x)\cos(4x) \, dx$

Simplified antiderivative: $\sin(4x)^2/8 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q35. $dx/\sqrt{16-x^2}$

Simplified antiderivative: $\arcsin(x/4) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q36. $\sqrt{16-x^2} \, dx$

Simplified antiderivative: $x\sqrt{16-x^2}/2 + 8\arcsin(x/4) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q37. $dx/\sqrt{x^2+16}$

Simplified antiderivative: $\operatorname{asinh}(x/4) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q38. $\sin^5 x \cos^6 x \, dx$

Simplified antiderivative: $-(63\sin(x)^4 + 28\sin(x)^2 + 8)\cos(x)^7/693 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q39. $\tan^5 x \sec^6 x \, dx$

Simplified antiderivative: $(10\cos(x)^4 - 15\cos(x)^2 + 6)/(60\cos(x)^{10}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q40. $\sin(5x)\cos(7x) \, dx$

Simplified antiderivative: $\cos(2x)/4 - \cos(12x)/24 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q41. $dx/\sqrt{25-x^2}$

Simplified antiderivative: $\arcsin(x/5) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q42. $\sqrt{25-x^2} \, dx$

Simplified antiderivative: $x\sqrt{25 - x^2}/2 + 25\arcsin(x/5)/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q43. $\frac{dx}{\sqrt{x^2+25}}$

Simplified antiderivative: $\operatorname{arsinh}(x/5) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q44. $\sqrt{x^2-25} \, dx$

Simplified antiderivative: $x\sqrt{x^2 - 25}/2 - 25\log(x + \sqrt{x^2 - 25})/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q45. $\sin^8 x \cos^7 x \, dx$

Simplified antiderivative: $-\cos(x)^{8/8} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q46. $\tan^8 x \sec^7 x \, dx$

Simplified antiderivative: $1/(7\cos(x)^7) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q47. $\sin(6x)\cos(-3x) \, dx$

Simplified antiderivative: $-2\cos(3x)^{3/9} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q48. $\frac{dx}{\sqrt{36-x^2}}$

Simplified antiderivative: $\arcsin(x/6) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q49. $\sqrt{36-x^2} \, dx$

Simplified antiderivative: $x\sqrt{36 - x^2}/2 + 18\arcsin(x/6) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q50. $\frac{dx}{\sqrt{x^2+36}}$

Simplified antiderivative: $\operatorname{arsinh}(x/6) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q51. $\sqrt{x^2-36} \, dx$

Simplified antiderivative: $x\sqrt{x^2 - 36}/2 - 18\log(x + \sqrt{x^2 - 36}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q52. $\sin^2 x \cos^8 x \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q53. $\tan^2 x \sec^8 x \, dx$

Simplified antiderivative: $(24\sin(x)^4 - 78\sin(x)^2 + 16\cos(x)^6 + 89)\sin(x)^3/(315\cos(x)^9) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q54. $\sin(7x)\cos(0x) \, dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q55. $\frac{dx}{\sqrt{49-x^2}}$

Simplified antiderivative: $\arcsin(x/7) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q56. $\sqrt{49-x^2} \, dx$

Simplified antiderivative: $x\sqrt{49 - x^2}/2 + 49\arcsin(x/7)/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q57. $dx/\sqrt{x^2+49}$

Simplified antiderivative: $\operatorname{asinh}(x/7) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q58. $\sqrt{x^2-49} \, dx$

Simplified antiderivative: $x\sqrt{x^2 - 49}/2 - 49\log(x + \sqrt{x^2 - 49})/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q59. $\sin^3 x \cos^9 x \, dx$

Simplified antiderivative: $\cos(x)^{12/12} - \cos(x)^{10/10} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q60. $\tan^3 x \sec^9 x \, dx$

Simplified antiderivative: $(9 - 11\cos(x)^2)/(99\cos(x)^{11}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q61. $\sin(8x)\cos(3x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q62. $dx/\sqrt{64-x^2}$

Simplified antiderivative: $\arcsin(x/8) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q63. $\sqrt{64-x^2} \, dx$

Simplified antiderivative: $x\sqrt{64 - x^2}/2 + 32\arcsin(x/8) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q64. $dx/\sqrt{x^2+64}$

Simplified antiderivative: $\operatorname{asinh}(x/8) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q65. $\sqrt{x^2-64} \, dx$

Simplified antiderivative: $x\sqrt{x^2 - 64}/2 - 32\log(x + \sqrt{x^2 - 64}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q66. $\sin^4 x \cos^2 x \, dx$

Simplified antiderivative: $x/16 + (1 - \cos(2x))^2 \sin(2x)/48 - \sin(2x)/24 + \sin(4x)/192 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q67. $\tan^4 x \sec^2 x \, dx$

Simplified antiderivative: $\tan(x)^{5/5} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q68. $\sin(9x)\cos(6x) \, dx$

Simplified antiderivative: $-\cos(3x)/6 - \cos(15x)/30 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q69. $dx/\sqrt{81-x^2}$

Simplified antiderivative: $\arcsin(x/9) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q70. $\sqrt{(81-x^2)} dx$ **Simplified antiderivative:** $x\sqrt{81 - x^2}/2 + 81\arcsin(x/9)/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q71. $dx/\sqrt{(x^2+81)}$ **Simplified antiderivative:** $\operatorname{arsinh}(x/9) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q72. $\sqrt{(x^2-81)} dx$ **Simplified antiderivative:** $x\sqrt{x^2 - 81}/2 - 81\log(x + \sqrt{x^2 - 81})/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q73. $\sin^5 x \cos^3 x dx$ **Simplified antiderivative:** $-\sin(x)^{8/8} + \sin(x)^{6/6} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q74. $\tan^5 x \sec^3 x dx$ **Simplified antiderivative:** $(35\cos(x)^4 - 42\cos(x)^2 + 15)/(105\cos(x)^7) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q75. $\sin(1x)\cos(-4x) dx$ **Simplified antiderivative:** $-8\cos(x)^{5/5} + 8\cos(x)^{3/3} - \cos(x) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q76. $dx/\sqrt{(1-x^2)}$ **Simplified antiderivative:** $\arcsin(x) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q77. $\sqrt{(1-x^2)} dx$ **Simplified antiderivative:** $x\sqrt{1 - x^2}/2 + \arcsin(x)/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q78. $dx/\sqrt{(x^2+1)}$ **Simplified antiderivative:** $\operatorname{arsinh}(x) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q79. $\sqrt{(x^2-1)} dx$ **Simplified antiderivative:** $x\sqrt{x^2 - 1}/2 - \log(x + \sqrt{x^2 - 1})/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q80. $\sin^1 x \cos^4 x dx$ **Simplified antiderivative:** $-\cos(x)^{5/5} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q81. $\tan^1 x \sec^4 x dx$ **Simplified antiderivative:** $1/(4\cos(x)^4) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q82. $\sin(2x)\cos(-1x) dx$ **Simplified antiderivative:** $-2\cos(x)^{3/3} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q83. $\sin^2 x \cos^5 x dx$

Simplified antiderivative: $(15\sin(x)^4 - 42\sin(x)^2 + 35)\sin(x)^3/105 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q84. $\tan^2 x \sec^5 x \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q85. $\sin(3x)\cos(2x) \, dx$

Simplified antiderivative: $-\cos(x)/2 - \cos(5x)/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q86. $\sin^3 x \cos^6 x \, dx$

Simplified antiderivative: $\cos(x)^9/9 - \cos(x)^7/7 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q87. $\tan^3 x \sec^6 x \, dx$

Simplified antiderivative: $(3 - 4\cos(x)^2)/(24\cos(x)^8) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q88. $\sin(4x)\cos(5x) \, dx$

Simplified antiderivative: $5\sin(4x)\sin(5x)/9 + 4\cos(4x)\cos(5x)/9 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q89. $\sin^4 x \cos^7 x \, dx$

Simplified antiderivative: $(-105\sin(x)^6 + 385\sin(x)^4 - 495\sin(x)^2 + 231)\sin(x)^5/1155 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q90. $\tan^4 x \sec^7 x \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q91. $\sin(5x)\cos(-5x) \, dx$

Simplified antiderivative: $\sin(5x)^2/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q92. $\sin^5 x \cos^8 x \, dx$

Simplified antiderivative: $-(99\sin(x)^4 + 36\sin(x)^2 + 8)\cos(x)^9/1287 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q93. $\tan^5 x \sec^8 x \, dx$

Simplified antiderivative: $(15\cos(x)^4 - 24\cos(x)^2 + 10)/(120\cos(x)^{12}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q94. $\sin(6x)\cos(-2x) \, dx$

Simplified antiderivative: $-\cos(4x)/8 - \cos(8x)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q95. $\sin^1 x \cos^9 x \, dx$

Simplified antiderivative: $-\cos(x)^{10}/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q96. $\tan^1 x \sec^9 x \, dx$

Simplified antiderivative: $1/(9\cos(x)^9) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q97. $\sin(7x)\cos(1x) \, dx$

Simplified antiderivative: $-\cos(6x)/12 - \cos(8x)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q98. $\sin^2 x \cos^2 x \, dx$

Simplified antiderivative: $x/8 - \sin(4x)/32 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q99. $\tan^2 x \sec^2 x \, dx$

Simplified antiderivative: $\tan(x)^{3/3} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q100. $\sin(8x)\cos(4x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q101. $\sin^3 x \cos^3 x \, dx$

Simplified antiderivative: $(\cos(2x) + 2)\sin(x)^{4/12} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q102. $\tan^3 x \sec^3 x \, dx$

Simplified antiderivative: $(3 - 5\cos(x)^2)/(15\cos(x)^5) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q103. $\sin(9x)\cos(7x) \, dx$

Simplified antiderivative: $-\cos(2x)/4 - \cos(16x)/32 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q104. $\sin^4 x \cos^4 x \, dx$

Simplified antiderivative: $3x/128 - \sin(2x)^3 \cos(2x)/128 - 3\sin(4x)/512 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q105. $\tan^4 x \sec^4 x \, dx$

Simplified antiderivative: $\sin(x)^5/(7\cos(x)^7) + 2\tan(x)^5/35 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q106. $\sin(x)\cos(-3x) \, dx$

Simplified antiderivative: $\cos(2x)/4 - \cos(4x)/8 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q107. $\sin^5 x \cos^5 x \, dx$

Simplified antiderivative: $\sin(x)^{10/10} - \sin(x)^{8/4} + \sin(x)^{6/6} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q108. $\tan^5 x \sec^5 x \, dx$

Simplified antiderivative: $(63\cos(x)^4 - 90\cos(x)^2 + 35)/(315\cos(x)^9) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q109. $\sin(2x)\cos(0x) \, dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q110. $\sin^1 x \cos^6 x \, dx$

Simplified antiderivative: $-\cos(x)^{7/7} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q111. $\tan^1 x \sec^6 x \, dx$

Simplified antiderivative: $1/(6*\cos(x)**6) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q112. $\sin(3x)\cos(3x) dx$

Simplified antiderivative: $\sin(3*x)**2/6 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q113. $\sin^2x \cos^7x dx$

Simplified antiderivative: $(-35*\sin(x)**6 + 135*\sin(x)**4 - 189*\sin(x)**2 + 105)*\sin(x)**3/315 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q114. $\tan^2x \sec^7x dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q115. $\sin(4x)\cos(6x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q116. $\sin^3x \cos^8x dx$

Simplified antiderivative: $\cos(x)**11/11 - \cos(x)**9/9 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q117. $\tan^3x \sec^8x dx$

Simplified antiderivative: $(4 - 5*\cos(x)**2)/(40*\cos(x)**10) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q118. $\sin(5x)\cos(-4x) dx$

Simplified antiderivative: $-4*\sin(4*x)*\sin(5*x)/9 - 5*\cos(4*x)*\cos(5*x)/9 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q119. $\sin^4x \cos^9x dx$

Simplified antiderivative: $(1155*\sin(x)**8 - 5460*\sin(x)**6 + 10010*\sin(x)**4 - 8580*\sin(x)**2 + 3003)*\sin(x)**5/15015 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q120. $\tan^4x \sec^9x dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q121. $\sin(6x)\cos(-1x) dx$

Simplified antiderivative: $-\cos(5*x)/10 - \cos(7*x)/14 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q122. $\sin^5x \cos^2x dx$

Simplified antiderivative: $-(15*\sin(x)**4 + 12*\sin(x)**2 + 8)*\cos(x)**3/105 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q123. $\tan^5x \sec^2x dx$

Simplified antiderivative: $(3*\cos(x)**4 - 3*\cos(x)**2 + 1)/(6*\cos(x)**6) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q124. $\sin(7x)\cos(2x) dx$

Simplified antiderivative: $-\cos(5*x)/10 - \cos(9*x)/18 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q125. $\sin^1x \cos^3x dx$

Simplified antiderivative: $-\cos(x)**4/4 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q126. $\tan^1 x \sec^3 x \, dx$ **Simplified antiderivative:** $1/(3\cos(x)^3) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q127. $\sin(8x)\cos(5x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q128. $\sin^2 x \cos^4 x \, dx$ **Simplified antiderivative:** $x/16 - (\cos(2x) + 1)^2 \sin(2x)/48 + \sin(2x)/24 + \sin(4x)/192 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q129. $\tan^2 x \sec^4 x \, dx$ **Simplified antiderivative:** $\sin(x)^3/(3\cos(x)^5) - 2\tan(x)^5/15 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q130. $\sin(9x)\cos(-5x) \, dx$ **Simplified antiderivative:** $-\cos(4x)/8 - \cos(14x)/28 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q131. $\sin^3 x \cos^5 x \, dx$ **Simplified antiderivative:** $\cos(x)^{8/8} - \cos(x)^{6/6} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q132. $\tan^3 x \sec^5 x \, dx$ **Simplified antiderivative:** $(5 - 7\cos(x)^2)/(35\cos(x)^7) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q133. $\sin(1x)\cos(-2x) \, dx$ **Simplified antiderivative:** $-2\cos(x)^{3/3} + \cos(x) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q134. $\sin^4 x \cos^6 x \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q135. $\tan^4 x \sec^6 x \, dx$ **Simplified antiderivative:** $(8\sin(x)^4 - 36\sin(x)^2 + 63)\sin(x)^5/(315\cos(x)^9) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q136. $\sin(2x)\cos(1x) \, dx$ **Simplified antiderivative:** $-2\cos(x)^{3/3} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q137. $\sin^5 x \cos^7 x \, dx$ **Simplified antiderivative:** $-(10\sin(x)^4 + 4\sin(x)^2 + 1)\cos(x)^{8/120} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q138. $\tan^5 x \sec^7 x \, dx$ **Simplified antiderivative:** $(99\cos(x)^4 - 154\cos(x)^2 + 63)/(693\cos(x)^{11}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q139. $\sin(3x)\cos(4x) \, dx$ **Simplified antiderivative:** $4\sin(3x)\sin(4x)/7 + 3\cos(3x)\cos(4x)/7 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q140. $\sin^1 x \cos^8 x \, dx$ **Simplified antiderivative:** $-\cos(x)^{9/9} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q141. $\tan^1 x \sec^8 x \, dx$ **Simplified antiderivative:** $1/(8*\cos(x)^{**8}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q142. $\sin(4x)\cos(7x) \, dx$ **Simplified antiderivative:** $7*\sin(4*x)*\sin(7*x)/33 + 4*\cos(4*x)*\cos(7*x)/33 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q143. $\sin^2 x \cos^9 x \, dx$ **Simplified antiderivative:** $(315*\sin(x)^{**8} - 1540*\sin(x)^{**6} + 2970*\sin(x)^{**4} - 2772*\sin(x)^{**2} + 1155)*\sin(x)^{**3}/3465 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q144. $\tan^2 x \sec^9 x \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q145. $\sin(5x)\cos(-3x) \, dx$** **Simplified antiderivative:** $-\cos(2*x)/4 - \cos(8*x)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q146. $\sin^3 x \cos^2 x \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q147. $\tan^3 x \sec^2 x \, dx$** **Simplified antiderivative:** $-\cos(2*x)/(4*\cos(x)^{**4}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q148. $\sin(6x)\cos(0x) \, dx$ **Solution status:** This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.**Q149. $\sin^4 x \cos^3 x \, dx$** **Simplified antiderivative:** $-\sin(x)^{**7}/7 + \sin(x)^{**5}/5 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q150. $\tan^4 x \sec^3 x \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q151. $\sin(7x)\cos(3x) \, dx$** **Simplified antiderivative:** $-\cos(4*x)/8 - \cos(10*x)/20 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q152. $\sin^5 x \cos^4 x \, dx$ **Simplified antiderivative:** $-(35*\sin(x)^{**4} + 20*\sin(x)^{**2} + 8)*\cos(x)^{**5}/315 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q153. $\tan^5 x \sec^4 x \, dx$ **Simplified antiderivative:** $(6*\cos(x)^{**4} - 8*\cos(x)^{**2} + 3)/(24*\cos(x)^{**8}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q154. $\sin(8x)\cos(6x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q155. $\sin^1 x \cos^5 x \, dx$**

Simplified antiderivative: $-\cos(x)^{6/6} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q156. $\tan^1 x \sec^5 x \, dx$

Simplified antiderivative: $1/(5 \cos(x)^5) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q157. $\sin(9x)\cos(-4x) \, dx$

Simplified antiderivative: $-4 \sin(4x) \sin(9x)/65 - 9 \cos(4x) \cos(9x)/65 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q158. $\sin^2 x \cos^6 x \, dx$

Simplified antiderivative: $5x/128 + (1 - \cos(2x))^{3/2} \sin(2x)/128 - 17(1 - \cos(2x))^{5/2} \sin(2x)/384 + 11 \sin(2x)/192 - 59 \sin(4x)/1536 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q159. $\tan^2 x \sec^6 x \, dx$

Simplified antiderivative: $(8 \sin(x)^4 - 28 \sin(x)^2 + 35) \sin(x)^3 / (105 \cos(x)^7) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q160. $\sin(1x)\cos(-1x) \, dx$

Simplified antiderivative: $\sin(x)^{2/2} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q161. $\sin^3 x \cos^7 x \, dx$

Simplified antiderivative: $\cos(x)^{10/10} - \cos(x)^{8/8} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q162. $\tan^3 x \sec^7 x \, dx$

Simplified antiderivative: $(7 - 9 \cos(x)^2) / (63 \cos(x)^9) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q163. $\sin(2x)\cos(2x) \, dx$

Simplified antiderivative: $\sin(2x)^{2/4} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q164. $\sin^4 x \cos^8 x \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q165. $\tan^4 x \sec^8 x \, dx$

Simplified antiderivative: $(40 \sin(x)^4 - 150 \sin(x)^2 + 16 \cos(x)^6 + 215) \sin(x)^5 / (1155 \cos(x)^{11}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q166. $\sin(3x)\cos(5x) \, dx$

Simplified antiderivative: $\cos(2x)/4 - \cos(8x)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q167. $\sin^5 x \cos^9 x \, dx$

Simplified antiderivative: $-(15 \sin(x)^4 + 5 \sin(x)^2 + 1) \cos(x)^{10/210} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q168. $\tan^5 x \sec^9 x \, dx$

Simplified antiderivative: $(143 \cos(x)^4 - 234 \cos(x)^2 + 99) / (1287 \cos(x)^{13}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q169. $\sin(4x)\cos(-5x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q170. $\sin^1x \cos^2x dx$

Simplified antiderivative: $-\cos(x)^{2/3} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q171. $\tan^1x \sec^2x dx$

Simplified antiderivative: $1/(2*\cos(x)^{**2}) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q172. $\sin(5x)\cos(-2x) dx$

Simplified antiderivative: $-\cos(3*x)/6 - \cos(7*x)/14 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q173. $\sin(6x)\cos(1x) dx$

Simplified antiderivative: $-\cos(5*x)/10 - \cos(7*x)/14 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q174. $\sin(7x)\cos(4x) dx$

Simplified antiderivative: $-4*\sin(4*x)*\sin(7*x)/33 - 7*\cos(4*x)*\cos(7*x)/33 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q175. $\sin(8x)\cos(7x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q176. $\sin(9x)\cos(-3x) dx$

Simplified antiderivative: $-\cos(6*x)/12 - \cos(12*x)/24 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q177. $\sin(1x)\cos(0x) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q178. $\sin(3x)\cos(6x) dx$

Simplified antiderivative: $\cos(3*x)/6 - \cos(9*x)/18 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q179. $\sin(4x)\cos(-4x) dx$

Simplified antiderivative: $\sin(4*x)^{**2}/8 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q180. $\sin(5x)\cos(-1x) dx$

Simplified antiderivative: $-\cos(4*x)/8 - \cos(6*x)/12 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q181. $\sin(6x)\cos(2x) dx$

Simplified antiderivative: $-\cos(4*x)/8 - \cos(8*x)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q182. $\sin(7x)\cos(5x) dx$

Simplified antiderivative: $-\cos(2*x)/4 - \cos(12*x)/24 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q183. $\sin(8x)\cos(-5x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q184. $\sin(9x)\cos(-2x) dx$ **Simplified antiderivative:** $-\cos(7x)/14 - \cos(11x)/22 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q185. $\sin(1x)\cos(1x) dx$ **Simplified antiderivative:** $\sin(x)^2/2 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q186. $\sin(2x)\cos(4x) dx$ **Simplified antiderivative:** $8\sin(x)^6/3 - 4\sin(x)^4 + \sin(x)^2 + 1/6 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q187. $\sin(3x)\cos(7x) dx$ **Simplified antiderivative:** $\cos(4x)/8 - \cos(10x)/20 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q188. $\sin(4x)\cos(-3x) dx$ **Simplified antiderivative:** $-3\sin(3x)\sin(4x)/7 - 4\cos(3x)\cos(4x)/7 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q189. $\sin(5x)\cos(0x) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q190. $\sin(6x)\cos(3x) dx$ **Simplified antiderivative:** $-2\cos(3x)^3/9 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q191. $\sin(7x)\cos(6x) dx$ **Simplified antiderivative:** $-\cos(x)/2 - \cos(13x)/26 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q192. $\sin(8x)\cos(-4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q193. $\sin(9x)\cos(-1x) dx$ **Simplified antiderivative:** $-\cos(8x)/16 - \cos(10x)/20 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q194. $\sin(1x)\cos(2x) dx$ **Simplified antiderivative:** $-2\cos(x)^3/3 + \cos(x) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q195. $\sin(2x)\cos(5x) dx$ **Simplified antiderivative:** $\cos(3x)/6 - \cos(7x)/14 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q196. $\sin(3x)\cos(-5x) dx$ **Simplified antiderivative:** $\cos(2x)/4 - \cos(8x)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q197. $\sin(4x)\cos(-2x) dx$ **Simplified antiderivative:** $(2\sin(x)^2 - 1)^3/3 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q198. $\sin(5x)\cos(1x) \, dx$ **Simplified antiderivative:** $-\cos(4x)/8 - \cos(6x)/12 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q199. $\sin(6x)\cos(4x) \, dx$ **Simplified antiderivative:** $-\sin(4x)\sin(6x)/5 - 3\cos(4x)\cos(6x)/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q200. $\sin(7x)\cos(7x) \, dx$ **Simplified antiderivative:** $\sin(7x)^2/14 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q201. $\sin(8x)\cos(-3x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q202. $\sin(9x)\cos(0x) \, dx$** **Solution status:** This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.**Q203. $\sin(1x)\cos(3x) \, dx$** **Simplified antiderivative:** $\cos(2x)/4 - \cos(4x)/8 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q204. $\sin(2x)\cos(6x) \, dx$ **Simplified antiderivative:** $\cos(4x)/8 - \cos(8x)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q205. $\sin(3x)\cos(-4x) \, dx$ **Simplified antiderivative:** $4\sin(3x)\sin(4x)/7 + 3\cos(3x)\cos(4x)/7 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q206. $\sin(4x)\cos(-1x) \, dx$ **Simplified antiderivative:** $-\cos(3x)/6 - \cos(5x)/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q207. $\sin(5x)\cos(2x) \, dx$ **Simplified antiderivative:** $-\cos(3x)/6 - \cos(7x)/14 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q208. $\sin(6x)\cos(5x) \, dx$ **Simplified antiderivative:** $-\cos(x)/2 - \cos(11x)/22 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q209. $\sin(7x)\cos(-5x) \, dx$ **Simplified antiderivative:** $-\cos(2x)/4 - \cos(12x)/24 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q210. $\sin(8x)\cos(-2x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q211. $\sin(9x)\cos(1x) \, dx$** **Simplified antiderivative:** $-\cos(8x)/16 - \cos(10x)/20 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q212. $\sin(1x)\cos(4x) \, dx$ **Simplified antiderivative:** $-8\cos(x)^{5/5} + 8\cos(x)^{3/3} - \cos(x) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q213. $\sin(2x)\cos(7x) \, dx$

Simplified antiderivative: $\cos(5x)/10 - \cos(9x)/18 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q214. $\sin(3x)\cos(-3x) \, dx$

Simplified antiderivative: $\sin(3x)^2/6 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q215. $\sin(4x)\cos(0x) \, dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q216. $\sin(5x)\cos(3x) \, dx$

Simplified antiderivative: $-\cos(2x)/4 - \cos(8x)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q217. $\sin(6x)\cos(6x) \, dx$

Simplified antiderivative: $\sin(6x)^2/12 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q218. $\sin(7x)\cos(-4x) \, dx$

Simplified antiderivative: $-4\sin(4x)\sin(7x)/33 - 7\cos(4x)\cos(7x)/33 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q219. $\sin(8x)\cos(-1x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q220. $\sin(9x)\cos(2x) \, dx$

Simplified antiderivative: $-\cos(7x)/14 - \cos(11x)/22 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q221. $\sin(1x)\cos(5x) \, dx$

Simplified antiderivative: $\cos(4x)/8 - \cos(6x)/12 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q222. $\sin(2x)\cos(-5x) \, dx$

Simplified antiderivative: $\cos(3x)/6 - \cos(7x)/14 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q223. $\sin(3x)\cos(-2x) \, dx$

Simplified antiderivative: $-\cos(x)/2 - \cos(5x)/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q224. $\sin(4x)\cos(1x) \, dx$

Simplified antiderivative: $-\cos(3x)/6 - \cos(5x)/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q225. $\sin(5x)\cos(4x) \, dx$

Simplified antiderivative: $-4\sin(4x)\sin(5x)/9 - 5\cos(4x)\cos(5x)/9 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q226. $\sin(6x)\cos(7x) \, dx$

Simplified antiderivative: $\cos(x)/2 - \cos(13x)/26 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q227. $\sin(7x)\cos(-3x) \, dx$

Simplified antiderivative: $-\cos(4x)/8 - \cos(10x)/20 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q228. $\sin(8x)\cos(0x) \, dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q229. $\sin(9x)\cos(3x) \, dx$

Simplified antiderivative: $-\cos(6x)/12 - \cos(12x)/24 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q230. $\sin(1x)\cos(6x) \, dx$

Simplified antiderivative: $\cos(5x)/10 - \cos(7x)/14 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q231. $\sin(2x)\cos(-4x) \, dx$

Simplified antiderivative: $8\sin(x)^6/3 - 4\sin(x)^4 + \sin(x)^2 + 1/6 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q232. $\sin(3x)\cos(-1x) \, dx$

Simplified antiderivative: $-\cos(2x)/4 - \cos(4x)/8 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q233. $\sin(4x)\cos(2x) \, dx$

Simplified antiderivative: $(2\sin(x)^2 - 1)^{3/3} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q234. $\sin(5x)\cos(5x) \, dx$

Simplified antiderivative: $\sin(5x)^2/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q235. $\sin(6x)\cos(-5x) \, dx$

Simplified antiderivative: $-\cos(x)/2 - \cos(11x)/22 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q236. $\sin(7x)\cos(-2x) \, dx$

Simplified antiderivative: $-\cos(5x)/10 - \cos(9x)/18 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q237. $\sin(8x)\cos(1x) \, dx$

Simplified antiderivative: $-\sin(x)\sin(8x)/63 - 8\cos(x)\cos(8x)/63 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q238. $\sin(9x)\cos(4x) \, dx$

Simplified antiderivative: $-4\sin(4x)\sin(9x)/65 - 9\cos(4x)\cos(9x)/65 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q239. $\sin(1x)\cos(7x) \, dx$

Simplified antiderivative: $\cos(6x)/12 - \cos(8x)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q240. $\sin(2x)\cos(-3x) \, dx$

Simplified antiderivative: $\cos(x)/2 - \cos(5x)/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q241. $\sin(3x)\cos(0x) dx$

Solution status: This is a general template or the source notation could not be parsed. Replace any parameters/placeholders with a concrete expression.

Q242. $\sin(4x)\cos(3x) dx$

Simplified antiderivative: $-3\sin(3x)\sin(4x)/7 - 4\cos(3x)\cos(4x)/7 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q243. $\sin(5x)\cos(6x) dx$

Simplified antiderivative: $\cos(x)/2 - \cos(11x)/22 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q244. $\sin(6x)\cos(-4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q245. $\sin(7x)\cos(-1x) dx$

Simplified antiderivative: $-\cos(6x)/12 - \cos(8x)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q246. $\sin(8x)\cos(2x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q247. $\sin(9x)\cos(5x) dx$

Simplified antiderivative: $-\cos(4x)/8 - \cos(14x)/28 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q248. $\sin(1x)\cos(-5x) dx$

Simplified antiderivative: $\cos(4x)/8 - \cos(6x)/12 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q249. $\sin^2(2x) \cos^2(12x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q250. $\tan^2(2x) \sec^2(12x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q251. $dx/\sqrt{4-144x^2}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q252. $\sqrt{4-144x^2} dx$

Simplified antiderivative: $x\sqrt{1-36x^2} + \arcsin(6x)/6 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q253. $dx/\sqrt{144x^2+4}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q254. $\sqrt{144x^2-4} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q255. $\sin(2x) \sin(12x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q256. $\cos^2(2x) dx$

Simplified antiderivative: $x/2 + \sin(4x)/8 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q257. $\sin^3(3x) \cos^2(23x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q258. $\tan^3(3x) \sec^2(23x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q259. $dx/\sqrt{9-529x^2}$

Simplified antiderivative: $\arcsin(23x/3)/23 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q260. $\sqrt{9-529x^2} dx$

Simplified antiderivative: $x\sqrt{9 - 529x^2}/2 + 9\arcsin(23x/3)/46 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q261. $dx/\sqrt{529x^2+9}$

Simplified antiderivative: $\operatorname{asinh}(23x/3)/23 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q262. $\sqrt{529x^2-9} dx$

Simplified antiderivative: $x\sqrt{529x^2 - 9}/2 - 9\log(23x + \sqrt{529x^2 - 9})/46 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q263. $\sin(3x) \sin(23x) dx$

Simplified antiderivative: $\sin(20x)/40 - \sin(26x)/52 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q264. $\cos^3(3x) dx$

Simplified antiderivative: $(\cos(3x))^2 + 2\sin(3x)/9 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q265. $\sin^4(4x) \cos^3(34x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q266. $\tan^4(4x) \sec^3(34x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q267. $dx/\sqrt{16-1156x^2}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q268. $\sqrt{16-1156x^2} dx$

Simplified antiderivative: $x\sqrt{4 - 289x^2} + 4\arcsin(17x/2)/17 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q269. $dx/\sqrt{1156x^2+16}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q270. $\sqrt{1156x^2-16} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q271. $\sin(4x) \sin(34x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q272. $\cos^4(4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q273. $\sin^5(5x) \cos^3(4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q274. $\tan^5(5x) \sec^3(4x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q275. $dx/\sqrt{25-16x^2}$

Simplified antiderivative: $\arcsin(4x/5)/4 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q276. $\sqrt{(25-16x^2)} \, dx$

Simplified antiderivative: $x\sqrt{(25 - 16x^2)}/2 + 25\arcsin(4x/5)/8 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q277. $dx/\sqrt{(16x^2+25)}$

Simplified antiderivative: $\operatorname{asinh}(4x/5)/4 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q278. $\sqrt{(16x^2-25)} \, dx$

Simplified antiderivative: $x\sqrt{(16x^2 - 25)}/2 - 25\log(4x + \sqrt{(16x^2 - 25)})/8 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q279. $\sin(5x) \sin(4x) \, dx$

Simplified antiderivative: $-5\sin(4x)\cos(5x)/9 + 4\sin(5x)\cos(4x)/9 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q280. $\cos^5(5x) \, dx$

Simplified antiderivative: $(3\sin(5x)^4 - 10\sin(5x)^2 + 15)\sin(5x)/75 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q281. $\sin^6(6x) \cos^3(15x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q282. $\tan^6(6x) \sec^3(15x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q283. $dx/\sqrt{(36-225x^2)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q284. $\sqrt{(36-225x^2)} \, dx$

Simplified antiderivative: $3x\sqrt{(4 - 25x^2)}/2 + 6\arcsin(5x/2)/5 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q285. $dx/\sqrt{(225x^2+36)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q286. $\sqrt{(225x^2-36)} \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q287. $\sin(6x) \sin(15x) \, dx$

Simplified antiderivative: $\sin(9x)/18 - \sin(21x)/42 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q288. $\cos^6(6x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q289. $\sin^1(7x) \cos^4(26x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q290. $\tan^1(7x) \sec^4(26x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q291. $dx/\sqrt{(49-676x^2)}$

Simplified antiderivative: $\arcsin(26x/7)/26 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q292. $\sqrt{49-676x^2} \, dx$ **Simplified antiderivative:** $x\sqrt{49 - 676x^2}/2 + 49\operatorname{asin}(26x/7)/52 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q293. $dx/\sqrt{676x^2+49}$ **Simplified antiderivative:** $\operatorname{asinh}(26x/7)/26 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q294. $\sqrt{676x^2-49} \, dx$ **Simplified antiderivative:** $x\sqrt{676x^2 - 49}/2 - 49\log(26x + \sqrt{676x^2 - 49})/52 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q295. $\sin(7x) \sin(26x) \, dx$ **Simplified antiderivative:** $\sin(19x)/38 - \sin(33x)/66 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q296. $\cos^1(7x) \, dx$ **Simplified antiderivative:** $\sin(7x)/7 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q297. $\sin^2(8x) \cos^4(37x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q298. $\tan^2(8x) \sec^4(37x) \, dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q299. $dx/\sqrt{64-1369x^2}$** **Simplified antiderivative:** $\operatorname{asin}(37x/8)/37 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q300. $\sqrt{64-1369x^2} \, dx$ **Simplified antiderivative:** $x\sqrt{64 - 1369x^2}/2 + 32\operatorname{asin}(37x/8)/37 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q301. $dx/\sqrt{1369x^2+64}$ **Simplified antiderivative:** $\operatorname{asinh}(37x/8)/37 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q302. $\sqrt{1369x^2-64} \, dx$ **Simplified antiderivative:** $x\sqrt{1369x^2 - 64}/2 - 32\log(37x + \sqrt{1369x^2 - 64})/37 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q303. $\sin(8x) \sin(37x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q304. $\cos^2(8x) \, dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q305. $\sin^3(9x) \cos^4(7x) \, dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q306. $\tan^3(9x) \sec^4(7x) \, dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q307. $dx/\sqrt{81-49x^2}$** **Simplified antiderivative:** $\operatorname{asin}(7x/9)/7 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q308. $\sqrt{(81-49x^2)} \, dx$

Simplified antiderivative: $x\sqrt{(81 - 49x^2)}/2 + 81\operatorname{asin}(7x/9)/14 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q309. $dx/\sqrt{(49x^2+81)}$

Simplified antiderivative: $\operatorname{asinh}(7x/9)/7 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q310. $\sqrt{(49x^2-81)} \, dx$

Simplified antiderivative: $x\sqrt{(49x^2 - 81)}/2 - 81\log(7x + \sqrt{(49x^2 - 81)})/14 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q311. $\sin(9x) \sin(7x) \, dx$

Simplified antiderivative: $\sin(2x)/4 - \sin(16x)/32 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q312. $\cos^3(9x) \, dx$

Simplified antiderivative: $(\cos(9x))^2 + 2\sin(9x)/27 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q313. $\sin^4(10x) \cos^5(18x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q314. $\tan^4(10x) \sec^5(18x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q315. $dx/\sqrt{(100-324x^2)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q316. $\sqrt{(100-324x^2)} \, dx$

Simplified antiderivative: $x\sqrt{(25 - 81x^2)} + 25\operatorname{asin}(9x/5)/9 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q317. $dx/\sqrt{(324x^2+100)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q318. $\sqrt{(324x^2-100)} \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q319. $\sin(10x) \sin(18x) \, dx$

Simplified antiderivative: $\sin(8x)/16 - \sin(28x)/56 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q320. $\cos^4(10x) \, dx$

Simplified antiderivative: $3x/8 + \sin(10x)\cos(10x)^2/40 + 3\sin(20x)/160 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q321. $\sin^5(11x) \cos^5(29x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q322. $\tan^5(11x) \sec^5(29x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q323. $dx/\sqrt{(121-841x^2)}$

Simplified antiderivative: $\operatorname{asin}(29x/11)/29 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q324. $\sqrt{(121-841x^2)} \, dx$

Simplified antiderivative: $x\sqrt{(121 - 841x^2)}/2 + 121\operatorname{asin}(29x/11)/58 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q325. $dx/\sqrt{(841x^2+121)}$

Simplified antiderivative: $\operatorname{asinh}(29x/11)/29 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q326. $\sqrt{(841x^2-121)} \, dx$

Simplified antiderivative: $x\sqrt{(841x^2 - 121)}/2 - 121\log(29x + \sqrt{(841x^2 - 121)})/58 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q327. $\sin(11x) \sin(29x) \, dx$

Simplified antiderivative: $\sin(18x)/36 - \sin(40x)/80 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q328. $\cos^5(11x) \, dx$

Simplified antiderivative: $(3\sin(11x)^4 - 10\sin(11x)^2 + 15)\sin(11x)/165 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q329. $\sin^6(12x) \cos^5(40x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q330. $\tan^6(12x) \sec^5(40x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q331. $dx/\sqrt{(144-1600x^2)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q332. $\sqrt{(144-1600x^2)} \, dx$

Simplified antiderivative: $2x\sqrt{(9 - 100x^2)} + 9\operatorname{asin}(10x/3)/5 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q333. $dx/\sqrt{(1600x^2+144)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q334. $\sqrt{(1600x^2-144)} \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q335. $\sin(12x) \sin(40x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q336. $\cos^6(12x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q337. $\sin^1(13x) \cos^6(10x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q338. $\tan^1(13x) \sec^6(10x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q339. $dx/\sqrt{(169-100x^2)}$

Simplified antiderivative: $\operatorname{asin}(10x/13)/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q340. $\sqrt{(169-100x^2)} \, dx$

Simplified antiderivative: $x\sqrt{(169 - 100x^2)}/2 + 169\operatorname{asin}(10x/13)/20 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q341. $dx/\sqrt{100x^2+169}$ **Simplified antiderivative:** $\operatorname{asin}(10x/13)/10 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q342. $\sqrt{100x^2-169} \, dx$ **Simplified antiderivative:** $x\sqrt{100x^2-169}/2 - 169\log(10x + \sqrt{100x^2-169})/20 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q343. $\sin(13x) \sin(10x) \, dx$ **Simplified antiderivative:** $\sin(3x)/6 - \sin(23x)/46 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q344. $\cos^1(13x) \, dx$ **Simplified antiderivative:** $\sin(13x)/13 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q345. $\sin^2(14x) \cos^6(21x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q346. $\tan^2(14x) \sec^6(21x) \, dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q347. $dx/\sqrt{196-441x^2}$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q348. $\sqrt{196-441x^2} \, dx$** **Simplified antiderivative:** $7x\sqrt{4-9x^2}/2 + 14\operatorname{asin}(3x/2)/3 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q349. $dx/\sqrt{441x^2+196}$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q350. $\sqrt{441x^2-196} \, dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q351. $\sin(14x) \sin(21x) \, dx$** **Simplified antiderivative:** $\sin(7x)/14 - \sin(35x)/70 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q352. $\cos^2(14x) \, dx$ **Simplified antiderivative:** $x/2 + \sin(28x)/56 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q353. $\sin^3(15x) \cos^6(32x) \, dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q354. $\tan^3(15x) \sec^6(32x) \, dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q355. $dx/\sqrt{225-1024x^2}$** **Simplified antiderivative:** $\operatorname{asin}(32x/15)/32 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q356. $\sqrt{225-1024x^2} \, dx$ **Simplified antiderivative:** $x\sqrt{225-1024x^2}/2 + 225\operatorname{asin}(32x/15)/64 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q357. $dx/\sqrt{1024x^2+225}$

Simplified antiderivative: $\operatorname{asinh}(32x/15)/32 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q358. $\sqrt{(1024x^2-225)} dx$

Simplified antiderivative: $x\sqrt{(1024x^2 - 225)}/2 - 225\log(32x + \sqrt{(1024x^2 - 225)})/64 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q359. $\sin(15x) \sin(32x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q360. $\cos^3(15x) dx$

Simplified antiderivative: $(\cos(15x))^2 + 2) \sin(15x)/45 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q361. $\sin^4(16x) \cos^2(2x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q362. $\tan^4(16x) \sec^2(2x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q363. $dx/\sqrt{(256-4x^2)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q364. $\sqrt{(256-4x^2)} dx$

Simplified antiderivative: $x\sqrt{(64 - x^2)} + 64\operatorname{asin}(x/8) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q365. $dx/\sqrt{(4x^2+256)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q366. $\sqrt{(4x^2-256)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q367. $\sin(16x) \sin(2x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q368. $\cos^4(16x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q369. $\sin^5(17x) \cos^2(13x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q370. $\tan^5(17x) \sec^2(13x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q371. $dx/\sqrt{(289-169x^2)}$

Simplified antiderivative: $\operatorname{asin}(13x/17)/13 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q372. $\sqrt{(289-169x^2)} dx$

Simplified antiderivative: $x\sqrt{(289 - 169x^2)}/2 + 289\operatorname{asin}(13x/17)/26 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q373. $dx/\sqrt{(169x^2+289)}$

Simplified antiderivative: $\operatorname{asinh}(13x/17)/13 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q374. $\sqrt{(169x^2-289)} dx$

Simplified antiderivative: $x\sqrt{(169x^2 - 289)}/2 - 289\log(13x + \sqrt{(169x^2 - 289)})/26 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q375. $\sin(17x) \sin(13x) dx$ **Simplified antiderivative:** $\sin(4x)/8 - \sin(30x)/60 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q376. $\cos^5(17x) dx$ **Simplified antiderivative:** $(3\sin(17x)^4 - 10\sin(17x)^2 + 15)\sin(17x)/255 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q377. $\sin^6(18x) \cos^2(24x) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q378. $\tan^6(18x) \sec^2(24x) dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q379. $dx/\sqrt{324-576x^2}$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q380. $\sqrt{324-576x^2} dx$** **Simplified antiderivative:** $3x\sqrt{9-16x^2} + 27\arcsin(4x/3)/4 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q381. $dx/\sqrt{576x^2+324}$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q382. $\sqrt{576x^2-324} dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q383. $\sin(18x) \sin(24x) dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q384. $\cos^6(18x) dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q385. $\sin^{11}(19x) \cos^3(35x) dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q386. $\tan^{11}(19x) \sec^3(35x) dx$** **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q387. $dx/\sqrt{361-1225x^2}$** **Simplified antiderivative:** $\arcsin(35x/19)/35 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q388. $\sqrt{361-1225x^2} dx$ **Simplified antiderivative:** $x\sqrt{361-1225x^2}/2 + 361\arcsin(35x/19)/70 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q389. $dx/\sqrt{1225x^2+361}$ **Simplified antiderivative:** $\operatorname{asinh}(35x/19)/35 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q390. $\sqrt{1225x^2-361} dx$ **Simplified antiderivative:** $x\sqrt{1225x^2-361}/2 - 361\log(35x + \sqrt{1225x^2-361})/70 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q391. $\sin(19x) \sin(35x) dx$ **Solution status:** This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.**Q392. $\cos^{11}(19x) dx$** **Simplified antiderivative:** $\sin(19x)/19 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q393. $\sin^2(20x) \cos^3(5x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q394. $\tan^2(20x) \sec^3(5x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q395. $dx/\sqrt{(400-25x^2)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q396. $\sqrt{(400-25x^2)} dx$

Simplified antiderivative: $5x\sqrt{(16 - x^2)}/2 + 40\arcsin(x/4) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q397. $dx/\sqrt{(25x^2+400)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q398. $\sqrt{(25x^2-400)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q399. $\sin(20x) \sin(5x) dx$

Simplified antiderivative: $-8\sin(5x)^{5/25} + 4\sin(5x)^{3/15} + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q400. $\cos^2(20x) dx$

Simplified antiderivative: $x/2 + \sin(20x)\cos(20x)/40 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q401. $\sin^3(21x) \cos^3(16x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q402. $\tan^3(21x) \sec^3(16x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q403. $dx/\sqrt{(441-256x^2)}$

Simplified antiderivative: $\arcsin(16x/21)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q404. $\sqrt{(441-256x^2)} dx$

Simplified antiderivative: $x\sqrt{(441 - 256x^2)}/2 + 441\arcsin(16x/21)/32 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q405. $dx/\sqrt{(256x^2+441)}$

Simplified antiderivative: $\operatorname{asinh}(16x/21)/16 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q406. $\sqrt{(256x^2-441)} dx$

Simplified antiderivative: $x\sqrt{(256x^2 - 441)}/2 - 441\log(16x + \sqrt{(256x^2 - 441)})/32 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q407. $\sin(21x) \sin(16x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q408. $\cos^3(21x) dx$

Simplified antiderivative: $(\cos(21x)^2 + 2)\sin(21x)/63 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q409. $\sin^4(22x) \cos^4(27x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q410. $\tan^4(22x) \sec^4(27x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q411. $dx/\sqrt{(484-729x^2)}$

Simplified antiderivative: $\arcsin(27x/22)/27 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q412. $\sqrt{(484-729x^2)} dx$

Simplified antiderivative: $x\sqrt{484 - 729x^2}/2 + 242\arcsin(27x/22)/27 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q413. $dx/\sqrt{(729x^2+484)}$

Simplified antiderivative: $\operatorname{asinh}(27x/22)/27 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q414. $\sqrt{(729x^2-484)} dx$

Simplified antiderivative: $x\sqrt{729x^2 - 484}/2 - 242\log(27x + \sqrt{729x^2 - 484})/27 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q415. $\sin(22x) \sin(27x) dx$

Simplified antiderivative: $\sin(5x)/10 - \sin(49x)/98 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q416. $\cos^4(22x) dx$

Simplified antiderivative: $3x/8 + \sin(22x)\cos(22x)^3/88 + 3\sin(44x)/352 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q417. $\sin^5(23x) \cos^4(38x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q418. $\tan^5(23x) \sec^4(38x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q419. $dx/\sqrt{(529-1444x^2)}$

Simplified antiderivative: $\arcsin(38x/23)/38 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q420. $\sqrt{(529-1444x^2)} dx$

Simplified antiderivative: $x\sqrt{529 - 1444x^2}/2 + 529\arcsin(38x/23)/76 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q421. $dx/\sqrt{(1444x^2+529)}$

Simplified antiderivative: $\operatorname{asinh}(38x/23)/38 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q422. $\sqrt{(1444x^2-529)} dx$

Simplified antiderivative: $x\sqrt{1444x^2 - 529}/2 - 529\log(38x + \sqrt{1444x^2 - 529})/76 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q423. $\sin(23x) \sin(38x) dx$

Simplified antiderivative: $\sin(15x)/30 - \sin(61x)/122 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q424. $\cos^5(23x) dx$

Simplified antiderivative: $(3\sin(23x)^4 - 10\sin(23x)^2 + 15)\sin(23x)/345 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q425. $\sin^6(24x) \cos^4(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q426. $\tan^6(24x) \sec^4(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q427. $dx/\sqrt{(576-64x^2)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q428. $\sqrt{(576-64x^2)} dx$

Simplified antiderivative: $4x\sqrt{9 - x^2} + 36\arcsin(x/3) + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q429. $dx/\sqrt{(64x^2+576)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q430. $\sqrt{(64x^2-576)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q431. $\sin(24x) \sin(8x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q432. $\cos^6(24x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q433. $\sin^{1(25x)} \cos^5(19x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q434. $\tan^{1(25x)} \sec^5(19x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q435. $dx/\sqrt{(625-361x^2)}$

Simplified antiderivative: $\arcsin(19x/25)/19 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q436. $\sqrt{(625-361x^2)} dx$

Simplified antiderivative: $x\sqrt{625 - 361x^2}/2 + 625\arcsin(19x/25)/38 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q437. $dx/\sqrt{(361x^2+625)}$

Simplified antiderivative: $\operatorname{arsinh}(19x/25)/19 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q438. $\sqrt{(361x^2-625)} dx$

Simplified antiderivative: $x\sqrt{361x^2 - 625}/2 - 625\log(19x + \sqrt{361x^2 - 625})/38 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q439. $\sin(25x) \sin(19x) dx$

Simplified antiderivative: $\sin(6x)/12 - \sin(44x)/88 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q440. $\cos^{1(25x)} dx$

Simplified antiderivative: $\sin(25x)/25 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q441. $\sin^2(26x) \cos^5(30x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q442. $\tan^2(26x) \sec^5(30x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q443. $dx/\sqrt{676-900x^2}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q444. $\sqrt{676-900x^2} dx$

Simplified antiderivative: $x\sqrt{169 - 225x^2} + 169\operatorname{asin}(15x/13)/15 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q445. $dx/\sqrt{900x^2+676}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q446. $\sqrt{900x^2-676} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q447. $\sin(26x) \sin(30x) dx$

Simplified antiderivative: $\sin(4x)/8 - \sin(56x)/112 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q448. $\cos^2(26x) dx$

Simplified antiderivative: $x/2 + \sin(52x)/104 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q449. $\sin^3(27x) \cos^5(41x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q450. $\tan^3(27x) \sec^5(41x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q451. $dx/\sqrt{729-1681x^2}$

Simplified antiderivative: $\operatorname{asin}(41x/27)/41 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q452. $\sqrt{729-1681x^2} dx$

Simplified antiderivative: $x\sqrt{729 - 1681x^2}/2 + 729\operatorname{asin}(41x/27)/82 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q453. $dx/\sqrt{1681x^2+729}$

Simplified antiderivative: $\operatorname{asinh}(41x/27)/41 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q454. $\sqrt{1681x^2-729} dx$

Simplified antiderivative: $x\sqrt{1681x^2 - 729}/2 - 729\log(41x + \sqrt{1681x^2 - 729})/82 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q455. $\sin(27x) \sin(41x) dx$

Simplified antiderivative: $\sin(14x)/28 - \sin(68x)/136 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q456. $\cos^3(27x) dx$

Simplified antiderivative: $(\cos(27x))^2 + 2\sin(27x)/81 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q457. $\sin^4(28x) \cos^6(11x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q458. $\tan^4(28x) \sec^6(11x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q459. $dx/\sqrt{784-121x^2}$

Simplified antiderivative: $\text{asin}(11x/28)/11 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q460. $\sqrt[3]{784-121x^2} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q461. $dx/\sqrt{121x^2+784}$

Simplified antiderivative: $\text{asinh}(11x/28)/11 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q462. $\sqrt{121x^2-784} dx$

Simplified antiderivative: $x\sqrt{121x^2 - 784}/2 - 392\log(11x + \sqrt{121x^2 - 784})/11 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q463. $\sin(28x) \sin(11x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q464. $\cos^4(28x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q465. $\sin^5(29x) \cos^6(22x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q466. $\tan^5(29x) \sec^6(22x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q467. $dx/\sqrt{841-484x^2}$

Simplified antiderivative: $\text{asin}(22x/29)/22 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q468. $\sqrt[3]{841-484x^2} dx$

Simplified antiderivative: $x\sqrt{841 - 484x^2}/2 + 841\text{asin}(22x/29)/44 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q469. $dx/\sqrt{484x^2+841}$

Simplified antiderivative: $\text{asinh}(22x/29)/22 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q470. $\sqrt{484x^2-841} dx$

Simplified antiderivative: $x\sqrt{484x^2 - 841}/2 - 841\log(22x + \sqrt{484x^2 - 841})/44 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q471. $\sin(29x) \sin(22x) dx$

Simplified antiderivative: $\sin(7x)/14 - \sin(51x)/102 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q472. $\cos^5(29x) dx$

Simplified antiderivative: $(3\sin(29x)^4 - 10\sin(29x)^2 + 15)\sin(29x)/435 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q473. $\sin^6(30x) \cos^6(33x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q474. $\tan^6(30x) \sec^6(33x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q475. $dx/\sqrt{(900-1089x^2)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q476. $\sqrt{(900-1089x^2)} dx$

Simplified antiderivative: $3x\sqrt{100 - 121x^2}/2 + 150\arcsin(11x/10)/11 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q477. $dx/\sqrt{(1089x^2+900)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q478. $\sqrt{(1089x^2-900)} dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q479. $\sin(30x) \sin(33x) dx$

Simplified antiderivative: $\sin(3x)/6 - \sin(63x)/126 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q480. $\cos^6(30x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q481. $\sin^1(31x) \cos^2(3x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q482. $\tan^1(31x) \sec^2(3x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q483. $dx/\sqrt{(961-9x^2)}$

Simplified antiderivative: $\arcsin(3x/31)/3 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q484. $\sqrt{(961-9x^2)} dx$

Simplified antiderivative: $x\sqrt{961 - 9x^2}/2 + 961\arcsin(3x/31)/6 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q485. $dx/\sqrt{(9x^2+961)}$

Simplified antiderivative: $\operatorname{asinh}(3x/31)/3 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q486. $\sqrt{(9x^2-961)} dx$

Simplified antiderivative: $x\sqrt{9x^2 - 961}/2 - 961\log(3x + \sqrt{9x^2 - 961})/6 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q487. $\sin(31x) \sin(3x) dx$

Simplified antiderivative: $\sin(28x)/56 - \sin(34x)/68 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q488. $\cos^1(31x) dx$

Simplified antiderivative: $\sin(31x)/31 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q489. $\sin^2(32x) \cos^2(14x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q490. $\tan^2(32x) \sec^2(14x) dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q491. $dx/\sqrt{(1024-196x^2)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q492. $\sqrt{(1024-196x^2)} \, dx$

Simplified antiderivative: $x\sqrt{256 - 49x^2} + 256\operatorname{asin}(7x/16)/7 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q493. $dx/\sqrt{(196x^2+1024)}$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q494. $\sqrt{(196x^2-1024)} \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q495. $\sin(32x) \sin(14x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q496. $\cos^2(32x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q497. $\sin^3(33x) \cos^2(25x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q498. $\tan^3(33x) \sec^2(25x) \, dx$

Solution status: This expression took too long for the automatic solution pass. Enter it in the live calculator to try the full API engine.

Q499. $dx/\sqrt{(1089-625x^2)}$

Simplified antiderivative: $\operatorname{asin}(25x/33)/25 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Q500. $\sqrt{(1089-625x^2)} \, dx$

Simplified antiderivative: $x\sqrt{1089 - 625x^2}/2 + 1089\operatorname{asin}(25x/33)/50 + C$

Steps: 1) identify a suitable trigonometric identity or substitution; 2) rewrite the integrand in a standard form; 3) integrate, substitute back if needed, and verify. Apply the relevant integration rule, simplify the result, then differentiate to verify where defined.

Category 6: Improper Integrals

Improper-integral convergence and antiderivatives

Q1. $\int_0^{\infty} 1/x^2 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q2. $\int_0^{\infty} 1/x dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q3. $\int_0^{\infty} e^{-x} dx$

Evaluated improper integral (assuming lower limit 0): 1

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q4. $\int_0^{\infty} e^{-2x} dx$

Evaluated improper integral (assuming lower limit 0): 1/2

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q5. $\int_0^{\infty} x e^{-x} dx$

Evaluated improper integral (assuming lower limit 0): 1

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q6. $\int_0^{\infty} x^2 e^{-x} dx$

Evaluated improper integral (assuming lower limit 0): 2

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q7. $\int_0^1 1/\sqrt{x} dx$

Evaluated improper integral (assuming lower limit 0): $2\sqrt{x}$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q8. $\int_1^{\infty} 1/x dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q9. $\int_1^{\infty} \ln x dx$

Evaluated improper integral (assuming lower limit 0): -1

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q10. $\int_0^{\infty} 1/(1+x^2) dx$

Evaluated improper integral (assuming lower limit 0): $\pi/2$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q11. $\int_0^{\infty} 1/(1+x^2) dx$

Solution status: A mathematical exponent/symbol is unreadable in the supplied PDF. Please check the original question before solving. The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q12. $\int_0^{\infty} 1/x^p dx$ (discuss convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q13. $\int_0^{\infty} \sin x / x dx$

Evaluated improper integral (assuming lower limit 0): $\pi/2$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q14. $\int_0^1 1/(1-x) dx$

Evaluated improper integral (assuming lower limit 0): $\infty + i\pi$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q15. $\int_0^1 \frac{1}{1-x} dx$

Evaluated improper integral (assuming lower limit 0): 2

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q16. $\int_0^\infty \frac{x}{(1+x^2)^2} dx$

Evaluated improper integral (assuming lower limit 0): $\frac{1}{2}$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q17. $\int_0^\infty \frac{1}{(x^2+4)} dx$

Evaluated improper integral (assuming lower limit 0): $\frac{\pi}{4}$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q18. $\int_0^\infty e^{-ax} dx$ ($a > 0$)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q19. $\int_0^1 x^p(-p) dx$ (discuss convergence)

Evaluated improper integral (assuming lower limit 0): $\text{Piecewise}(-\frac{d}{p-2}, (p > 2) \mid (\frac{\infty \cdot d}{\text{Abs}(d)}, \text{True}))$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q20. $\int_0^\infty \frac{1}{(1+x)^p} dx$ (discuss convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q21. $\int_0^\infty \frac{1}{x^{1.5}} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q22. $\int_0^1 \frac{1}{x^{1.5}} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2 \cdot 0 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q23. $\int_0^\infty x^2 e^{-2x} dx$

Evaluated improper integral (assuming lower limit 0): $\frac{1}{4}$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q24. $\int_0^1 \frac{1}{(1-x)^{1.5}} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q25. $\int_0^\infty \frac{x^2}{(1+x)^3} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q26. $\int_0^\infty \frac{1}{x^{2.5}} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q27. $\int_0^1 \frac{1}{x^{2.5}} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q28. $\int_0^\infty x^3 e^{-3x} dx$

Evaluated improper integral (assuming lower limit 0): $\frac{2}{27}$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q29. $\int_0^\infty \frac{1}{(x^2+9)} dx$

Evaluated improper integral (assuming lower limit 0): $\pi/6$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q30. $\int_0^1 \frac{1}{1-x} x^{2.5} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q31. $\int_0^\infty e^{-3x} dx$

Evaluated improper integral (assuming lower limit 0): $1/3$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q32. $\int_0^\infty x^3/(1+x)^4 dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q33. $\int_0^\infty 1/x^{3.5} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q34. $\int_0^1 1/x^{3.5} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q35. $\int_0^\infty x^4 e^{-4x} dx$

Evaluated improper integral (assuming lower limit 0): $3/128$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q36. $\int_0^\infty 1/(x^2+16) dx$

Evaluated improper integral (assuming lower limit 0): $\pi/8$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q37. $\int_0^1 1/(1-x)^{3.5} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q38. $\int_0^\infty e^{-4x} dx$

Evaluated improper integral (assuming lower limit 0): $1/4$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q39. $\int_0^\infty x^4/(1+x)^5 dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q40. $\int_0^\infty 1/x^{4.5} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q41. $\int_0^1 1/x^{4.5} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q42. $\int_0^\infty x^5 e^{-5x} dx$

Evaluated improper integral (assuming lower limit 0): $24/3125$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q43. $\int_0^\infty 1/(x^2+25) dx$

Evaluated improper integral (assuming lower limit 0): $\pi/10$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q44. $\int_0^1 1/(1-x)^{4.5} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q45. $\int_{-\infty}^0 e^{-5x} dx$

Evaluated improper integral (assuming lower limit 0): 1/5

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q46. $\int_{-\infty}^0 x^5/(1+x)^6 dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q47. $\int_{-\infty}^0 1/x^{5.5} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q48. $\int_{-\infty}^0 1/x^{5.5} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q49. $\int_{-\infty}^0 x^{1e^{-6x}} dx$

Evaluated improper integral (assuming lower limit 0): 1/36

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q50. $\int_{-\infty}^0 1/(x^2+36) dx$

Evaluated improper integral (assuming lower limit 0): $\pi/12$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q51. $\int_{-\infty}^0 1/(1-x)^{5.5} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q52. $\int_{-\infty}^0 e^{-6x} dx$

Evaluated improper integral (assuming lower limit 0): 1/6

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q53. $\int_{-\infty}^0 x^{1/(1+x)^7} dx$

Evaluated improper integral (assuming lower limit 0): 1/30

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q54. $\int_{-\infty}^0 1/x^{6.5} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q55. $\int_{-\infty}^0 1/x^{6.5} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q56. $\int_{-\infty}^0 x^{2e^{-7x}} dx$

Evaluated improper integral (assuming lower limit 0): 2/343

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q57. $\int_{-\infty}^0 1/(x^2+49) dx$

Evaluated improper integral (assuming lower limit 0): $\pi/14$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q58. $\int_{-\infty}^0 1/(1-x)^{6.5} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q59. $\int_{-\infty}^0 e^{-7x} dx$

Evaluated improper integral (assuming lower limit 0): $1/7$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q60. $\int_0^{\infty} x^2/(1+x)^8 dx$

Evaluated improper integral (assuming lower limit 0): $1/105$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q61. $\int_0^{\infty} 1/x^{0.5} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q62. $\int_0^1 1/x^{0.5} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.666666666666667 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q63. $\int_0^{\infty} x^3 e^{-8x} dx$

Evaluated improper integral (assuming lower limit 0): $3/2048$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q64. $\int_0^{\infty} 1/(x^2+64) dx$

Evaluated improper integral (assuming lower limit 0): $\pi/16$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q65. $\int_0^1 1/(1-x)^{0.5} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q66. $\int_0^{\infty} e^{-8x} dx$

Evaluated improper integral (assuming lower limit 0): $1/8$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q67. $\int_0^{\infty} x^3/(1+x)^9 dx$

Evaluated improper integral (assuming lower limit 0): $1/280$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q68. $\int_0^{\infty} x^4 e^{-9x} dx$

Evaluated improper integral (assuming lower limit 0): $8/19683$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q69. $\int_0^{\infty} 1/(x^2+81) dx$

Evaluated improper integral (assuming lower limit 0): $\pi/18$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q70. $\int_0^{\infty} e^{-9x} dx$

Evaluated improper integral (assuming lower limit 0): $1/9$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q71. $\int_0^{\infty} x^4/(1+x)^2 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q72. $\int_0^{\infty} x^5 e^{-1x} dx$

Evaluated improper integral (assuming lower limit 0): 120

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q73. $\int_{-\infty}^{\infty} \frac{1}{x^2+1} dx$

Evaluated improper integral (assuming lower limit 0): $\pi/2$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q74. $\int_{-\infty}^{\infty} e^{-1x} dx$

Evaluated improper integral (assuming lower limit 0): 1

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q75. $\int_{-\infty}^{\infty} x^5/(1+x)^3 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q76. $\int_{-\infty}^{\infty} x^4 e^{-2x} dx$

Evaluated improper integral (assuming lower limit 0): $1/4$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q77. $\int_{-\infty}^{\infty} x^4/(1+x)^4 dx$

Evaluated improper integral (assuming lower limit 0): $1/6$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q78. $\int_{-\infty}^{\infty} x^2 e^{-3x} dx$

Evaluated improper integral (assuming lower limit 0): $2/27$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q79. $\int_{-\infty}^{\infty} x^2/(1+x)^5 dx$

Evaluated improper integral (assuming lower limit 0): $1/12$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q80. $\int_{-\infty}^{\infty} x^3 e^{-4x} dx$

Evaluated improper integral (assuming lower limit 0): $3/128$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q81. $\int_{-\infty}^{\infty} x^3/(1+x)^6 dx$

Evaluated improper integral (assuming lower limit 0): $1/20$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q82. $\int_{-\infty}^{\infty} x^4 e^{-5x} dx$

Evaluated improper integral (assuming lower limit 0): $24/3125$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q83. $\int_{-\infty}^{\infty} x^4/(1+x)^7 dx$

Evaluated improper integral (assuming lower limit 0): $1/30$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q84. $\int_{-\infty}^{\infty} x^5 e^{-6x} dx$

Evaluated improper integral (assuming lower limit 0): $5/1944$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q85. $\int_{-\infty}^{\infty} x^5/(1+x)^8 dx$

Evaluated improper integral (assuming lower limit 0): $1/42$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q86. $\int_{-\infty}^{\infty} x^4 e^{-7x} dx$

Evaluated improper integral (assuming lower limit 0): 1/49

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q87. $\int_0^{\infty} x^{1/(1+x)^9} dx$

Evaluated improper integral (assuming lower limit 0): 1/56

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q88. $\int_0^{\infty} x^2 e^{-8x} dx$

Evaluated improper integral (assuming lower limit 0): 1/256

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q89. $\int_0^{\infty} x^2/(1+x)^2 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q90. $\int_0^{\infty} x^3 e^{-9x} dx$

Evaluated improper integral (assuming lower limit 0): 2/2187

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q91. $\int_0^{\infty} x^3/(1+x)^3 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q92. $\int_0^{\infty} x^4 e^{-1x} dx$

Evaluated improper integral (assuming lower limit 0): 24

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q93. $\int_0^{\infty} x^4/(1+x)^4 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q94. $\int_0^{\infty} x^5 e^{-2x} dx$

Evaluated improper integral (assuming lower limit 0): 15/8

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q95. $\int_0^{\infty} x^5/(1+x)^5 dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q96. $\int_0^{\infty} x^1 e^{-3x} dx$

Evaluated improper integral (assuming lower limit 0): 1/9

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q97. $\int_0^{\infty} x^{1/(1+x)^6} dx$

Evaluated improper integral (assuming lower limit 0): 1/20

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q98. $\int_0^{\infty} x^2 e^{-4x} dx$

Evaluated improper integral (assuming lower limit 0): 1/32

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q99. $\int_0^{\infty} x^2/(1+x)^7 dx$

Evaluated improper integral (assuming lower limit 0): 1/60

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q100. $\int_{-\infty}^{\infty} x^3 e^{-5x} dx$

Evaluated improper integral (assuming lower limit 0): 6/625

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q101. $\int_{-\infty}^{\infty} x^3/(1+x)^8 dx$

Evaluated improper integral (assuming lower limit 0): 1/140

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q102. $\int_{-\infty}^{\infty} x^4 e^{-6x} dx$

Evaluated improper integral (assuming lower limit 0): 1/324

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q103. $\int_{-\infty}^{\infty} x^4/(1+x)^9 dx$

Evaluated improper integral (assuming lower limit 0): 1/280

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q104. $\int_{-\infty}^{\infty} x^5 e^{-7x} dx$

Evaluated improper integral (assuming lower limit 0): 120/117649

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q105. $\int_{-\infty}^{\infty} x^5/(1+x)^2 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q106. $\int_{-\infty}^{\infty} x^1 e^{-8x} dx$

Evaluated improper integral (assuming lower limit 0): 1/64

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q107. $\int_{-\infty}^{\infty} x^1/(1+x)^3 dx$

Evaluated improper integral (assuming lower limit 0): 1/2

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q108. $\int_{-\infty}^{\infty} x^2 e^{-9x} dx$

Evaluated improper integral (assuming lower limit 0): 2/729

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q109. $\int_{-\infty}^{\infty} x^2/(1+x)^4 dx$

Evaluated improper integral (assuming lower limit 0): 1/3

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q110. $\int_{-\infty}^{\infty} x^3 e^{-1x} dx$

Evaluated improper integral (assuming lower limit 0): 6

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q111. $\int_{-\infty}^{\infty} x^3/(1+x)^5 dx$

Evaluated improper integral (assuming lower limit 0): 1/4

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q112. $\int_{-\infty}^{\infty} x^4 e^{-2x} dx$

Evaluated improper integral (assuming lower limit 0): 3/4

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q113. $\int_{-\infty}^{\infty} x^4/(1+x)^6 dx$

Evaluated improper integral (assuming lower limit 0): 1/5

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q114. $\int_0^{\infty} x^5 e^{-3x} dx$

Evaluated improper integral (assuming lower limit 0): 40/243

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q115. $\int_0^{\infty} x^5/(1+x)^7 dx$

Evaluated improper integral (assuming lower limit 0): 1/6

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q116. $\int_0^{\infty} x^4 e^{-4x} dx$

Evaluated improper integral (assuming lower limit 0): 1/16

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q117. $\int_0^{\infty} x^4/(1+x)^8 dx$

Evaluated improper integral (assuming lower limit 0): 1/42

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q118. $\int_0^{\infty} x^2 e^{-5x} dx$

Evaluated improper integral (assuming lower limit 0): 2/125

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q119. $\int_0^{\infty} x^2/(1+x)^9 dx$

Evaluated improper integral (assuming lower limit 0): 1/168

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q120. $\int_0^{\infty} x^3 e^{-6x} dx$

Evaluated improper integral (assuming lower limit 0): 1/216

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q121. $\int_0^{\infty} x^3/(1+x)^2 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q122. $\int_0^{\infty} x^4 e^{-7x} dx$

Evaluated improper integral (assuming lower limit 0): 24/16807

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q123. $\int_0^{\infty} x^4/(1+x)^3 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q124. $\int_0^{\infty} x^5 e^{-8x} dx$

Evaluated improper integral (assuming lower limit 0): 15/32768

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q125. $\int_0^{\infty} x^5/(1+x)^4 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q126. $\int_0^{\infty} x^4 e^{-9x} dx$

Evaluated improper integral (assuming lower limit 0): 1/81

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q127. $\int_{-\infty}^{\infty} x^4/(1+x)^5 dx$

Evaluated improper integral (assuming lower limit 0): 1/12

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q128. $\int_{-\infty}^{\infty} x^2 e^{-x} dx$

Evaluated improper integral (assuming lower limit 0): 2

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q129. $\int_{-\infty}^{\infty} x^2/(1+x)^6 dx$

Evaluated improper integral (assuming lower limit 0): 1/30

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q130. $\int_{-\infty}^{\infty} x^3 e^{-2x} dx$

Evaluated improper integral (assuming lower limit 0): 3/8

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q131. $\int_{-\infty}^{\infty} x^3/(1+x)^7 dx$

Evaluated improper integral (assuming lower limit 0): 1/60

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q132. $\int_{-\infty}^{\infty} x^4 e^{-3x} dx$

Evaluated improper integral (assuming lower limit 0): 8/81

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q133. $\int_{-\infty}^{\infty} x^4/(1+x)^8 dx$

Evaluated improper integral (assuming lower limit 0): 1/105

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q134. $\int_{-\infty}^{\infty} x^5 e^{-4x} dx$

Evaluated improper integral (assuming lower limit 0): 15/512

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q135. $\int_{-\infty}^{\infty} x^5/(1+x)^9 dx$

Evaluated improper integral (assuming lower limit 0): 1/168

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q136. $\int_{-\infty}^{\infty} x^4 e^{-5x} dx$

Evaluated improper integral (assuming lower limit 0): 1/25

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q137. $\int_{-\infty}^{\infty} x^4/(1+x)^2 dx$

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. The improper integral diverges; the symbolic result is not a finite value.

Q138. $\int_{-\infty}^{\infty} x^2 e^{-6x} dx$

Evaluated improper integral (assuming lower limit 0): 1/108

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q139. $\int_{-\infty}^{\infty} x^3 e^{-7x} dx$

Evaluated improper integral (assuming lower limit 0): 6/2401

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q140. $\int_{-\infty}^{\infty} x^4 e^{-8x} dx$ **Evaluated improper integral (assuming lower limit 0):** 3/4096

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q141. $\int_{-\infty}^{\infty} x^5 e^{-9x} dx$ **Evaluated improper integral (assuming lower limit 0):** 40/177147

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q142. $\int_{-\infty}^{\infty} x^1 e^{-1x} dx$ **Evaluated improper integral (assuming lower limit 0):** 1

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q143. $\int_{-\infty}^{\infty} 1/x^{0.61} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q144. $\int_{-\infty}^{\infty} 1/x^{0.61} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.719424460431655*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q145. $\int_{-\infty}^{\infty} 1/(x^2+5) dx$ **Evaluated improper integral (assuming lower limit 0):** sqrt(5)*pi/10

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q146. $\int_{-\infty}^{\infty} 1/(1-x)^{0.61} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q147. $\int_{-\infty}^{\infty} e^{-2.01x} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.497512437810945

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q148. $\int_{-\infty}^{\infty} x^2/(1+x)^{2.01} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q149. $\int_{-\infty}^{\infty} 1/(x^2+2) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q150. $\int_{-\infty}^{\infty} 1/x^{0.62} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q151. $\int_{-\infty}^{\infty} 1/x^{0.62} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.72463768115942*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q152. $\int_{-\infty}^{\infty} 1/(x^2+11) dx$ **Evaluated improper integral (assuming lower limit 0):** sqrt(11)*pi/22

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q153. $\int_{-\infty}^{\infty} 1/(1-x)^{0.62} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q154. $\int_{-\infty}^{\infty} e^{-3.02x} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.331125827814570

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q155. $\int_0^\infty x^3/(1+x)^{2.02} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q156. $\int_0^\infty 1/(x^3+3) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2 \cdot 3^{1/6} \cdot \pi \cdot d/9$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q157. $\int_0^\infty 1/x^{0.63} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q158. $\int_0^\infty 1/x^{0.63} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.72992700729927 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q159. $\int_0^\infty 1/(x^2+19) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{19} \cdot \pi/38$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q160. $\int_0^\infty 1/(1-x)^{0.63} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q161. $\int_0^\infty e^{(-4.03x)} dx$

Evaluated improper integral (assuming lower limit 0): 0.248138957816377

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q162. $\int_0^\infty x^4/(1+x)^{3.03} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q163. $\int_0^\infty 1/(x^4+4) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\pi \cdot d/8$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q164. $\int_0^\infty 1/x^{0.64} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q165. $\int_0^\infty 1/x^{0.64} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.735294117647059 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q166. $\int_0^\infty 1/(x^2+29) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{29} \cdot \pi/58$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q167. $\int_0^\infty 1/(1-x)^{0.64} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q168. $\int_0^\infty e^{(-5.04x)} dx$

Evaluated improper integral (assuming lower limit 0): 0.198412698412698

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q169. $\int_0^\infty x^5/(1+x)^{3.04} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q170. $\int_0^\infty 1/(x^5+5) dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q171. $\int_0^\infty 1/x^{0.65} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q172. $\int_0^\infty 1/x^{0.65} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.740740740740741

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q173. $\int_0^\infty x^6 e^{-6x} dx$

Evaluated improper integral (assuming lower limit 0): 5/1944

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q174. $\int_0^\infty 1/(x^2+41) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{41}\pi/82$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q175. $\int_0^\infty 1/(1-x)^{0.65} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q176. $\int_0^\infty e^{-6.05x} dx$

Evaluated improper integral (assuming lower limit 0): 0.165289256198347

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q177. $\int_0^\infty x^6/(1+x)^{3.05} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q178. $\int_0^\infty 1/(x^6+6) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2^{1/3} \cdot 3^{5/6} \pi / 54$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q179. $\int_0^\infty 1/x^{0.66} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q180. $\int_0^\infty 1/x^{0.66} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.746268656716418

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q181. $\int_0^\infty 1/(x^2+55) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{55}\pi/110$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q182. $\int_0^\infty 1/(1-x)^{0.66} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q183. $\int_0^\infty e^{-7.06x} dx$

Evaluated improper integral (assuming lower limit 0): 0.141643059490085

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q184. $\int_0^\infty x/(1+x)^{4.06} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q185. $\int_0^\infty 1/(x^{1+7}) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q186. $\int_{-\infty}^{\infty} 1/x^{0.67} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q187. $\int_{-\infty}^{\infty} 1/x^{0.67} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.75187969924812*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q188. $\int_{-\infty}^{\infty} 1/(x^2+71) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{71} \cdot \pi / 142$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q189. $\int_{-\infty}^{\infty} 1/(1-x)^{0.67} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q190. $\int_{-\infty}^{\infty} e^{(-8.07x)} dx$

Evaluated improper integral (assuming lower limit 0): 0.123915737298637

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q191. $\int_{-\infty}^{\infty} x^2/(1+x)^{4.07} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q192. $\int_{-\infty}^{\infty} 1/(x^2+8) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q193. $\int_{-\infty}^{\infty} 1/x^{0.68} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q194. $\int_{-\infty}^{\infty} 1/x^{0.68} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.757575757575758*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q195. $\int_{-\infty}^{\infty} 1/(x^2+89) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{89} \cdot \pi / 178$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q196. $\int_{-\infty}^{\infty} 1/(1-x)^{0.68} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q197. $\int_{-\infty}^{\infty} e^{(-9.08x)} dx$

Evaluated improper integral (assuming lower limit 0): 0.110132158590308

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q198. $\int_{-\infty}^{\infty} x^3/(1+x)^{4.08} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q199. $\int_{-\infty}^{\infty} 1/(x^3+9) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2 \cdot 3^{5/6} \cdot \pi \cdot d / 27$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q200. $\int_{-\infty}^{\infty} 1/x^{0.69} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q201. $\int_1^\infty 1/x^{0.69} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.763358778625954*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q202. $\int_0^\infty x^4 e^{-10x} dx$

Evaluated improper integral (assuming lower limit 0): 3/12500

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q203. $\int_0^\infty 1/(x^2+109) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{109} \cdot \pi / 218$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q204. $\int_0^1 1/(1-x)^{0.69} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q205. $\int_0^\infty e^{-10.09x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0991080277502478

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q206. $\int_0^\infty x^4/(1+x)^{5.09} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q207. $\int_0^\infty 1/(x^4+10) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\sqrt{10} \cdot \pi / 40$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q208. $\int_0^\infty 1/x^{0.70} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q209. $\int_1^\infty 1/x^{0.70} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.769230769230769*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q210. $\int_0^\infty x^5 e^{-11x} dx$

Evaluated improper integral (assuming lower limit 0): 120/1771561

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q211. $\int_0^\infty 1/(x^2+131) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{131} \cdot \pi / 262$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q212. $\int_0^1 1/(1-x)^{0.70} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q213. $\int_0^\infty e^{-11.10x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0900900900900901

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q214. $\int_0^\infty x^5/(1+x)^{5.10} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q215. $\int_0^\infty 1/(x^5+11) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2 \cdot 11^{2/5} \cdot \sqrt{2} \cdot \pi \cdot d / (55 \cdot \sqrt{\sqrt{5} + 5})$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q216. $\int_0^\infty 1/x^{0.71} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q217. $\int_0^1 1/x^{0.71} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.775193798449612 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q218. $\int_0^\infty x^6 e^{-12x} dx$

Evaluated improper integral (assuming lower limit 0): $5/248832$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q219. $\int_0^\infty 1/(x^2+155) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{155} \cdot \pi / 310$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q220. $\int_0^1 1/(1-x)^{0.71} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q221. $\int_0^\infty e^{-12.11x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0825763831544178

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q222. $\int_0^\infty x^6/(1+x)^{5.11} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q223. $\int_0^\infty 1/(x^6+12) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2^{2/3} \cdot 3^{5/6} \cdot \pi \cdot d / 108$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q224. $\int_0^\infty 1/x^{0.72} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q225. $\int_0^1 1/x^{0.72} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.78125 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q226. $\int_0^\infty x^6 e^{-13x} dx$

Evaluated improper integral (assuming lower limit 0): $1/169$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q227. $\int_0^\infty 1/(x^2+181) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{181} \cdot \pi / 362$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q228. $\int_0^1 1/(1-x)^{0.72} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q229. $\int_0^\infty e^{-13.12x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0762195121951219

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q230. $\int_{-\infty}^0 x^2/(1+x)^6 dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q231. $\int_{-\infty}^0 1/(x^2+13) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q232. $\int_{-\infty}^0 1/x^{0.73} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q233. $\int_{-\infty}^0 1/x^{0.73} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.78740157480315

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q234. $\int_{-\infty}^0 x^2 e^{-14x} dx$

Evaluated improper integral (assuming lower limit 0): 1/1372

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q235. $\int_{-\infty}^0 1/(x^2+209) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{209}\pi/418$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q236. $\int_{-\infty}^0 1/(1-x)^{0.73} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q237. $\int_{-\infty}^0 e^{-14.13x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0707714083510262

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q238. $\int_{-\infty}^0 x^2/(1+x)^6 dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q239. $\int_{-\infty}^0 1/(x^2+14) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q240. $\int_{-\infty}^0 1/x^{0.74} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q241. $\int_{-\infty}^0 1/x^{0.74} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.793650793650794

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q242. $\int_{-\infty}^0 x^3 e^{-15x} dx$

Evaluated improper integral (assuming lower limit 0): 2/16875

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q243. $\int_{-\infty}^0 1/(x^2+239) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{239}\pi/478$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q244. $\int_1^1 1/(1-x)^{0.74} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q245. $\int_{-\infty}^{\infty} e^{(-15.14x)} dx$

Evaluated improper integral (assuming lower limit 0): 0.0660501981505944

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q246. $\int_{-\infty}^{\infty} x^3/(1+x)^{6.14} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q247. $\int_{-\infty}^{\infty} 1/(x^3+15) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2 \cdot 3^{**}(1/6) \cdot 5^{**}(2/3) \cdot \pi \cdot d/45$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q248. $\int_{-\infty}^{\infty} 1/x^{0.75} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q249. $\int_1^1 1/x^{0.75} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.8 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q250. $\int_{-\infty}^{\infty} x^4 e^{(-16x)} dx$

Evaluated improper integral (assuming lower limit 0): 3/131072

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q251. $\int_{-\infty}^{\infty} 1/(x^2+271) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{271} \cdot \pi/542$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q252. $\int_1^1 1/(1-x)^{0.75} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q253. $\int_{-\infty}^{\infty} e^{(-16.15x)} dx$

Evaluated improper integral (assuming lower limit 0): 0.0619195046439629

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q254. $\int_{-\infty}^{\infty} x^4/(1+x)^{2.15} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q255. $\int_{-\infty}^{\infty} 1/(x^4+16) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\pi \cdot d/16$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q256. $\int_{-\infty}^{\infty} 1/x^{0.76} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q257. $\int_1^1 1/x^{0.76} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.806451612903226 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q258. $\int_{-\infty}^{\infty} x^5 e^{(-17x)} dx$

Evaluated improper integral (assuming lower limit 0): 120/24137569

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q259. $\int_{-\infty}^{\infty} 1/(x^2+305) dx$ **Evaluated improper integral (assuming lower limit 0):** $\sqrt{305}\pi/610$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q260. $\int_0^1 1/(1-x)^{0.76} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q261. $\int_{-\infty}^{\infty} e^{(-17.16x)} dx$ **Evaluated improper integral (assuming lower limit 0):** 0.0582750582750583

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q262. $\int_{-\infty}^{\infty} x^5/(1+x)^{2.16} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q263. $\int_{-\infty}^{\infty} 1/(x^5+17) dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $2^{17} \cdot (2/5) \cdot \sqrt{2} \cdot \pi \cdot d / (85 \cdot \sqrt{2} \cdot (\sqrt{5} + 5))$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q264. $\int_{-\infty}^{\infty} 1/x^{0.77} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q265. $\int_0^1 1/x^{0.77} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.813008130081301*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q266. $\int_{-\infty}^{\infty} x^6 e^{(-18x)} dx$ **Evaluated improper integral (assuming lower limit 0):** 5/4251528

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q267. $\int_{-\infty}^{\infty} 1/(x^2+341) dx$ **Evaluated improper integral (assuming lower limit 0):** $\sqrt{341}\pi/682$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q268. $\int_0^1 1/(1-x)^{0.77} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q269. $\int_{-\infty}^{\infty} e^{(-18.17x)} dx$ **Evaluated improper integral (assuming lower limit 0):** 0.0550357732526142

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q270. $\int_{-\infty}^{\infty} x^6/(1+x)^{2.17} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q271. $\int_{-\infty}^{\infty} 1/(x^6+18) dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $2^{**}(1/3) \cdot 3^{**}(1/6) \cdot \pi \cdot d / 54$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q272. $\int_{-\infty}^{\infty} 1/x^{0.78} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q273. $\int_0^1 1/x^{0.78} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.819672131147541*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q274. $\int_0^{\infty} x^4 e^{-19x} dx$

Evaluated improper integral (assuming lower limit 0): 1/361

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q275. $\int_0^{\infty} 1/(x^2+379) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{379} \pi / 758$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q276. $\int_0^1 1/(1-x)^{0.78} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q277. $\int_0^{\infty} e^{-19.18x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0521376433785193

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q278. $\int_0^{\infty} x^4/(1+x)^{3.18} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q279. $\int_0^{\infty} 1/(x^4+19) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q280. $\int_0^{\infty} 1/x^{0.79} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q281. $\int_0^1 1/x^{0.79} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.826446280991736*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q282. $\int_0^{\infty} x^2 e^{-20x} dx$

Evaluated improper integral (assuming lower limit 0): 1/4000

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q283. $\int_0^{\infty} 1/(x^2+419) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{419} \pi / 838$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q284. $\int_0^1 1/(1-x)^{0.79} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q285. $\int_0^{\infty} e^{-20.19x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0495294700346706

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q286. $\int_0^{\infty} x^2/(1+x)^{3.19} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q287. $\int_0^{\infty} 1/(x^2+20) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q288. $\int_0^{\infty} 1/x^{0.80} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q289. $\int_1^{\infty} 1/x^{0.80} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.833333333333333*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q290. $\int_0^{\infty} x^3 e^{(-21x)} dx$ **Evaluated improper integral (assuming lower limit 0):** 2/64827

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q291. $\int_0^{\infty} 1/(x^2+461) dx$ **Evaluated improper integral (assuming lower limit 0):** sqrt(461)*pi/922

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q292. $\int_0^1 1/(1-x)^{0.80} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q293. $\int_0^{\infty} e^{(-21.20x)} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.0471698113207547

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q294. $\int_0^{\infty} x^3/(1+x)^{3.20} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q295. $\int_0^{\infty} 1/(x^3+21) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** 2*3**(1/6)*7**(2/3)*pi*d/63

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q296. $\int_0^{\infty} 1/x^{0.81} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q297. $\int_1^{\infty} 1/x^{0.81} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.840336134453782*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q298. $\int_0^{\infty} x^4 e^{(-22x)} dx$ **Evaluated improper integral (assuming lower limit 0):** 3/644204

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q299. $\int_0^{\infty} 1/(x^2+505) dx$ **Evaluated improper integral (assuming lower limit 0):** sqrt(505)*pi/1010

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q300. $\int_0^1 1/(1-x)^{0.81} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q301. $\int_0^{\infty} e^{(-22.21x)} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.0450247636199910

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q302. $\int_0^{\infty} x^4/(1+x)^{4.21} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q303. $\int_0^{\infty} 1/(x^4+22) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** sqrt(22)*pi*d/88

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q304. $\int_{-\infty}^{\infty} 1/x^{0.82} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q305. $\int_{-\infty}^{\infty} 1/x^{0.82} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.847457627118644*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q306. $\int_{-\infty}^{\infty} x^5 e^{-23x} dx$ **Evaluated improper integral (assuming lower limit 0):** 120/148035889

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q307. $\int_{-\infty}^{\infty} 1/(x^2+551) dx$ **Evaluated improper integral (assuming lower limit 0):** $\sqrt{551} \cdot \pi/1102$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q308. $\int_{-\infty}^{\infty} 1/(1-x)^{0.82} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q309. $\int_{-\infty}^{\infty} e^{-23.22x} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.0430663221360896

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q310. $\int_{-\infty}^{\infty} x^5/(1+x)^{4.22} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q311. $\int_{-\infty}^{\infty} 1/(x^5+23) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** $2 \cdot \sqrt{2} \cdot 23^{2/5} \cdot \pi \cdot d / (115 \cdot \sqrt{2} \cdot (\sqrt{5} + 5))$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q312. $\int_{-\infty}^{\infty} 1/x^{0.83} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q313. $\int_{-\infty}^{\infty} 1/x^{0.83} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.854700854700855*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q314. $\int_{-\infty}^{\infty} x^6 e^{-24x} dx$ **Evaluated improper integral (assuming lower limit 0):** 5/31850496

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q315. $\int_{-\infty}^{\infty} 1/(x^2+599) dx$ **Evaluated improper integral (assuming lower limit 0):** $\sqrt{599} \cdot \pi/1198$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q316. $\int_{-\infty}^{\infty} 1/(1-x)^{0.83} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q317. $\int_{-\infty}^{\infty} e^{-24.23x} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.0412711514651259

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q318. $\int_{-\infty}^{\infty} x^6/(1+x)^{4.23} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q319. $\int_0^\infty 1/(x^6+24) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $3^{**}(5/6)*\pi*d/108$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q320. $\int_0^\infty 1/x^{0.84} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty*d/Abs(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q321. $\int_1^\infty 1/x^{0.84} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.862068965517241*d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q322. $\int_0^\infty x^1 e^{(-25x)} dx$

Evaluated improper integral (assuming lower limit 0): $1/625$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q323. $\int_0^\infty 1/(x^2+649) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{649}*\pi/1298$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q324. $\int_1^\infty 1/(1-x)^{0.84} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q325. $\int_0^\infty e^{(-25.24x)} dx$

Evaluated improper integral (assuming lower limit 0): 0.0396196513470682

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q326. $\int_0^\infty x^1/(1+x)^{5.24} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q327. $\int_0^\infty 1/(x^1+25) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty*d/Abs(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q328. $\int_0^\infty 1/x^{0.85} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty*d/Abs(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q329. $\int_1^\infty 1/x^{0.85} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.869565217391304*d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q330. $\int_0^\infty x^2 e^{(-26x)} dx$

Evaluated improper integral (assuming lower limit 0): $1/8788$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q331. $\int_0^\infty 1/(x^2+701) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{701}*\pi/1402$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q332. $\int_1^\infty 1/(1-x)^{0.85} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q333. $\int_0^\infty e^{(-26.25x)} dx$

Evaluated improper integral (assuming lower limit 0): 0.0380952380952381

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q334. $\int_{-\infty}^0 x^2/(1+x)^{5.25} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q335. $\int_{-\infty}^0 1/(x^2+26) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q336. $\int_{-\infty}^0 1/x^{0.86} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q337. $\int_1^{\infty} 1/x^{0.86} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.87719298245614 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q338. $\int_{-\infty}^0 x^3 e^{-27x} dx$

Evaluated improper integral (assuming lower limit 0): $2/177147$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q339. $\int_{-\infty}^0 1/(x^2+755) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{755} \cdot \pi/1510$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q340. $\int_1^{\infty} 1/(1-x)^{0.86} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q341. $\int_{-\infty}^0 e^{-27.26x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0366837857666911

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q342. $\int_{-\infty}^0 x^3/(1+x)^{5.26} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q343. $\int_{-\infty}^0 1/(x^3+27) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2 \cdot \sqrt{3} \cdot \pi \cdot d/27$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q344. $\int_{-\infty}^0 1/x^{0.87} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q345. $\int_1^{\infty} 1/x^{0.87} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $0.884955752212389 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q346. $\int_{-\infty}^0 x^4 e^{-28x} dx$

Evaluated improper integral (assuming lower limit 0): $3/2151296$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q347. $\int_{-\infty}^0 1/(x^2+811) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{811} \cdot \pi/1622$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q348. $\int_1^1 \frac{1}{(1-x)^{0.87}} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q349. $\int_{-\infty}^{\infty} e^{x-28.27x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0353731871241599

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q350. $\int_{-\infty}^{\infty} x^4/(1+x)^{6.27} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q351. $\int_{-\infty}^{\infty} \frac{1}{(x^4+28)} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\sqrt{7}\pi/56$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q352. $\int_{-\infty}^{\infty} \frac{1}{x^{0.88}} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty/d/|d|$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q353. $\int_1^1 \frac{1}{x^{0.88}} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.892857142857143*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q354. $\int_{-\infty}^{\infty} x^5 e^{x-29x} dx$

Evaluated improper integral (assuming lower limit 0): 120/594823321

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q355. $\int_{-\infty}^{\infty} \frac{1}{(x^2+869)} dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{869}\pi/1738$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q356. $\int_1^1 \frac{1}{(1-x)^{0.88}} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q357. $\int_{-\infty}^{\infty} e^{x-29.28x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0341530054644809

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q358. $\int_{-\infty}^{\infty} x^5/(1+x)^{6.28} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q359. $\int_{-\infty}^{\infty} \frac{1}{(x^5+29)} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2\sqrt{29}^{2/5}\pi/(145\sqrt[5]{29+5})$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q360. $\int_{-\infty}^{\infty} \frac{1}{x^{0.89}} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty/d/|d|$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q361. $\int_1^1 \frac{1}{x^{0.89}} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.900900900900901*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q362. $\int_{-\infty}^{\infty} x^6 e^{x-30x} dx$

Evaluated improper integral (assuming lower limit 0): 1/30375000

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q363. $\int_{-\infty}^{\infty} 1/(x^2+929) dx$ **Evaluated improper integral (assuming lower limit 0):** $\sqrt{929}\pi/1858$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q364. $\int_0^1 1/(1-x)^{0.89} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q365. $\int_{-\infty}^{\infty} e^{-(30.29x)} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.0330141961043249

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q366. $\int_{-\infty}^{\infty} x^6/(1+x)^{6.29} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q367. $\int_{-\infty}^{\infty} 1/(x^6+30) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** $10^{**}(1/3)*3^{**}(5/6)*\pi/d/270$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q368. $\int_{-\infty}^{\infty} 1/x^{0.90} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty*d/Abs(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q369. $\int_0^1 1/x^{0.90} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.909090909090909*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q370. $\int_{-\infty}^{\infty} x^{1e^{-(31x)}} dx$ **Evaluated improper integral (assuming lower limit 0):** 1/961

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q371. $\int_{-\infty}^{\infty} 1/(x^2+991) dx$ **Evaluated improper integral (assuming lower limit 0):** $\sqrt{991}\pi/1982$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q372. $\int_0^1 1/(1-x)^{0.90} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q373. $\int_{-\infty}^{\infty} e^{-(31.30x)} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.0319488817891374

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q374. $\int_{-\infty}^{\infty} x^{1/(1+x)^{2.30}} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q375. $\int_{-\infty}^{\infty} 1/(x^{1+31}) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** $\infty*d/Abs(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q376. $\int_{-\infty}^{\infty} 1/x^{0.91} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty*d/Abs(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q377. $\int_0^1 1/x^{0.91} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.917431192660551*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q378. $\int_0^{\infty} x^2 e^{-32x} dx$

Evaluated improper integral (assuming lower limit 0): 1/16384

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q379. $\int_0^{\infty} 1/(x^2+1055) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{1055}\pi/2110$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q380. $\int_0^1 1/(1-x)^{0.91} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q381. $\int_0^{\infty} e^{-32.31x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0309501702259362

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q382. $\int_0^{\infty} x^2/(1+x)^{2.31} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q383. $\int_0^{\infty} 1/(x^2+32) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q384. $\int_0^{\infty} 1/x^{0.92} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q385. $\int_0^1 1/x^{0.92} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.925925925925926*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q386. $\int_0^{\infty} x^3 e^{-33x} dx$

Evaluated improper integral (assuming lower limit 0): 2/395307

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q387. $\int_0^{\infty} 1/(x^2+1121) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{1121}\pi/2242$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q388. $\int_0^1 1/(1-x)^{0.92} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q389. $\int_0^{\infty} e^{-33.32x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0300120048019208

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q390. $\int_0^{\infty} x^3/(1+x)^{2.32} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q391. $\int_0^{\infty} 1/(x^3+33) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2^{11} \cdot (2/3)^{3 \cdot (1/6)} \cdot \pi \cdot d / 99$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q392. $\int_0^{\infty} 1/x^{0.93} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q393. $\int_1^\infty 1/x^{0.93} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.934579439252337*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q394. $\int_0^\infty x^4 e^{(-34x)} dx$ **Evaluated improper integral (assuming lower limit 0):** 3/5679428

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q395. $\int_0^\infty 1/(x^2+1189) dx$ **Evaluated improper integral (assuming lower limit 0):** sqrt(1189)*pi/2378

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q396. $\int_1^\infty 1/(1-x)^{0.93} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q397. $\int_0^\infty e^{(-34.33x)} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.0291290416545296

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q398. $\int_0^\infty x^4/(1+x)^{3.33} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q399. $\int_0^\infty 1/(x^4+34) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** sqrt(34)*pi*d/136

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q400. $\int_0^\infty 1/x^{0.94} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q401. $\int_1^\infty 1/x^{0.94} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.943396226415094*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q402. $\int_0^\infty x^5 e^{(-35x)} dx$ **Evaluated improper integral (assuming lower limit 0):** 24/367653125

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q403. $\int_0^\infty 1/(x^2+1259) dx$ **Evaluated improper integral (assuming lower limit 0):** sqrt(1259)*pi/2518

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q404. $\int_1^\infty 1/(1-x)^{0.94} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q405. $\int_0^\infty e^{(-35.34x)} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.0282965478211658

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q406. $\int_0^\infty x^5/(1+x)^{3.34} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q407. $\int_0^\infty 1/(x^5+35) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** 2*sqrt(2)*35**(2/5)*pi*d/(175*sqrt(sqrt(5) + 5))

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q408. $\int_{-\infty}^{\infty} 1/x^{0.95} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q409. $\int_{-\infty}^{\infty} 1/x^{0.95} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.952380952380952*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q410. $\int_{-\infty}^{\infty} x^6 e^{-36x} dx$ **Evaluated improper integral (assuming lower limit 0):** 5/544195584

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q411. $\int_{-\infty}^{\infty} 1/(x^2+1331) dx$ **Evaluated improper integral (assuming lower limit 0):** $\sqrt{11} \cdot \pi / 242$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q412. $\int_{-\infty}^{\infty} 1/(1-x)^{0.95} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q413. $\int_{-\infty}^{\infty} e^{-36.35x} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.0275103163686382

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q414. $\int_{-\infty}^{\infty} x^6/(1+x)^{3.35} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q415. $\int_{-\infty}^{\infty} 1/(x^6+36) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** $2^{2/3} \cdot 3^{2/3} \cdot (1/6) \cdot \pi \cdot d / 108$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q416. $\int_{-\infty}^{\infty} 1/x^{0.96} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q417. $\int_{-\infty}^{\infty} 1/x^{0.96} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 0.961538461538461*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q418. $\int_{-\infty}^{\infty} x^{1e^{-37x}} dx$ **Evaluated improper integral (assuming lower limit 0):** 1/1369

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q419. $\int_{-\infty}^{\infty} 1/(x^2+1405) dx$ **Evaluated improper integral (assuming lower limit 0):** $\sqrt{1405} \cdot \pi / 2810$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q420. $\int_{-\infty}^{\infty} 1/(1-x)^{0.96} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q421. $\int_{-\infty}^{\infty} e^{-37.36x} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.0267665952890792

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q422. $\int_{-\infty}^{\infty} x^{1/(1+x)^{4.36}} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q423. $\int_{-\infty}^{\infty} 1/(x^2+37) dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q424. $\int_{-\infty}^{\infty} 1/x^{0.97} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q425. $\int_{-\infty}^{\infty} 1/x^{0.97} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $0.970873786407767 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q426. $\int_{-\infty}^{\infty} 1/(x^2+38) dx$ **Evaluated improper integral (assuming lower limit 0):** $\sqrt{38} \cdot \pi / 76$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q427. $\int_{-\infty}^{\infty} 1/(1-x)^{0.97} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q428. $\int_{-\infty}^{\infty} e^{(-1.37x)} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.729927007299270

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q429. $\int_{-\infty}^{\infty} x^2/(1+x)^{4.37} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q430. $\int_{-\infty}^{\infty} 1/(x^2+1) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q431. $\int_{-\infty}^{\infty} 1/x^{0.98} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $\infty \cdot d / \text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q432. $\int_{-\infty}^{\infty} 1/x^{0.98} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** $0.980392156862745 \cdot d$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q433. $\int_{-\infty}^{\infty} 1/(x^2+42) dx$ **Evaluated improper integral (assuming lower limit 0):** $\sqrt{42} \cdot \pi / 84$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q434. $\int_{-\infty}^{\infty} 1/(1-x)^{0.98} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q435. $\int_{-\infty}^{\infty} e^{(-2.38x)} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.420168067226891

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q436. $\int_{-\infty}^{\infty} x^3/(1+x)^{4.38} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q437. $\int_{-\infty}^{\infty} 1/(x^3+2) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** $2^{2/3} \cdot \sqrt{3} \cdot \pi \cdot d / 9$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q438. $\int_{-\infty}^0 1/x^{0.99} dx$ (convergence)Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q439. $\int_1^{\infty} 1/x^{0.99} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 0.99009900990099

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q440. $\int_{-\infty}^0 1/(x^2+48) dx$ Evaluated improper integral (assuming lower limit 0): $\sqrt{3}\pi/24$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q441. $\int_1^{\infty} 1/(1-x)^{0.99} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q442. $\int_{-\infty}^0 e^{-3.39x} dx$

Evaluated improper integral (assuming lower limit 0): 0.294985250737463

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q443. $\int_{-\infty}^0 x^4/(1+x)^{5.39} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q444. $\int_{-\infty}^0 1/(x^4+3) dx$ (convergence)Evaluated improper integral (assuming lower limit 0): $\sqrt{3}\pi/12$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q445. $\int_{-\infty}^0 1/x^{1.00} dx$ (convergence)Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q446. $\int_1^{\infty} 1/x^{1.00} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q447. $\int_{-\infty}^0 1/(x^2+56) dx$ Evaluated improper integral (assuming lower limit 0): $\sqrt{14}\pi/56$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q448. $\int_1^{\infty} 1/(1-x)^{1.00} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q449. $\int_{-\infty}^0 e^{-4.40x} dx$

Evaluated improper integral (assuming lower limit 0): 0.227272727272727

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q450. $\int_{-\infty}^0 x^5/(1+x)^{5.40} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q451. $\int_{-\infty}^0 1/(x^5+4) dx$ (convergence)Evaluated improper integral (assuming lower limit 0): $2^{2/5}(3/10)\pi/(5\sqrt[5]{5} + 5)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q452. $\int_{-\infty}^0 1/x^{1.01} dx$ (convergence)Evaluated improper integral (assuming lower limit 0): ∞

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q453. $\int_1^{\infty} 1/x^{1.01} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 1.010101010101*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q454. $\int_0^{\infty} x^6 e^{-5x} dx$

Evaluated improper integral (assuming lower limit 0): 144/15625

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q455. $\int_0^{\infty} 1/(x^2+66) dx$ Evaluated improper integral (assuming lower limit 0): $\sqrt{66} \cdot \pi / 132$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q456. $\int_0^1 1/(1-x)^{1.01} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q457. $\int_0^{\infty} e^{-5.41x} dx$

Evaluated improper integral (assuming lower limit 0): 0.184842883548983

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q458. $\int_0^{\infty} x^6/(1+x)^{5.41} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q459. $\int_0^{\infty} 1/(x^6+5) dx$ (convergence)Evaluated improper integral (assuming lower limit 0): $\sqrt{3} \cdot 5^{1/3} \cdot \pi / 45$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q460. $\int_0^{\infty} 1/x^{1.02} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q461. $\int_1^{\infty} 1/x^{1.02} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 1.02040816326531*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q462. $\int_0^{\infty} 1/(x^2+78) dx$ Evaluated improper integral (assuming lower limit 0): $\sqrt{78} \cdot \pi / 156$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q463. $\int_0^1 1/(1-x)^{1.02} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q464. $\int_0^{\infty} e^{-6.42x} dx$

Evaluated improper integral (assuming lower limit 0): 0.155763239875389

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q465. $\int_0^{\infty} x^1/(1+x)^{6.42} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q466. $\int_0^{\infty} 1/(x^1+6) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q467. $\int_0^{\infty} 1/x^{1.03} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q468. $\int_1^{\infty} 1/x^{1.03} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 1.03092783505155*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q469. $\int_0^{\infty} 1/(x^2+92) dx$ **Evaluated improper integral (assuming lower limit 0):** sqrt(23)*pi/92

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q470. $\int_0^1 1/(1-x)^{1.03} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q471. $\int_0^{\infty} e^{(-7.43x)} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.134589502018843

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q472. $\int_0^{\infty} x^2/(1+x)^{6.43} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q473. $\int_0^{\infty} 1/(x^2+7) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q474. $\int_0^{\infty} 1/x^{1.04} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q475. $\int_1^{\infty} 1/x^{1.04} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 1.04166666666667*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q476. $\int_0^{\infty} 1/(x^2+108) dx$ **Evaluated improper integral (assuming lower limit 0):** sqrt(3)*pi/36

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q477. $\int_0^1 1/(1-x)^{1.04} dx$ (convergence)**Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q478. $\int_0^{\infty} e^{(-8.44x)} dx$** **Evaluated improper integral (assuming lower limit 0):** 0.118483412322275

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q479. $\int_0^{\infty} x^3/(1+x)^{6.44} dx$ **Solution status:** The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.**Q480. $\int_0^{\infty} 1/(x^3+8) dx$ (convergence)****Evaluated improper integral (assuming lower limit 0):** sqrt(3)*pi*d/9

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q481. $\int_0^{\infty} 1/x^{1.05} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** oo*d/Abs(d)

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q482. $\int_1^{\infty} 1/x^{1.05} dx$ (convergence)**Evaluated improper integral (assuming lower limit 0):** 1.05263157894737*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q483. $\int_{-\infty}^{\infty} 1/(x^2+126) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{14}\pi/84$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q484. $\int_0^1 1/(1-x)^{1.05} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q485. $\int_{-\infty}^{\infty} e^{-9.45x} dx$

Evaluated improper integral (assuming lower limit 0): 0.105820105820106

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q486. $\int_{-\infty}^{\infty} x^4/(1+x)^{2.45} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q487. $\int_{-\infty}^{\infty} 1/(x^4+9) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\pi^2/12$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q488. $\int_{-\infty}^{\infty} 1/x^{1.06} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q489. $\int_0^1 1/x^{1.06} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 1.06382978723404*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q490. $\int_{-\infty}^{\infty} x^5 e^{-10x} dx$

Evaluated improper integral (assuming lower limit 0): 3/25000

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q491. $\int_{-\infty}^{\infty} 1/(x^2+146) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{146}\pi/292$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q492. $\int_0^1 1/(1-x)^{1.06} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q493. $\int_{-\infty}^{\infty} e^{-10.46x} dx$

Evaluated improper integral (assuming lower limit 0): 0.0956022944550669

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q494. $\int_{-\infty}^{\infty} x^5/(1+x)^{2.46} dx$

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.

Q495. $\int_{-\infty}^{\infty} 1/(x^5+10) dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $2^{**}(9/10) \cdot 5^{**}(2/5) \cdot \pi \cdot d / (25 \cdot \sqrt{5} + 5)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q496. $\int_{-\infty}^{\infty} 1/x^{1.07} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): $\infty \cdot d/\text{Abs}(d)$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q497. $\int_0^1 1/x^{1.07} dx$ (convergence)

Evaluated improper integral (assuming lower limit 0): 1.0752688172043*d

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q498. $\int_0^{\infty} x^6 e^{-11x} dx$

Evaluated improper integral (assuming lower limit 0): 720/19487171

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q499. $\int_0^{\infty} 1/(x^2+168) dx$

Evaluated improper integral (assuming lower limit 0): $\sqrt{42} \cdot \pi / 168$

Steps: 1) identify the improper endpoint; 2) form the corresponding limit; 3) evaluate the limit and state convergence or divergence. Evaluate as an improper integral using the stated limits; check convergence at the endpoint(s).

Q500. $\int_0^1 1/(1-x)^{1.07} dx$ (convergence)

Solution status: The source PDF renders the lower-limit 0 as a square glyph; interpreted as 0 based on the displayed improper-integral format.