

EXERCÍCIOS 7.5

1. $\sin x + \frac{1}{3} \sin^3 x + C$
3. $\sin x + \ln |\operatorname{cosec} x - \cotg x| + C$
5. $4 - \ln 9$ 7. $e^{\pi/4} - e^{-\pi/4}$
9. $\frac{243}{5} \ln 3 - \frac{242}{25}$ 11. $\frac{1}{2} \ln(x^2 - 4x + 5) + \operatorname{tg}^{-1}(x - 2) + C$
13. $-\frac{1}{2} \cos^5 t + \frac{2}{7} \cos^7 t - \frac{1}{9} \cos^9 t + C$
15. $x/\sqrt{1-x^2} + C$
17. $\frac{1}{4} \pi^2$ 19. $e^x + C$ 21. $(x+1) \operatorname{arctg} \sqrt{x} - \sqrt{x} + C$
23. $\frac{4}{49}$ 25. $3x + \frac{23}{3} \ln|x-4| - \frac{2}{3} \ln|x+2| + C$
27. $x - \ln(1 + e^x) + C$
29. $x \ln(x + \sqrt{x^2 - 1}) - \sqrt{x^2 - 1} + C$
31. $\sin^{-1} x - \sqrt{1-x^2} + C$
33. $2 \sin^{-1} \left(\frac{x+1}{2} \right) + \frac{x+1}{2} \sqrt{3-2x-x^2} + C$
35. $\frac{1}{8} \sin 4x + \frac{1}{16} \sin 8x + C$ 37. $\frac{1}{4}$
39. $\ln |\sec \theta - 1| - \ln |\sec \theta| + C$
41. $\theta \operatorname{tg} \theta - \frac{1}{2} \theta^2 - \ln |\sec \theta| + C$ 43. $\frac{2}{3} \operatorname{tg}^{-1}(x^{3/2}) + C$
45. $-\frac{1}{3}(x^3 + 1)e^{-x^3} + C$
47. $\ln|x-1| - 3(x-1)^{-1} - \frac{3}{2}(x-1)^{-2} - \frac{1}{3}(x-1)^{-3} + C$
49. $\ln \left| \frac{\sqrt{4x+1}-1}{\sqrt{4x+1}+1} \right| + C$ 51. $-\ln \left| \frac{\sqrt{4x^2+1}+1}{2x} \right| + C$
53. $\frac{1}{m} x^2 \cosh(mx) - \frac{2}{m^2} x \sinh(mx) + \frac{2}{m^3} \cosh(mx) + C$
55. $2 \ln \sqrt{x} - 2 \ln(1 + \sqrt{x}) + C$
57. $\frac{3}{7}(x+c)^{7/3} - \frac{3}{4}c(x+c)^{4/3} + C$
59. $\sin(\sin x) - \frac{1}{3} \sin^3(\sin x) + C$
61. $\operatorname{cosec} \theta - \cotg \theta + C$ ou $\operatorname{tg}(\theta/2) + C$
63. $2(x - 2\sqrt{x} + 2)e^{\sqrt{x}} + C$
65. $-\operatorname{tg}^{-1}(\cos^2 x) + C$ 67. $\frac{2}{3}[(x+1)^{3/2} - x^{3/2}] + C$
69. $\sqrt{2} - 2/\sqrt{3} + \ln(2 + \sqrt{3}) - \ln(1 + \sqrt{2})$
71. $e^x - \ln(1 + e^x) + C$
73. $-\sqrt{1-x^2} + \frac{1}{2}(\operatorname{arcsen} x)^2 + C$
75. $\frac{1}{8} \ln|x-2| - \frac{1}{16} \ln(x^2 + 4) - \frac{1}{8} \operatorname{tg}^{-1}(x/2) + C$
77. $2(x-2)\sqrt{1+e^x} + 2 \ln \frac{\sqrt{1+e^x}+1}{\sqrt{1+e^x}-1} + C$
79. $\frac{1}{3} x \sin^3 x + \frac{1}{3} \cos x - \frac{1}{9} \cos^3 x + C$
81. $2\sqrt{1+\sin x} + C$ 83. $xe^{x^2} + C$