Lista de Exercícios — Integral Definida (Básicas) com Respostas)

1. $\int_0^2 3x^2 \, dx = 8$

2. $\int_1^4 (2x + 1) \, dx = 18$

3. $\int_0^1 x^3 \, dx = \dfrac{1}{4}$

4. $\int_0^\pi \sin x \, dx = 2$

5. $\int_0^{\pi/2} \cos x \, dx = 1$

6. $\int_1^e \dfrac{1}{x} \, dx = 1$

7. $\int_0^2 e^{2x} \, dx = \dfrac{e^4 - 1}{2}$

8. $\int_0^{\pi/4} \tan x \, dx = \dfrac{1}{2} \ln 2$

9. $\int_0^1 \dfrac{1}{1 + x^2} \, dx = \dfrac{\pi}{4}$

10. $\int_0^1 \sqrt{x} \, dx = \dfrac{2}{3}$

11. $\int_{-1}^1 x^5 \, dx = 0$

12. $\int_{-2}^2 x^4 \, dx = \dfrac{64}{5}$

13. $\int_0^\pi \cos(2x) \, dx = 0$

14. $\int_0^1 \dfrac{2x}{x^2 + 1} \, dx = \ln 2$

15. $\int_0^{\ln 2} e^x \, dx = 1$

16. $\int_0^1 (3x^2 + 4) \, dx = 5$

17. $\int_1^2 \dfrac{1}{x^2} \, dx = \dfrac{1}{2}$

18. $\int_0^{\pi/6} \sin x \cos x \, dx = \dfrac{1}{8}$

19. $\int_0^1 \dfrac{x + 1}{(x + 1)^2} \, dx = \ln 2$

20. $\int_0^2 (4x + 1) \, dx = 10$