

6.4 EXERCÍCIOS

Calcular as integrais seguintes usando o método da substituição.

$$1. \int (2x^2 + 2x - 3)^{10} (2x + 1) dx$$

$$2. \int (x^3 - 2)^{1/7} x^2 dx$$

$$3. \int \frac{x dx}{\sqrt[5]{x^2 - 1}}$$

$$4. \int 5x \sqrt{4 - 3x^2} dx$$

$$5. \int (e^{2t} + 2)^{1/3} e^{2t} dt$$

$$6. \int \frac{e^{1/x} + 2}{x^2} dx$$

$$7. \int \frac{e^t + 4}{e^t} dt$$

$$8. \int \operatorname{sen}^4 x \cos x dx$$

$$9. \int \operatorname{tg} x \sec^2 x dx$$

$$10. \int \frac{2 \operatorname{sen} x - 5 \cos x}{\cos x} dx$$

$$11. \int \frac{\operatorname{sen} x}{\cos^5 x} dx$$

$$12. \int \frac{2}{x} \cos x^2 dx$$

$$13. \int e^x \cos 2e^x dx$$

$$14. \int \frac{\operatorname{arc} \operatorname{sen} y}{2\sqrt{1-y^2}} dy$$

$$15. \int \operatorname{sen} (5\theta - \pi) d\theta$$

$$16. \int \frac{dx}{16 + x^2}$$

$$17. \int \frac{2 \sec^2 \theta}{a + b \operatorname{tg} \theta} d\theta$$

$$18. \int \sqrt[3]{\operatorname{sen} \theta \cos \theta} d\theta$$

$$19. \int \frac{dy}{y^2 - 4y + 4}$$

21. $\int \frac{\ln x^2}{x} dx$
22. $\int (e^{ax} + e^{-ax})^2 dx$
23. $\int \sqrt{3t^4 + t^2} dt$
24. $\int \frac{4 dx}{4x^2 + 20x + 34}$
25. $\int \frac{3 dx}{x^2 - 4x + 1}$
26. $\int \frac{e^x dx}{e^{2x} + 16}$
27. $\int \frac{\sqrt{x+3}}{x-1} dx$
28. $\int \frac{3 dx}{x \ln^2 3x}$
29. $\int (\sin 4x + \cos 2\pi) dx$
30. $\int 2^{x^2+1} x dx$
31. $\int x e^{3x^2} dx$
32. $\int \frac{dt}{(2+t)^2}$
33. $\int \frac{dt}{t \ln t}$
34. $\int 8x \sqrt{1-2x^2} dx$
35. $\int (e^{2x} + 2)^5 e^{2x} dx$
36. $\int \frac{4t dt}{\sqrt{4t^2 + 5}}$
37. $\int \frac{\cos x}{3 - \sin x} dx$
38. $\int \frac{dv}{\sqrt{v} (1 + \sqrt{v})^5}$
39. $\int x^2 \sqrt{1+x} dx$
40. $\int x^4 e^{-x^5} dx$
41. $\int t \cos t^2 dt$
42. $\int 8x^2 \sqrt{6x^3 + 5} dx$
43. $\int \sin^{1/2} 2\theta \cos 2\theta d\theta$
44. $\int \sec^2 (5x + 3) dx$