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. $\int \sqrt{x^2 + 2x^4}\, dx$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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. $\int (\operatorname{sen} 4x + \cos 2\pi)\,dx$

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. $\int \frac{\cos x}{3 - \operatorname{sen} x}\,dx$

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. $\int \operatorname{sen}^{1/2} 2\theta\,\cos 2\theta\,d\theta$

44. $\int \sec^2(5x+3)\,dx$