

Basic Integration Practice

Finding an Indefinite Integral In Exercises 15–46, find the indefinite integral.

15. $\int 14(x - 5)^6 dx$

17. $\int \frac{7}{(z - 10)^7} dz$

19. $\int \left[z^2 + \frac{1}{(1 - z)^6} \right] dz$

21. $\int \frac{t^2 - 3}{-t^3 + 9t + 1} dt$

23. $\int \frac{x^2}{x - 1} dx$

25. $\int \frac{x + 2}{x + 1} dx$

27. $\int (5 + 4x^2)^2 dx$

29. $\int x \cos 2\pi x^2 dx$

31. $\int \frac{\sin x}{\sqrt{\cos x}} dx$

33. $\int \frac{2}{e^{-x} + 1} dx$

35. $\int \frac{\ln x^2}{x} dx$

37. $\int \frac{1 + \cos \alpha}{\sin \alpha} d\alpha$

39. $\int \frac{-1}{\sqrt{1 - (4t + 1)^2}} dt$

41. $\int \frac{\tan(2/t)}{t^2} dt$

43. $\int \frac{6}{z\sqrt{9z^2 - 25}} dz$

44. $\int \frac{1}{(x - 1)\sqrt{4x^2 - 8x + 3}} dx$

45. $\int \frac{4}{4x^2 + 4x + 65} dx$

46. $\int \frac{1}{x^2 - 4x + 9} dx$

16. $\int \frac{5}{(t + 6)^3} dt$

18. $\int t^3 \sqrt{t^4 + 1} dt$

20. $\int \left[4x - \frac{2}{(2x + 3)^2} \right] dx$

22. $\int \frac{x + 1}{\sqrt{3x^2 + 6x}} dx$

24. $\int \frac{3x}{x + 4} dx$

26. $\int \left(\frac{1}{9z - 5} - \frac{1}{9z + 5} \right) dz$

28. $\int x \left(3 + \frac{2}{x} \right)^2 dx$

30. $\int \csc \pi x \cot \pi x dx$

32. $\int \frac{\csc^2 3t}{\cot 3t} dt$

34. $\int \frac{4}{3 - e^x} dx$

36. $\int (\tan x)[\ln(\cos x)] dx$

38. $\int \frac{1}{\cos \theta - 1} d\theta$

40. $\int \frac{1}{25 + 4x^2} dx$

42. $\int \frac{e^{-1/t^3}}{t^4} dt$