

Integrate the following with respect to x :

1. $3x^4 + 2x^3 + 5$
2. $x^{\frac{2}{3}} - \sin x$
3. $x^2 - \frac{1}{2x}$
4. $\frac{2}{3 + 4x}$
5. $\frac{2x + 1}{x - 2}$
6. $\sqrt[4]{2x + 1}$
7. $\sin 2x$
8. $\cos(2x - 5)$
9. $\cos\left(1 - \frac{1}{3}x\right)$
10. $\sin 2x + \cos\left(\frac{1}{2}x\right)$
11. $\tan x \sec x$
12. e^{2x}
13. e^{2-5x}
14. e^{ex}
15. x^e
16. $(\sin x + \cos x)^2$
17. $\tan x$
18. $\cot 4x$
19. $\sqrt{x} - \cot^2 2x$
20. $e^5 - \cot 2x$
21. 2^x
22. $\frac{2x}{\pi}$
23. $2x \cos(2x^2 + 1)$
24. xe^{x^2}
25. $x \operatorname{cosec} x^2$
26. $2 \tan(-2x)$
27. $2 \tan^2(-2x)$
28. $\sin^2 x$
29. $\cos^2 x$
30. $2 \cos^2\left(\frac{2}{3}x\right) + 2x$
31. $\cot^2 x$
32. $\frac{2x}{3 + 4x^2}$
33. $\frac{1}{1 - x^2}$
34. $\frac{1}{x^2} - \frac{1}{\sin^2 x}$
35. $(\sin x + \operatorname{cosec} x)^2$
36. $\cos^2 2x$
37. $\sin^3 x$
38. $\cos^3 2x$
39. $\cot^2\left(\frac{3}{2}x\right)$
40. $\sin x \cos^3 x$
41. $\frac{3x^2 + 2}{3x^3 + 6x}$
42. e^{-5x+6}
43. 100^x
44. 10^{2-x}
45. $\frac{\sin x + \cos x}{\sin x - \cos x}$
46. $\cos x \sin^{99} x$
47. $\operatorname{cosec}^{100}(1 - x) \cot(1 - x)$
48. $\cot^2 2x + \tan^2\left(\frac{1}{2}x\right)$
49. $\frac{1}{\sin x + 1}$
50. $\frac{1}{\sin x}$