

Basic Integration and Substitution

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

2. $\int \frac{dx}{\sqrt{x+3}}$

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

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

5. $\int \sqrt{1+y^4} y^3 dy$

6. $\int (4-x^2)^2 x^2 dx$

7. $\int \frac{x dx}{(x^2+4)^3}$

8. $\int (x^2-x)(2x-1) dx$

9. $\int \frac{3t dt}{\sqrt[3]{t^2+3}}$

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

11. $\int \sqrt{x}(3-5x) dx$

12. $\int \frac{(x+1)(x-2)}{\sqrt{x}} dx$

13. $\int \frac{dx}{3x+1}$

14. $\int \frac{3x dx}{x^2+2}$

15. $\int \frac{x^2 dx}{1-x^3}$

16. $\int \frac{x-1}{x+1} dx$

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

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

19. $\int e^{4x} dx$

20. $\int \frac{e^{\frac{1}{x^2}}}{x^3} dx$

21. $\int e^{-x^2+2} x dx$

22. $\int \frac{e^{2x}}{e^{2x}+3} dx$

23. $\int \sin(2x) dx$

24. $\int \sin^3 x \cos x dx$

25. $\int \cos^4 x \sin x dx$

26. $\int \frac{\sec^5 x}{\csc x} dx$