

List of Integrals

1. $\int x^n dx = \frac{x^{n+1}}{n+1}, \quad n \neq -1$
2. $\int \frac{dx}{x} = \ln|x|$
3. $\int e^x dx = e^x$
4. $\int a^x dx = \frac{a^x}{\ln a}$
5. $\int \sin x dx = -\cos x$
6. $\int \cos x dx = \sin x$
7. $\int \sec^2 x dx = \tan x$
8. $\int \csc^2 x dx = -\cot x$
9. $\int \sec x \tan x dx = \sec x$
10. $\int \csc x \cot x dx = -\csc x$
11. $\int \sec x dx = \ln|\sec x + \tan x|$
12. $\int \csc x dx = \ln|\csc x - \cot x|$
13. $\int \tan x dx = \ln|\sec x|$
14. $\int \cot x dx = \ln|\sin x|$
15. $\int \sinh x dx = \cosh x$
16. $\int \cosh x dx = \sinh x$
17. $\int \frac{dx}{x^2 + a^2} = \frac{1}{a} \tan^{-1}\left(\frac{x}{a}\right)$
18. $\int \frac{dx}{\sqrt{a^2 - x^2}} = \sin^{-1}\left(\frac{x}{a}\right), \quad a > 0$
19. $\int \frac{dx}{x^2 - a^2} = \frac{1}{2a} \ln \left| \frac{x-a}{x+a} \right|$
20. $\int \frac{dx}{\sqrt{x^2 \pm a^2}} = \ln|x + \sqrt{x^2 \pm a^2}|$