Table of Integrals

Power of X

$\int x^n dx = \frac{x^{(n+1)}}{(n+1)} + C$

$n \neq -1$

$\int \frac{1}{x} dx = \ln|x| + C$

Exponential / Logarithmic

$\int e^x dx = e^x + C$

$\int b^x dx = \frac{b^x}{\ln(b)} + C$

$\int \ln(x) dx = x\ln(x) - x + C$

Trigonometric

$\int \sin x \, dx = -\cos x + C$

$\int \csc x \, dx = -\ln|\csc x + \cot x| + C$

$\int \cos x \, dx = \sin x + C$

$\int \sec x \, dx = \ln|\sec x + \tan x| + C$

$\int \tan x \, dx = -\ln|\cos x| + C$

$\int \cot x \, dx = \ln|\sin x| + C$

Trigonometric Result

$\int \cos x \, dx = \sin x + C$

$\int \csc x \cot x \, dx = -\csc x + C$

$\int \sec x \tan x \, dx = \sec x + C$

$\int \sec^2 x \, dx = \tan x + C$

$\int \csc^2 x \, dx = -\cot x + C$

$\int \arcsin x \, dx = x \arcsin x + \sqrt{(1-x^2)} + C$

Inverse Trigonometric

$\int \arcsin x \, dx = x \arcsin x + \sqrt{(1-x^2)} + C$

$\int \operatorname{arccsc} x \, dx = x \arccos x - \sqrt{(1-x^2)} + C$

$\int \arctan x \, dx = x \arctan - x(1/2)\ln(1+x^2) + C$

Inverse Trigonometric Result

$\int \frac{dx}{\sqrt{(1-x^2)}} = \arcsin x + C$

$\int \frac{dx}{x\sqrt{(1-x^2)}} = \operatorname{arcsec} |x| + C$

$\int \frac{dx}{1+x^2} = \arctan x + C$

Useful Identities

$\arccos x = \pi/2 - \arcsin x \quad (-1 \leq x \leq 1)$

$\operatorname{arccsc} x = \pi/2 - \operatorname{arcsec} x \quad (|x| \geq 1)$

$\operatorname{arccot} x = \pi/2 - \arctan x$ (For All X)

Hyperbolic

$\int \sinh x \, dx = \cosh x + C$

$\int \operatorname{csch} x \, dx = \ln|\tanh(x/2)| + C$

$\int \cosh x \, dx = \sinh x + C$

$\int \operatorname{sech} x \, dx = \arctan(\sinh x) + C$

$\int \tanh x \, dx = \ln(\cosh x) + C$

$\int \coth x \, dx = \ln|\sinh x| + C$