

Basic Integral Formulas

$$\int u^n du = \frac{u^{n+1}}{n+1} + c \quad (n \neq -1)$$

$$\int e^u du = e^u + c$$

$$\int \sin u du = -\cos u + c$$

$$\int \sec^2 u du = \tan u + c$$

$$\int \sec u \tan u du = \sec u + c$$

$$\int \tan u du = -\ln |\cos u| + c$$

$$\int \sec u du = \ln |\sec u + \tan u| + c$$

$$\int \frac{1}{u^2 + a^2} du = \frac{1}{a} \tan^{-1} \left(\frac{u}{a} \right) + c$$

$$\int \frac{du}{u\sqrt{u^2 - a^2}} = \frac{1}{a} \sec^{-1} \left(\frac{u}{a} \right) + c$$

$$\int \frac{1}{u} du = \ln |u| + c$$

$$\int a^u du = \frac{a^u}{\ln a} + c$$

$$\int \cos u du = \sin u + c$$

$$\int \csc^2 u du = -\cot u + c$$

$$\int \csc u \cot u du = -\csc u + c$$

$$\int \cot u du = \ln |\sin u| + c$$

$$\int \csc u du = \ln |\csc u - \cot u| + c$$

$$\int \frac{1}{\sqrt{a^2 - u^2}} du = \sin^{-1} \left(\frac{u}{a} \right) + c$$