

Derivatives & Integrals of Trig Functions

$$\textcircled{1} \int \sin x \, dx = -\cos x + C$$

$$\textcircled{2} \int \cos x \, dx = \sin x + C$$

$$\textcircled{3} \int \tan x \, dx = -\ln|\cos x| + C = \ln|\sec x| + C$$

$$\textcircled{4} \int \cot x \, dx = \ln|\sin x| + C$$

$$\textcircled{5} \int \sec x \, dx = \ln|\sec x + \tan x| + C$$

$$\textcircled{6} \int \operatorname{cosec} x \, dx = \ln|\operatorname{cosec} x - \cot x| + C \\ = -\ln|\operatorname{cosec} x + \cot x| + C$$

$$\textcircled{1} \frac{d}{dx} (\sin x) = \cos x$$

$$\textcircled{2} \frac{d}{dx} (\cos x) = -\sin x$$

$$\textcircled{3} \frac{d}{dx} (\tan x) = \sec^2 x$$

$$\textcircled{4} \frac{d}{dx} (\cot x) = -\operatorname{cosec}^2 x$$

$$\textcircled{5} \frac{d}{dx} (\sec x) = \sec x \cdot \tan x$$

$$\textcircled{6} \frac{d}{dx} (\operatorname{cosec} x) = -\operatorname{cosec} x \cdot \cot x$$