

TRIG RULES

$$1.) \int \cos x \, dx = \sin x + C$$

$$2.) \int \sin x \, dx = -\cos x + C$$

$$3.) \int \sec^2 x \, dx = \tan x + C$$

$$4.) \int \csc^2 x \, dx = -\cot x + C$$

$$5.) \int \tan x \, dx = \begin{cases} \ln |\sec x| + C & \text{OR} \\ -\ln |\cos x| + C \end{cases}$$

$$6.) \int \cot x \, dx = \ln |\sin x| + C$$

$$7.) \int \sec x \, dx = \ln |\sec x + \tan x| + C$$

$$8.) \int \csc x \, dx = \ln |\csc x - \cot x| + C$$

TRIG IDENTITIES

$$1.) \sin^2 \theta + \cos^2 \theta = 1$$

$$2.) 1 + \tan^2 \theta = \sec^2 \theta$$

$$3.) 1 + \cot^2 \theta = \csc^2 \theta$$

$$4.) \sin 2\theta = 2 \sin \theta \cos \theta$$

$$5.) \cos 2\theta = 2 \cos^2 \theta - 1$$

$$= 1 - 2 \sin^2 \theta$$

$$= \cos^2 \theta - \sin^2 \theta$$