

Derivatives of Trigonometric Functions

Name _____

Date _____ Period _____

$$\frac{d}{dx} \sin x = \cos x$$

$$\frac{d}{dx} \cos x = -\sin x$$

$$\frac{d}{dx} \tan x = \sec^2 x$$

Proof:

$$h(x) = \tan x$$

$$\frac{d}{dx} \cot x = -\csc^2 x$$

Proof:

$$h(x) = \cot x$$

$$\frac{d}{dx} \sec x = \sec x \tan x$$

Proof:

$$h(x) = \sec x$$

$$\frac{d}{dx} \csc x = -\csc x \cot x$$

Proof:

$$h(x) = \csc x$$

$$\frac{d}{dx} \sin x = \cos x$$

$$\frac{d}{dx} \cos x = -\sin x$$

$$\frac{d}{dx} \tan x = \sec^2 x$$

$$\frac{d}{dx} \cot x = -\csc^2 x$$

$$\frac{d}{dx} \sec x = \sec x \tan x$$

$$\frac{d}{dx} \csc x = -\csc x \cot x$$