

Name: _____
AP Calculus AB Trig Derivatives

Date: _____
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Do Now:

1. Find an equation for the normal line to the graph of $y = \frac{x+3}{x-3}$ at $x = 4$.

2. If $y = \left(\frac{8x-x^6}{x^3}\right)^{\frac{4}{5}}$, find $\frac{dy}{dx}$.

$$\frac{d}{dx} [\sin x] =$$

$$\frac{d}{dx} [\cos x] =$$

$$1. \frac{d}{dx}[\tan x] =$$

$$2. \frac{d}{dx}[\csc x] =$$

$$3. \frac{d}{dx}[\sec x] =$$

$$4. \frac{d}{dx}[\cot x] =$$

Examples: Find $\frac{dy}{dx}$.

$$1. y = x^2 \sin x$$

$$2. y = \frac{\cos^2 x}{3x}$$

$$3. y = x + \cot x$$

$$4. y = \frac{\sec x}{x}$$

$$5. y = x^2 \tan x$$

$$6. y = x \sin x + \cos x$$

$$7. y = \sin^2(\sqrt{x})$$

$$8. y = \tan^3(9x^2)$$