

Derivatives of Trigonometric Functions

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

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

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

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

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

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

Ex 1: Determine the derivative
of $f(x)$.

$$f(x) = x \sin(x)$$

Ex 2: Determine the derivative
of $f(x)$.

If $f(x) = x^3 \sin(x)$ find $f'(x)$.

Ex 3: Determine the derivative
of $f(x)$.

$$f(x) = (x^2 + 1)\tan(x)$$

Ex 4: Determine the derivative
of $f(x)$.

$$f(x) = x^2/\sec(x)$$

Ex 5: Determine the derivative of $f(x)$.

$$f(x) = \frac{\sin(x)}{\cos(x) + 2}$$

Ex 6: Determine the derivative
of $f(x)$.

$$f(x) = x^2 [\sin(x) + 3\tan(x)]$$

