

**3.6 Chain Rule**

## Order of Operations

Ex 1)  $y = (3x + 1)^2$

Evaluate at  $x = 1$ 

Ex 2)  $y = \cos(2x + \pi)$

Evaluate at  $x = \pi/2$ 

Ex 3)  $y = (3x + 1)^2$

Find  $\frac{dy}{dx}$ 

Ex 4)  $y = (3x^2 + 6x)^5$

Find  $\frac{dy}{dx}$

Ex 5)  $y = (3x + 1)^2$

Find  $\frac{dy}{dx}$ 

Ex 6)  $y = (3x^2 + 6x)^5$

Find  $\frac{dy}{dx}$ 

Ex 7)  $y = (x^2 + 2x + 3)^3$

Find  $\frac{dy}{dx}$ 

Ex 8)  $y = \tan(5x)$

Find  $\frac{dy}{dx}$

Ex 9)  $y = \sin (x^2 + 4)$

Find  $\frac{dy}{dx}$

Ex 10)  $y = \cos (2x + 3)^3$

Find  $\frac{dy}{dx}$

Ex 11)  $y = 2 \sin \sqrt{x^2 - 9}$

Find  $\frac{dy}{dx}$

$$\text{Ex 12) } y = \sin^3 x \cdot \tan(4x)$$

Find  $\frac{dy}{dx}$

$$\text{Ex 13) } y = \frac{x}{\sqrt{1+x^2}}$$

Find  $\frac{dy}{dx}$

$$\text{Ex 14) } y = (1 + \cos^2(3x))^5$$

Find  $\frac{dy}{dx}$