

Notation and Terminology

$$y = f(x)$$

differentiate with respect to x

$$\frac{d}{dx}[y] = \frac{d}{dx}[f(x)] \quad \leftarrow$$

$$m = \frac{\Delta y}{\Delta x}$$
$$\frac{dy}{dx}$$

$$- \frac{dy}{dx} = y' = f'(x)$$

"f-prime of x"

"the derivative of y w.r.t. x"

"dy/dx"

$$\frac{d^2}{dx^2} = \frac{d}{dx} \left[\frac{d}{dx}[y] \right] = y'' = \frac{d^2 y}{dx^2} = f''(x)$$

Δ = big difference

d = infinitesimal difference.