

Formulas for Derivatives
(Using squiggles and boxes)

$$y = f(\sim\sim) \qquad y' = \lim_{h \rightarrow 0} \frac{f(\sim\sim + h) - f(\sim\sim)}{h}$$

$$y = a \square^n \qquad \frac{dy}{dx} = n a \square^{n-1} \frac{d\square}{dx}$$

$$y = \square + \square \qquad \frac{dy}{dx} = \frac{d\square}{dx} + \frac{d\square}{dx}$$

$$y = \square \cdot \square \qquad \frac{dy}{dx} = \square \cdot \frac{d\square}{dx} + \square \cdot \frac{d\square}{dx}$$

$$y = \frac{\square}{\square} \qquad \frac{dy}{dx} = \frac{\square \cdot \frac{d\square}{dx} - \square \cdot \frac{d\square}{dx}}{\square^2}$$

$$y = \sin(\square) \qquad \frac{dy}{dx} = \cos(\square) \cdot \frac{d(\square)}{dx}$$

$$y = \cos(\square) \qquad \frac{dy}{dx} = -\sin(\square) \cdot \frac{d(\square)}{dx}$$

$$y = \tan(\square) \qquad \frac{dy}{dx} = \sec^2(\square) \cdot \frac{d(\square)}{dx}$$

$$y = \cot(\square) \qquad \frac{dy}{dx} = -\csc^2(\square) \cdot \frac{d(\square)}{dx}$$

$$y = \sec(\square) \qquad \frac{dy}{dx} = \sec(\square) \cdot \tan(\square) \cdot \frac{d(\square)}{dx}$$

$$y = \csc(\square) \qquad \frac{dy}{dx} = -\csc(\square) \cdot \cot(\square) \cdot \frac{d(\square)}{dx}$$