

DEFINITION OF A DERIVATIVE ... 3 WAYS (§3.1 – §3.2)

In all 3 cases, the derivative involves a limit of the slope of a secant line.

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

$$f'(x) = \lim_{x \rightarrow c} \frac{f(x) - f(c)}{x - c}$$

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x-h)}{2h}$$