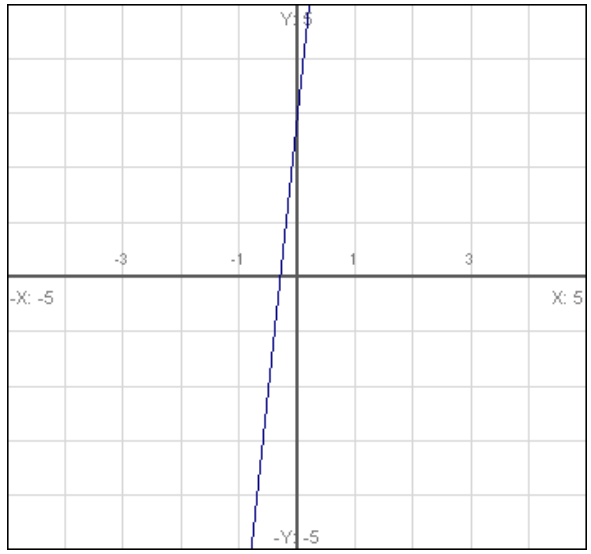
# Definition of the Derivative

The derivative of a function denoted $f'(x)$ is equal to:

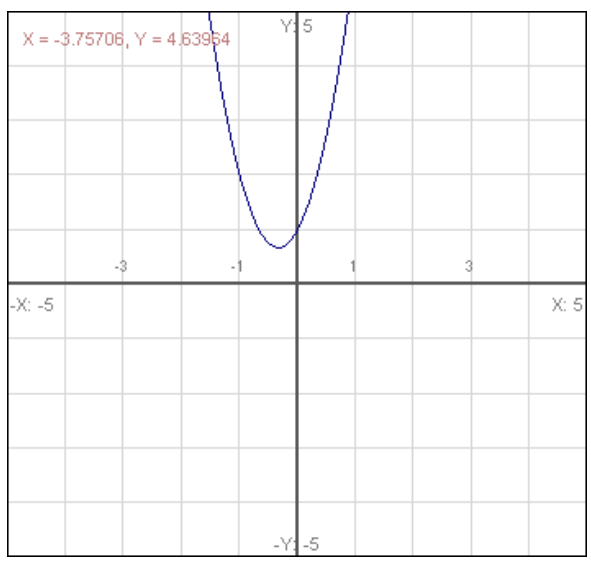
$$\lim_{h \to 0} \frac{f(x+h) - f(x)}{h} \text{ or } \lim_{\Delta x \to 0} \frac{f(x+\Delta x) - f(x)}{\Delta x}$$

Directions:
a) Use the Definition of the Derivative to find *f'(x)*.
b) Using the result in part a, find *f'(-1), f'(-⅓), f'(0)and f'(1)*.

1. $f(x) = 10x + 3$




2. $f(x) = 3x^2 + 2x + 1$



3. $f(x) = \sqrt{x}$