

1.10 – The Derivative as a Function

The *numeric* derivative of f at the point $x = a$ is given by

$$f'(a) =$$

The derivative of f as a *function* of x is given by

$$f'(x) =$$

1. A ball is dropped from the top of a building that is 200 feet tall. The ball moves according to the position function $s(t) = 200 - 16t^2$, where s is measured in feet and t is measured in seconds. Find the velocity of the ball at $t = 3$.

2. Find $f'(x)$ for the function $f(t) = 6 + \sqrt{x+2}$. Give the domain of f and f' .

3. Find an equation of the line tangent to $g(x) = \frac{8}{x}$ at $x = 4$.