Sections 3.3 - 3.4 Worksheet:

THE DERIVATIVE AT A POINT: The *derivative* of a function f(x) at a point x = a, written f'(a), is defined as the instantaneous rate of change of f(x) when x = a:

$$f'(a) = \lim_{h \to 0} \frac{f(a+h) - f(a)}{h}$$

1. Let $f(x) = 5x^2 - 6x + 9$. Find f'(3).

2. Let $g(t) = 5 - t^2$. Find g'(-5).

3. Let $f(x) = 2x^3 + 7$. Find f'(3).