

Math 176 Quiz 3 Version A

1. Use the limit definition of derivative

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

to explain why the derivative of  $f(x) = x^2$  is  $f'(x) = 2x$ .

2. Suppose  $g(x) = 3x + 2\sqrt{x}$ . Use the rules of differential calculus to compute  $g'(x)$ .