Quiz 2A, Calculus I - No Calculators

Dr. Graham-Squire, Spring 2014

Name: _____

1. (4 points) Use the shortcut rules, <u>not</u> the limit definition, to calculate $f'(x)$ if

$$f(x) = (e^x \cdot x^2)(x^3 + 3).$$

You do not need to simplify your answer.

2. (4 points) Use the quotient rule to prove the derivative rule that $\dfrac{d}{dx} \csc x = -\csc x \cot x$.

3. (2 points) Let $f(x) = 7$. <u>Use the limit definition of the derivative</u> to prove that $f'(x) = 0$.