Math 10850, Honors Calculus 1

Quiz 8, Thursday November 14

Name:

1. Using the definition of the derivative, show that the function f given by $f(x) = \frac{2}{1+x^2}$ is differentiable at $x = 1$, and find $f'(1)$. (You may use familiar facts about limits, but nothing about the derivative except the definition).

2. Show that if a function f is differentiable at a, then it must be that $\lim_{h\to 0} f(a+h) = f(a)$ (i.e., that f is continuous at a).