

10am

Quiz 3

Spring 2012

Your name: _____

Math 0220

Your TA's name: _____

No calculators. Show all your work (no work = no credit). Write neatly.

1. [5 points] Use a linear approximation to estimate the number $\frac{1}{1001}$.

2. [5 points] A ladder 13 feet long rests against a vertical wall. If the bottom of the ladder slides away from the wall at the rate of 0.5 ft/sec. At what rate is the angle between the ladder and the ground changing when the bottom of the ladder is 5 feet from the wall?

3. [5 points] Find a formula for the inverse $f^{-1}(x)$ of the function $f(x) = 1 + \ln(2x - 3)$.

test problem [8 points] Use the Intermediate Value Theorem to show that there is root of the equation $x^2 = \cos x + 1$ in the interval $(0, \pi/2)$. Support all the necessary steps in your solution.