

Name: \_\_\_\_\_

Math 211 Quiz 5

Section: 322

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Oct 18, 2012

1. (10 pts) Find the derivatives of the following functions.

a.  $f(x) = \sqrt{x^2 + 2x + 1}$       b.  $g(t) = e^{-1/t^2}$

2. (5 pts) Find  $dy/dx$  by implicit differentiation.

$$\ln(xy^2) = x^2 - y$$

**3.** (5 pts) How long does it take for a population that is growing with a constant relative growth rate at 10% to triple?