

Name _____

You must show all of your work to receive credit for a correct answer. You are not allowed to borrow another student's calculator during the quiz.

1. (8 points) Find derivatives of each of the following functions. Be sure to use correct variable names and proper terminology when referring to the derivative.

(a) $w = \ln(\sqrt{x^4 + 5x^2 + 12})$

(b) $g(t) = te^{-t}$

(c) $f(x) = \frac{x^2}{\sqrt{x}}$

(d) $y = e^{(4x^2)}$

2. (2 points) Find the equation of the line tangent to the graph of $f(x) = 5e^{2x}$ at $x = 0$.