

Math 251 Fall 2017

Quiz #4, October 3rd

Name: _____

There are 25 points possible on this quiz. This is a closed book quiz. Calculators and notes are not allowed. **Please show all of your work!** If you have any questions, please raise your hand.

Exercise 1. (5 pts.) Find the derivatives of the following functions.

(a) $g(x) = \frac{3}{x^4}$

(b) $f(x) = e^4$

(c) $y = x^e$

Exercise 2. (3 pts.) Differentiate the function $H(u) = (3u - 1)(2u + 4)$. Simplify your derivative.

Exercise 3. (4 pts.) Differentiate the function $y = \frac{1 - 6x + x^2}{\sqrt{x}}$. Simplify your derivative.

Exercise 4. (5 pts.) Where is the tangent line to $y = e^x - 2x + 1$ parallel to $4x - y = 1$?

Exercise 5. (4 pts.) Find the derivative of $G(x) = \frac{2x + 5}{x^2 + 1}$. Simplify your derivative.

Exercise 6. (4 pts.) Find the derivative of $f(x) = 2xe^x$. Simplify your derivative.