

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) $f(x) = e^5$

(b) $g(x) = \frac{5}{x^3}$

(c) $y = x^e$

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

Exercise 3. (4 pts.) Differentiate the function $y = \frac{5 - 2x + x^2}{\sqrt{x}}$. Simplify your derivative.

Exercise 4. (3 pts.) Where is the tangent line to $y = 4 + 2e^x - 4x$ parallel to $4x - y = 1$?

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

Exercise 6. (4 pts.) Find the derivative of $f(x) = 3x^2e^x$. Simplify your derivative.