

Date: 10/4/13.

Instructor: Cody Clifton.

Name: _____

This 10-point quiz will test you on Sample Exam 1 problems. Read carefully and always show your work. You have 15 minutes... good luck!

(1) Let $f(x) = xe^x$. Find the point $(x, f(x))$ at which the second derivative $f''(x)$ equals zero.

(2) Suppose that the function g satisfies the inequality

$$1 + x \leq g(x) \leq e^x$$

for all values of x . Find the value of $\lim_{x \rightarrow 0} g(x)$.

(3) Find the point on the curve $y = 3x^2 - 4x + 5$ where the tangent line is parallel to the line $y = -22x + 7$.