MATH 2250 - Royal Homework Name _____
Section 3.3
Remember to always show all supporting work.

1. (4 points) (See WeBWorK 3.3 #19) Suppose u and v are functions of x that are differentiable at $x = 0$ and that $u(0) = 8$, $u'(0) = -2$, $v(0) = -1$, $v'(0) = 4$. Find the values of the following derivatives at $x = 0$. Hint: I expect to see u's and v's in your computations.

   (a) $\dfrac{d}{dx}(uv)$

   (b) $\dfrac{d}{dx}\left(\dfrac{u}{v}\right)$

2. (3 points) (See WeBWorK 3.3 #22) The curve $y = ax^2 + bx + c$ passes through the point $(1, 2)$ and is tangent to the line $y = x$ at the origin. Find a, b, and c. (Be sure to organize your work so that I can follow it.)

The assignment continues on the back.

3. (1 point) What did you do well on the first MATH 2250 exam?

4. (2 points) Moving forward, how do you plan to improve your future exam grades, or maintain your current grade if you are happy with it?