Econ 214Q 1st Quiz July 26, 2005

Answer the questions fully to your best ability. Use the space provided. If you run out of room, use the backsides. No partial credit will be given if you do not show the steps of your calculations! **Write as neatly as possible!**

Name: _____

(2) 1. If $y = f(x)$, what is the derivative of y, $\left(\frac{dy}{dx}\right)$?

(2) 2. What is the connection between the quotient $\frac{\Delta y}{\Delta x}$ and the derivative $\left(\frac{dy}{dx}\right)$?

3. Find the derivative of the following functions:

(2) (a) $y = a + bx$

(2) (b) $y = a + bx + 2x^2$

(2) (c) $y = e^{x^2}$

4. Find the difference quotient $\frac{\Delta y}{\Delta x}$:

(2) (a) $y = 2 - 3x + t$

(2) (b) $y = -3x^2 + 2x + 5$