9/23/2003   MA 171 Calculus A   Name:_____

Dr. Lunsford   Quiz 5   (20 Points Total)

Neatly show ALL of your work and CLEARLY indicate your answers. Use the back of the page if necessary.

I. If $f(x) = x^2 - 4x + 7$, use the definition of the derivative to find $f'(x)$. (10 points)

II. The position (in feet) of a particle moving along a straight path is given by the function $p(t) = \dfrac{4t}{t+1}$ where t is in seconds. Given that $p'(t) = \dfrac{4}{(t+1)^2}$, please answer the following questions.

(a) What is the velocity of the particle at time $t = 2$ seconds? (4 points)

(b) To your right is a graph of $p(t)$. Use this graph to draw the line whose slope represents the velocity found in part (a). (2 points)

(c) Find the equation of the line drawn in part (b). (4 points)