Math 16A (Summer 2007)
Kouba
Quiz 4

PRINT Name: 

Exam ID #: 

1.) (15 pts.) Use \( f'(x) = \lim_{\Delta x \to 0} \frac{f(x + \Delta x) - f(x)}{\Delta x} \) to determine the derivative of \( f(x) = x^2 - 3x + 4 \).

2.) Consider the function \( f(x) = \frac{x}{x - 2} \) and assume that its derivative is \( f'(x) = \frac{-2}{(x-2)^2} \)

   a.) (2 pts.) What is \( f(4) \) ?

   b.) (2 pts.) What is \( f'(4) \) ?

   c.) (5 pts.) Find an equation of the line which is tangent to the graph of \( f \) at \( x = 4 \).

   d.) (6 pts.) Find an equation of the line which is perpendicular to the graph of \( f \) at \( x = 4 \).