

Math 16A (Summer 2007)  
Kouba  
Quiz 4

PRINT Name : -----

Exam ID # : -----

1.) (15 pts.) Use  $f'(x) = \lim_{\Delta x \rightarrow 0} \frac{f(x + \Delta x) - f(x)}{\Delta x}$  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  $x = 4$ .