KEY

Math 125-Quiz 2
September 7, 2011

You have ten minutes to complete this quiz. No Calculators.

1. What do we mean when we say a function f is an even function? Give your answer in terms of both...

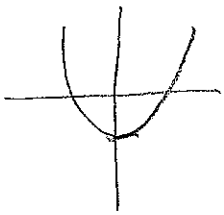
   (a) Algebra

   $f(-x) = f(x)$

   EG: $f(x) = x^2 - 1$

   (b) Symmetry

   The graph of f is symmetric about the y axis



2. Find the equation of the line through (1,3) and (3,4).

   Slope: $\frac{\Delta y}{\Delta x} = \frac{1}{2}$

   Point: 1,3

   Point-slope form

   $y - 3 = \frac{1}{2}(x-1)$

   or $y = \frac{1}{2}x + \frac{5}{2}$

3. What (if any) is the difference between the functions

$$f(x) = \frac{x^2-4}{x^2-3x+2} \quad \text{and} \quad g(x) = \frac{x+2}{x-1}?$$

$f(x) = \frac{(x-2)(x+2)}{(x-2)(x-1)}$ so the functions are the same almost everywhere.

f is not defined when $x = 2$

(If you finish early, you may go back and check your work. If you're satisfied with your work, you may turn this sheet over and look at your notes/homework for the remainder of the quiz time. You may not, of course, change any of your answers once you've done so.)