Math 1210-2
Quiz 1 Solutions

August 24, 2007

Show all work for complete credit!

1a) Put the following equation into slope intercept form:

$$x - 2y + 6 = 0$$

(3 points)

Algebra to solve for y and put into slope-intercept form:

$$2y = x + 6$$

$$y = \frac{x}{2} + 3$$

(Thus the slope is $\frac{1}{2}$ *and the y-intercept is 3.)*

1b) What is the equation for the line perpendicular to the line in part (1a), and passing through the point (2, 0)?

(3 points)

We know that the slope of the perpendicular line is the negative reciprocal of $\frac{1}{2}$*, namely* $m = -2$*. We can use the point slope equation of the line:*

$$y = -2\,(x-2)\,.$$

You could also write this in slope-intercept form:

$$y = -2x + 4$$

1c) Carefully draw the two lines from parts (1a) and (1b) below, so that they have the correct slopes and y-intercepts.

(4 points)

If I was drawing this by hand I would label each line. Instead I will use words: Line (1a) has y-intercept 3 and slope 1/2. Line (1b) has y-intercept 4 and slope -2.