Algebra II: Homework #3: Review from Algebra I, Part II

Due Monday, June 16 at the beginning of class

**Linear Equations and Graphs of Linear Equations**

Graph the following linear equations. Make sure that (1) your lines are drawn with a straightedge (2) the axes and grid marks are labeled appropriately.

1) \(2x - y = 4\)

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2) \(x - 2y = 3\)

\[\]

3) \(3x - 6y = 6\)

\[\]

4) \(-5x + y = 2\)

\[\]
**x-intercepts and y-intercepts**

Find the coordinates of the x-intercepts and y-intercepts for the four functions above by using the method from class. Use this to verify that your lines are correctly drawn in problems 1-4.

5) \[ 2x - y = 4 \]

Coordinates of x-intercept: ________  
Coordinates of y-intercept: ________

6) \[ 3x - 6y = 6 \]

Coordinates of x-intercept: ________  
Coordinates of y-intercept: ________

7) \[ x - 2y = 3 \]

Coordinates of x-intercept: ________  
Coordinates of y-intercept: ________

8) \[ x - 2y = 3 \]

Coordinates of x-intercept: ________  
Coordinates of y-intercept: ________

**Slope, Slope-Intercept Form, The Point Slope Formula**

Find the equation of the line that contains the given points using the slope formula and the point-slope formula. Convert your answer to slope intercept form.

7) \((-2, -5), (2, -3)\)

8) \((4, 6), (-3, 20)\)
9) (3,1) , (-7,1) 
10) (1, -1) , (-2, -7)

11) Consider the line $2x - y = 4$. Use the point-slope formula to find the equation of the line parallel to $2x - y = 4$ that passes through the point (-2, -3).

12) Consider the line $x - 2y = 3$. Use the point-slope formula to find the equation of the line perpendicular to $x - 2y = 3$ that passes through the point (-1, 0).
13) To visualize that the two lines in Problem 11 are parallel, graph them on the same coordinate plane below. Make sure that (1) your lines are drawn with a straightedge (2) the axes and grid marks are labeled appropriately.

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14) To visualize that the two lines in Problem 12 are perpendicular, graph them on the same coordinate plane below. Make sure that (1) your lines are drawn with a straightedge (2) the axes and grid marks are labeled appropriately.

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