Math 9 – Analytic Geometry Name: _____

Lesson #2: Slope Intercept Form (part 2) -- Notes Date: _____

Learning Goal: We are learning to write the equation of a line without using a graph.

Recall that the slope intercept form is $y = mx + b$, where *m* is the slope of the line and *b* is the y-intercept. In today's lesson, we are going to focus on creating the equation of a line given various pieces of information.

For all the following examples, create $y = mx + b$.

1. $m = \frac{4}{3}$ and $b = -8$

2. $m = -7$ and $(0, 5)$

3. $m = \frac{-3}{5}$ and $(10, 6)$

4. $m = \frac{2}{7}$ and $(-2, 3)$

5. $(-3, 3)$ and $(-2, 5)$

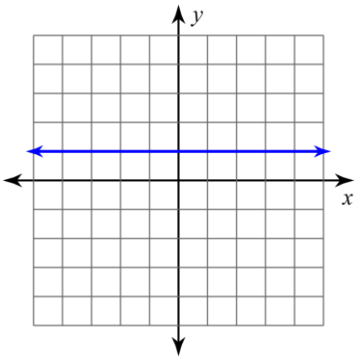
6. $(-4, 5)$ and $(5, 2)$

7. Create the equation of a line which has the same slope as $4x-5y=-5$ and has the same y-intercept as $3y+5x-9=0$.

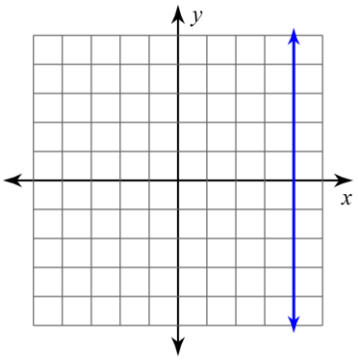
8. Create the equation of a line which has the same slope as $8-3y=7x$ and has the same y-intercept as $5x+2y=3$.

Horizontal and Vertical Lines: Given the graph, determine the equation of the line:

a)



b)



Success Criteria:

- I can write the equation of a line if I am given the slope and the y-intercept
- I can find the equation of a line if I am given two ordered pairs by first finding the slope, and then using one of those ordered pairs to find the y-intercept

- I can determine the equation of a vertical and horizontal line