Lesson: Slope-Intercept Form

Definitions:

1. Linear equation- an equation whose graph is a line
2. x-intercept- the x-coordinate of the point where the line crosses the x-axis
3. y-intercept- the y-coordinate of the point where the line crosses the y-axis
4. slope-intercept form- and equation written in the form y=mx + b (where y is by itself) the slope is the value m and the y-intercepts is b

Put each equation in slope-intercept form, and then identify the slope and the y-intercept in each equation.

Writing Equations in Slope-intercept Form

Write the equation of the line given the slope and the y-intercept.

5. m = 3/8 b = 6 6. Slope = 3 y-int = -4

Given the graph, find the slope and identify y-intercept. Write the equation in slope-intercept form.

Graphing Equations

Example 9 y=3x-1

1. plot the y-intercept (0, -1)

2. use the slope to plot another point- think “rise/run” 3 = 3/1

3. draw a line through the points

Example 10 y= -2/3x +2

1. plot the y-intercept

2. use the slope to plot another point (rise/run)

3. draw a line through the points

Putting it ALL together Identify the slope, y-intercept, and graph the equation.

Example 11 y= 7-3x y=-3x + 7 m=-3 b=7

Example 12 -2(3x-4) + y = 0 \*put in slope-intercept form 1st\*

Is the ordered pair on the graph of the given equation? or Is this ordered pair a solution to the equation?

Ex. 13 (3,4) y= -2x +1 Ex 14 (-6, 5) y= 1/2x + 2 Ex. 15 (0, 1) y= x – 5/4