Math 1 2.4 Slope-Intercept Form Unit 2 Day 4

y = mx + b

**Slope:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**y-intercept:** Where the graph

 crosses the y-axis

 ( x , y ) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* The ordered pair stays as x and y when writing the equation

**Identifying Slope and Y-Intercept**

What are the slope and y-intercept of the following equations?

1. y = 2x + 5
2. y = -5x – 1
3. y = 1/3x + 2
4. y = x/2 – 3
5. 2y = 6x + 4

**Graphing Equations of Lines in Slope-Intercept Form**

Graph the following lines:

1. y = 2x – 1
2. y = 1/2x + 5
3. y = -3x – 2



**Writing Equations in Slope-Intercept Form**

Write the equation of the line with the following slope and y-intercept:

1. slope = ½;

y-intercept = 2

1. slope = 3;

y-intercept = -2

1. slope = -4;

 y-intercept = 0

1. slope = 0;

y-intercept = 9

1. slope = 0;

y-intercept = 0

**Writing Equations with a Given Point and Slope**

Write the equation of the line that goes through each given point and slope.

1. Write the equation of a line that goes through the point (2, 3) and has a slope of 5.
2. Write the equation of the line that goes through the points (2, 1) and (5, -8).

Math 1 2.5 Point-Slope Form Unit 2 Day 5

**Point Slope Form:** An equation of a nonvertical line with slope *m* and through point (x1, y1)

(y – y1) = m(x – x1)

**Graphing Using Point-Slope Form**

1. What is the graph of the equation:

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



1. What is the graph of the equation:

$ y+7=-\frac{4}{5}(x-4)$

**Using Two Points to Write an Equation**

What is the equation of the line to the right?

**Writing an Equation in Point-Slope Form**

1. Convert the following equation from Point-Slope to Slope-Intercept: $y-3=4(x+1)$
2. Convert the following equation from Point-Slope to Slope-Intercept: $y+7=12(x-2)$

**Using a Table to Write an Equation**

The table shows the altitude of a hot-air balloon during its linear descent. What equation in slope-intercept form gives the balloon’s altitude at any time? What do the slope and y-intercept represent?