

MODULE 3: GRAPHING

"THE TROUBLE IS, YOU THINK YOU HAVE TIME." - MY HOMIE BUDDHA

3.1 & 3.2 GRAPHING BASICS

Standard form of a linear equation is _____.

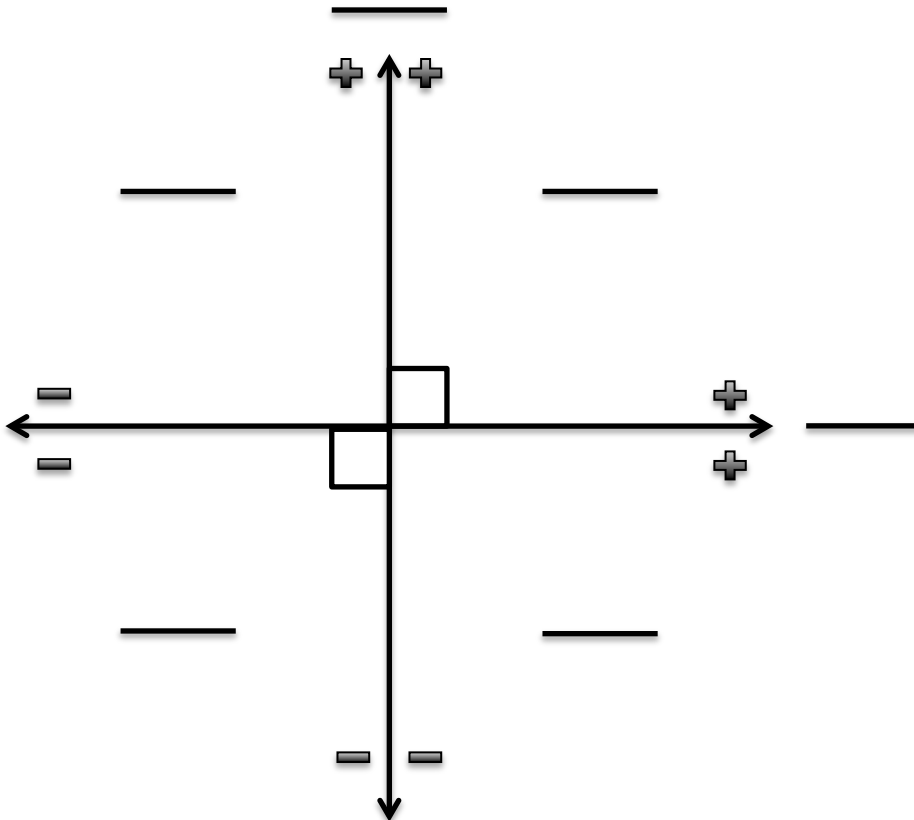
An equation in two variables, is an equation for which every _____ is a pair of values.

Given an equation such as $x + y = 5$, there are an _____ number of solutions.

To simplify writing the pairs that satisfy an equation we use _____ notation. An example is (_____ , _____).

x-coordinate: _____ or _____ variable.

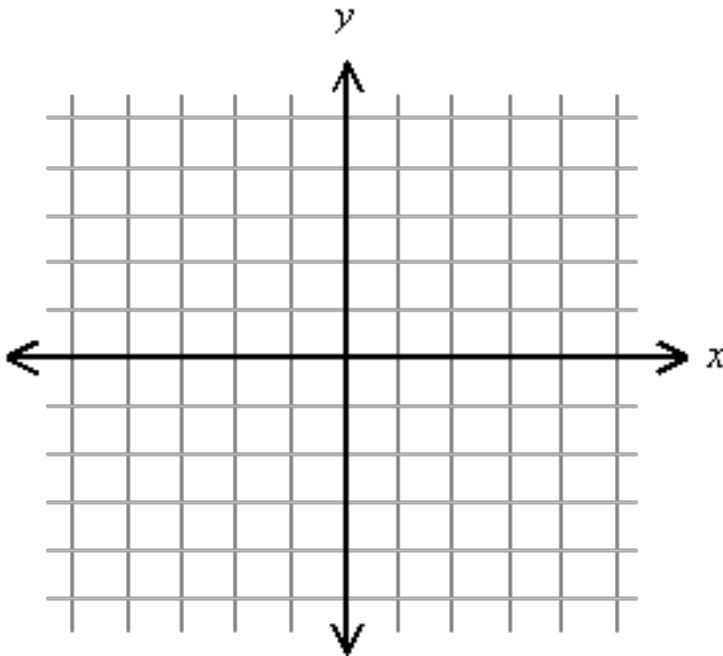
y-coordinate: _____ or _____ variable.



horizontal line is called the _____.

vertical line is called the _____.

To graph a point, start at the **center**, called the _____.



Plot the

following:

A (4 , 2)

B (-1 , -3)

C (-5 , -5)

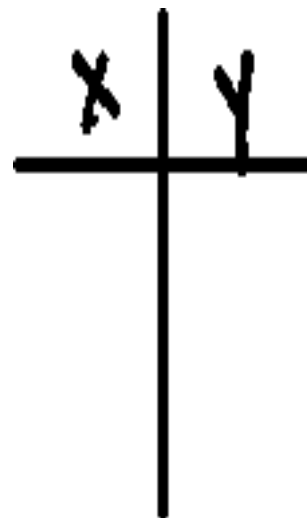
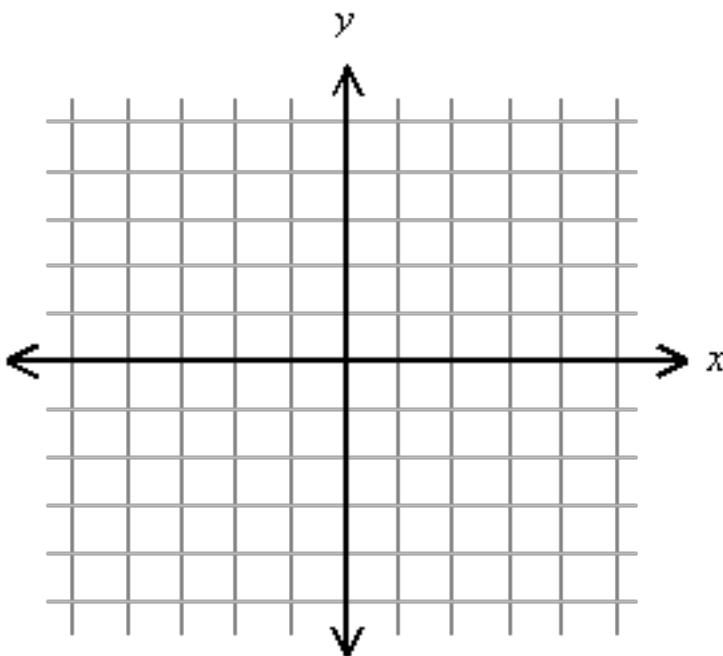
D (3 , -2)

E (-4 , 0)

F (0 , 0)

G (0 , 1)

To graph the linear equation $x + y = 5$, by plotting points, we must find at least _____ solutions for the equation.



Solutions of a Linear Equation

Determine if each ordered pair is a solution of: $2x - y = 10$

a) (2, -6)

b) (10,-10)

Ex. Complete the table

x	y	(x,y)
0		
	0	
3		

If I give you x then you give me _____.

If I give you y then you give me _____.

The coordinate when x is 0, such as (0,y) is called the
_____.

The coordinate when y is 0, such as (x,0) is called the
_____.

Forms of Linear Equations

$y = m x + b$: _____

"m" represents the _____

"b" represents the _____

Words associated with slope: _____

Words associated with y-intercept: _____

Homework Checklist

Section 3.1 & 3.2 Graphing Basics

3.3 - 3.5 GRAPHS, SLOPES AND POINTS

x-intercept: _____

y-intercept: _____

Note: Good points to use when graphing are x and y intercepts

x-intercept: plug in _____ for the y value

If you want to find x, then you plug in for _____.

y-intercept: plug in _____ for the x value

If you want to find y, then you plug in for _____.

Ex. Given $2x - 3y = 6$, find the x-intercept and the y-intercept

Ex. What are your coordinates if the x-intercept is 4 and y-intercept is -3?

(_____ , _____) (_____ , _____)

Slope

Slope: _____ represented by the letter *m*.

When asked about rate I know to solve for the _____.

$m =$ _____ $=$ _____ $=$ _____

The equation for slope is:

$$m = \underline{\hspace{10em}}$$

Given: 2 points (x_1 , y_1) (x_2 , y_2)

Solving for: slope (m)

Ex. Find the slope given the points (14, 6) and (4, 13)

Ex. Find the slope given the points (1, 12) and (15, -11)

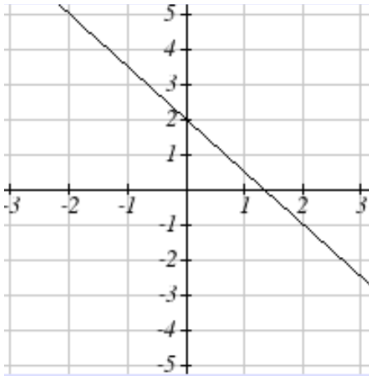
Ex. Find the slope given the points (7, 4) and (13, 4)

Ex. Find the slope given the points (-8, -5) and (-8, 2)

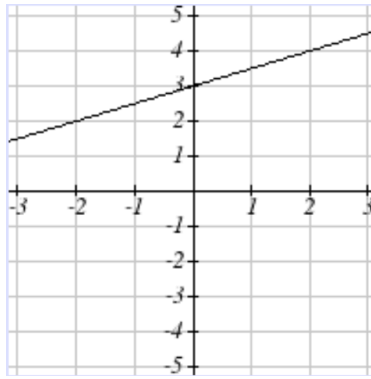
Reading Slope on a Graph

1. Mark two clear and distinct _____
2. Count your _____ (+up and -down)
3. Count your _____ (-left and +right)

Ex. Find the slope of the lines

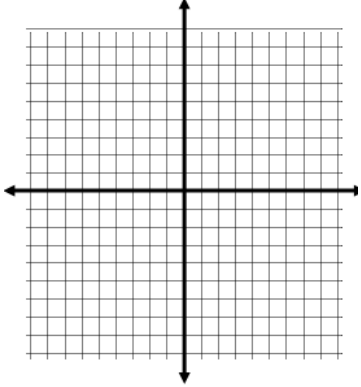


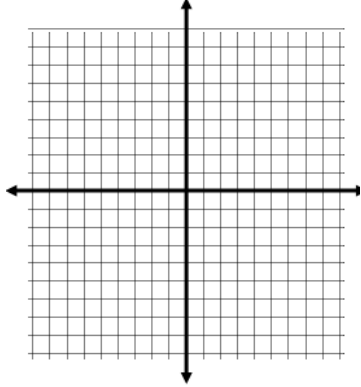
$m =$ _____

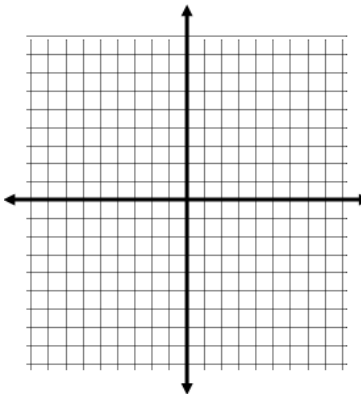


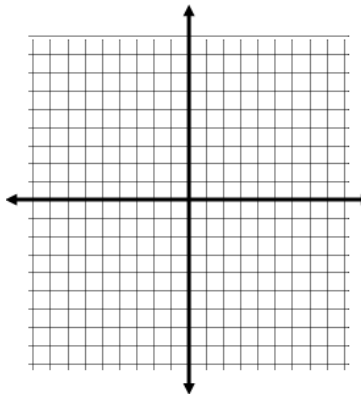
$m =$ _____

Equation of a line









Horizontal lines will always be in the form of $y = \underline{\hspace{2cm}}$

With a slope $m = \underline{\hspace{2cm}}$

Vertical lines will always be in the form of $x = \underline{\hspace{2cm}}$

With a slope $m = \underline{\hspace{2cm}}$

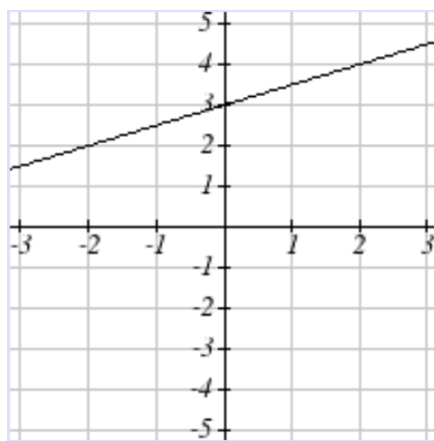
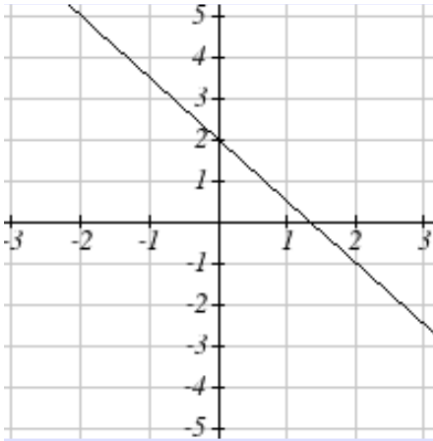
Slope Intercept Form

$$y = \underline{\hspace{1cm}}x + \underline{\hspace{1cm}}$$

Given: slope (m) and y -intercept (b)

Solving for: The equation of a line

Ex. Find the equation of the line from the graphs below



$b = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

$m = \underline{\hspace{2cm}}$

$m = \underline{\hspace{2cm}}$

$y = \underline{\hspace{2cm}}$

$y = \underline{\hspace{2cm}}$

Ex. Find the slope and the y -intercept: $-2x - 4y = 17$

(hint: solve for y)

Ex. Determine the slope and y-intercept

a. $y = 2x - 3$ $m = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$

b. $y = 2 - 3x$ $m = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$

c. $y = 2x$ $m = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$

d. $y = -3$ $m = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$

Ex. Write equations to model each situation below:

1. Your down payment was \$2000 and you pay \$300 each month.

2. You are 8 miles from home, and drive 60 mph.

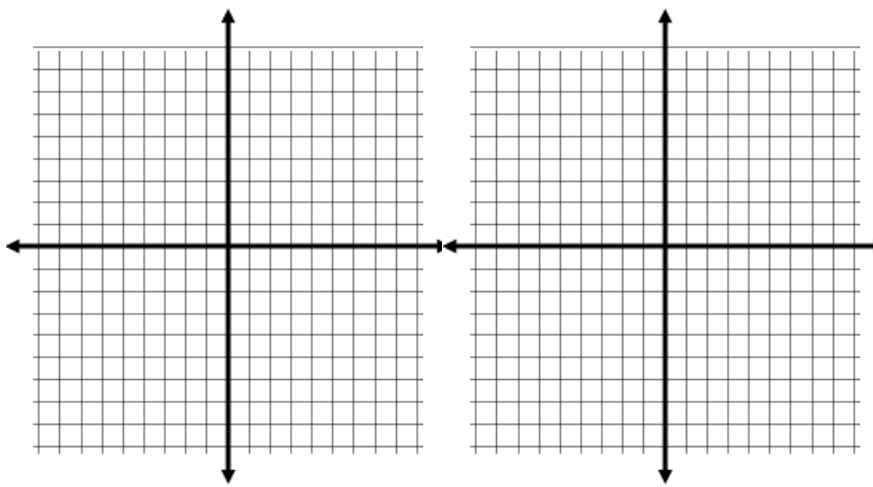
1. _____ 2. _____

Graphing:

1. Start with the _____. Mark this point.

2. Then use the _____. Rise first. Run second.

Ex. Graph the lines given below



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

$y = 5x - 2$

Homework Checklist

- Section 3.3 & 3.4 Graphs, slopes, and points
- Section 3.5 Graphs using format: $y = mx + b$
- Module 3: Graph and Graph Information