

## Warm-Up

1) Which algebraic expression represents 15 less than  $x$  divided by 9?

- 1)  $\frac{x}{9} - 15$
- 2)  $9x - 15$
- 3)  $15 - \frac{x}{9}$
- 4)  $15 - 9x$

2) If  $f(x) = 7x - 5$ , find the value of the following:

$f(-2)$

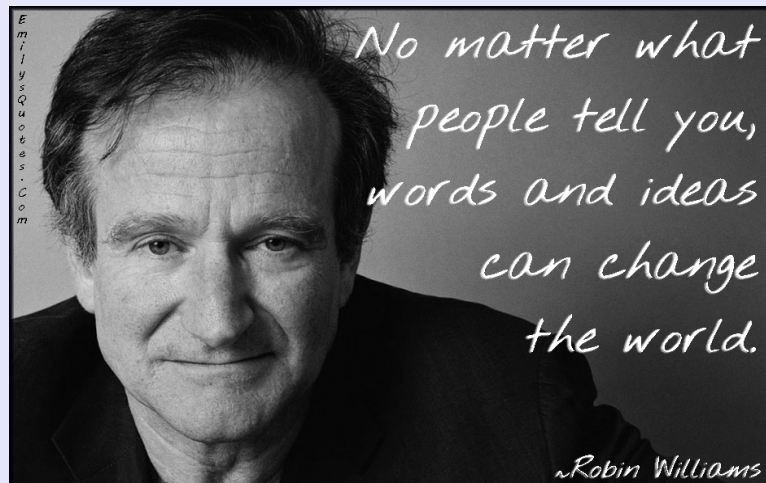
$f(3)$

$f(0)$

Oct 15-10:21 AM

## Unit #2: Linear Equations

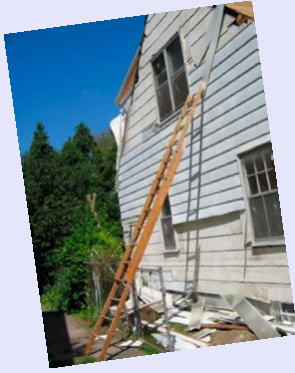
Lesson:  
Slope



Oct 15-10:05 AM

# Slope, writing equations.notebook

Students will be able to find the slope



Oct 16-12:19 PM



Students will be able to find the slope of a function

Do you recall what the **4 types of slope** look like?

Positive



Negative



Zero



Undefined



Jul 9-3:19 PM

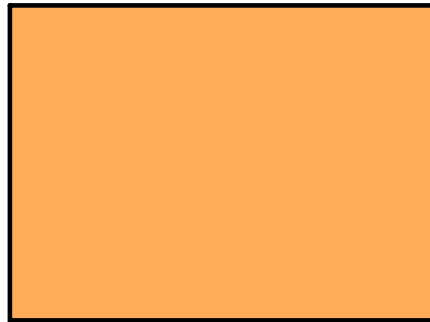
Students will be able to find the slope of a function

What is **SLOPE**?

Another word for **slope** is

What **letter** do we use to represent **slope**???

What is the **SLOPE** formula???



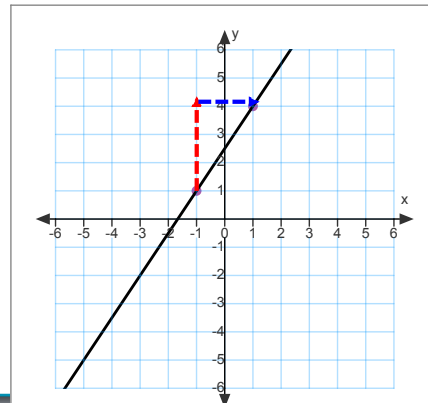
Jul 9-3:19 PM



## What is Slope?

Slope tells us how quickly a line is rising or falling.

$$\text{slope} = \frac{\text{vertical change}}{\text{horizontal change}} = \frac{\text{rise}}{\text{run}}$$



Mar 19-7:45 AM

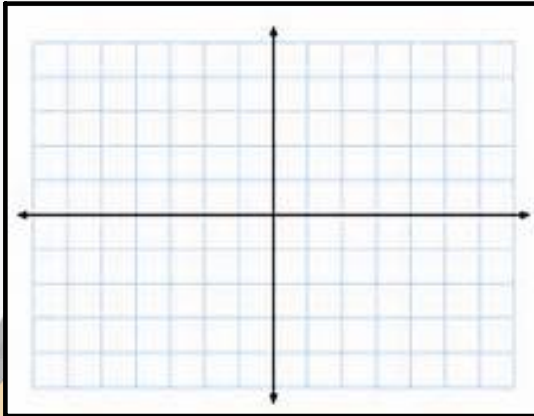


Students will be able to find the slope of a function

Find the slope given the points  $(1,2)$  and  $(4,3)$ .

**Plotting and counting** vs. **Formula?**

"old school"



Jul 9-3:19 PM

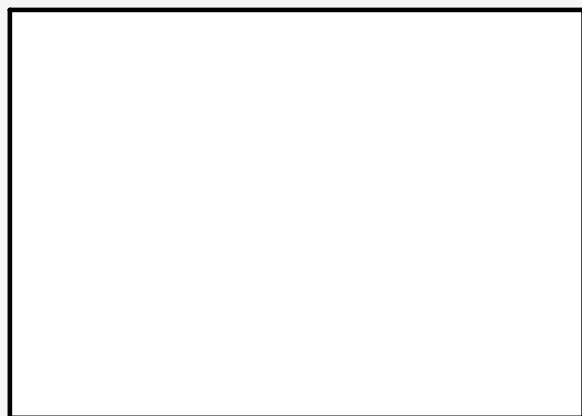
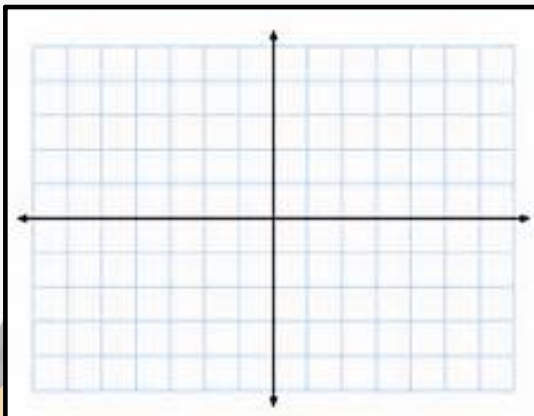


Students will be able to find the slope of a function

Find the slope given the points  $(-6,4)$  and  $(2,1)$ .

**Plotting and counting** vs. **Formula?**

"old school"



Jul 9-3:19 PM

Students will be able to find the slope of a function

1. What is the slope of the line containing the points (3,4) and (-6,10)?

1)  $\frac{1}{2}$       2) 2      3)  $-\frac{2}{3}$       4)  $-\frac{3}{2}$

2. What is the slope of the line that passes through the points (2,5) and (7,3)?

1)  $-\frac{5}{2}$       2)  $-\frac{2}{5}$       3)  $\frac{8}{9}$       4)  $\frac{9}{8}$

3. What is the slope of the line that passes through the points (3,5) and (-2,2)?

Jul 9-3:19 PM

How to find the Slope, Y-intercept and Equation of a line with a Calculator

EX. Find the equation of a line connecting the points (5,4) and (-5,0):  
 First we are going to input the points into the calculator:

The calculator interface shows the following steps:

- Press **LIST** **STAT** **ENTER** **LS** **5** **U** **ENTER** **ANS** **(-)** **?** **LS** **5** **U** **ENTER** **▶** **L4** **T**
- Press **ENTER** **CATALOG** **0** **ENTER** **2ND** **QUIT** **MODE**
- The screen shows a list editor with L1 containing 5 and L2 containing 4. A red arrow points from L1 to the label "Enter X Values" and a green arrow points from L2 to "Enter Y Values".
- Pressing **ENTER** again shows L1 containing -5 and L2 containing 0. A blue arrow points from the previous state to this one.
- Pressing **ENTER** again shows L1 containing -5 and L2 containing 4. The label "L2(1)=4" is shown below the list.

Now we need the calculator to calculate the slope and y-intercept:

The calculator interface shows the following steps:

- Press **LIST** **STAT** **▶** **L4** **T** **ENTER** **ENTER** **ENTER** **ENTER** **ENTER**
- The screen shows the **LinReg** menu with  $y=ax+b$ ,  $a=.4$ , and  $b=2$ . A red arrow points from  $a=.4$  to the label "Slope" and a green arrow points from  $b=2$  to the label "y-intercept".
- Text box: "Copy the box to the left you're your paper and then write  $y= .4x+2$  for full credit)"
- Text box: "OR type .4 into the calculator and push **MATH** **ENTER** **ENTER** to make it a fraction"

To clear the lists out so you can put new numbers in

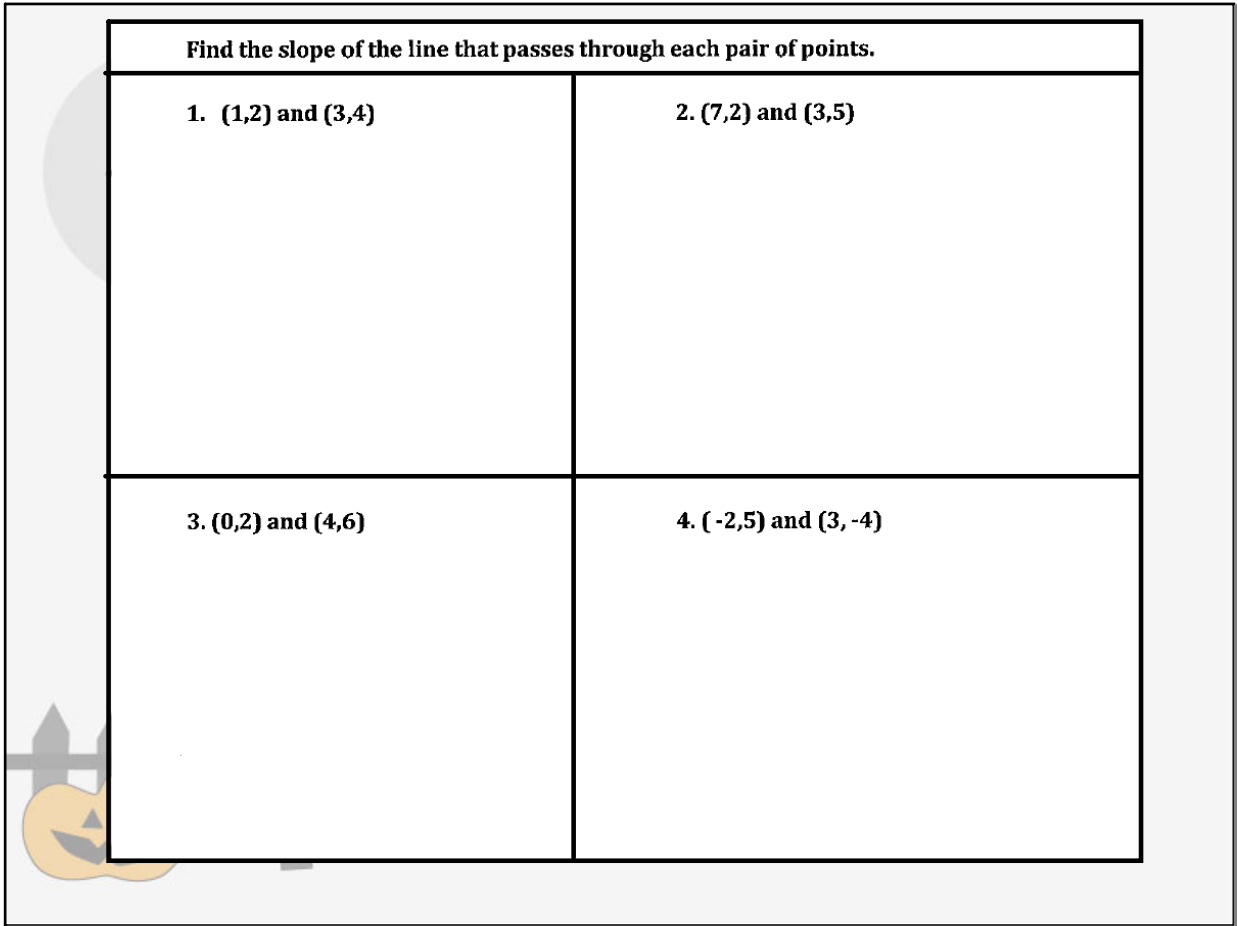
The calculator interface shows the following steps:

- Press **LIST** **STAT** **ENTER** **▲** **CLEAR** **ENTER** **◀** **▲** **CLEAR** **ENTER**
- Press **2ND** **QUIT** **MODE**

Jul 9-3:19 PM

Find the slope of the line that passes through each pair of points.

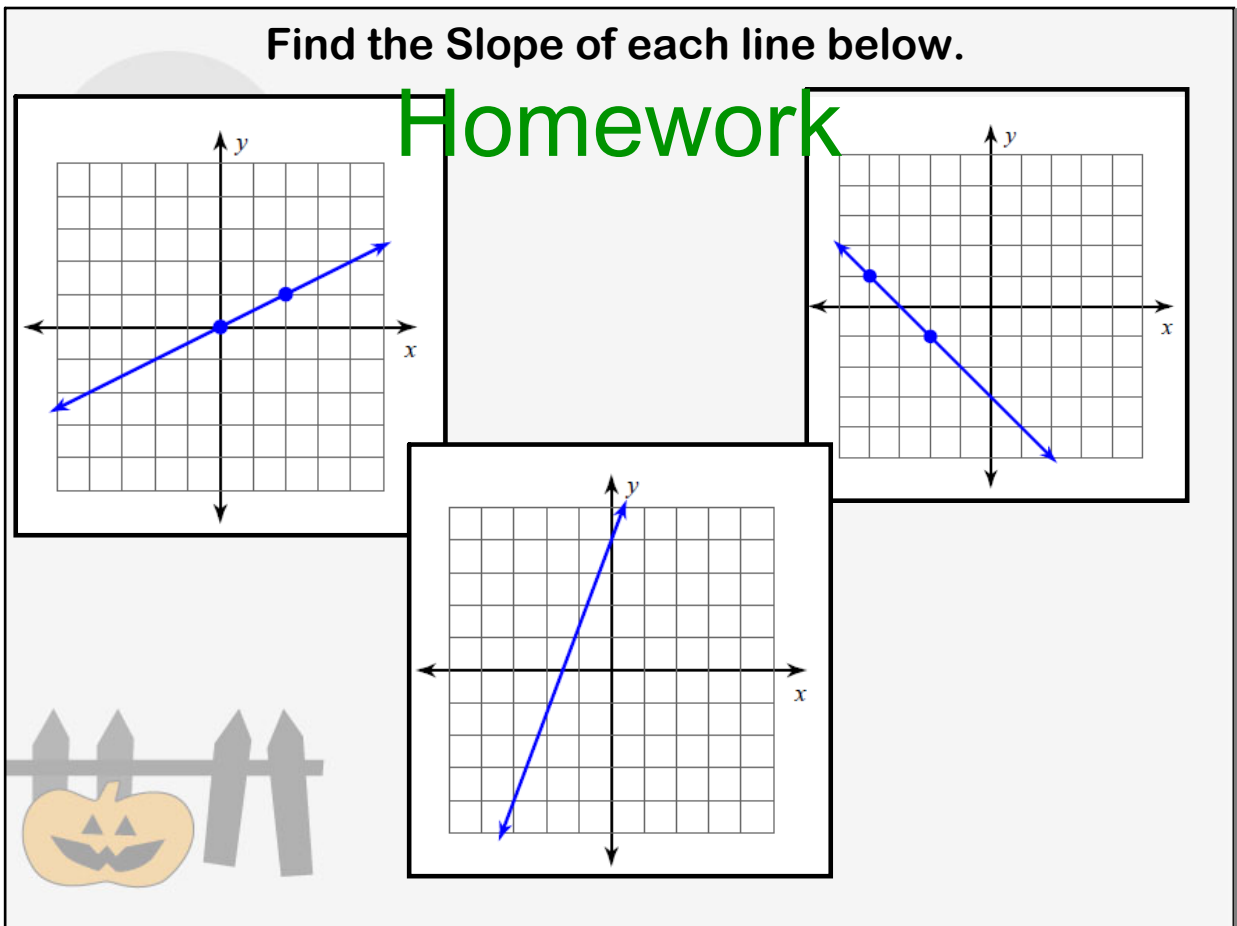
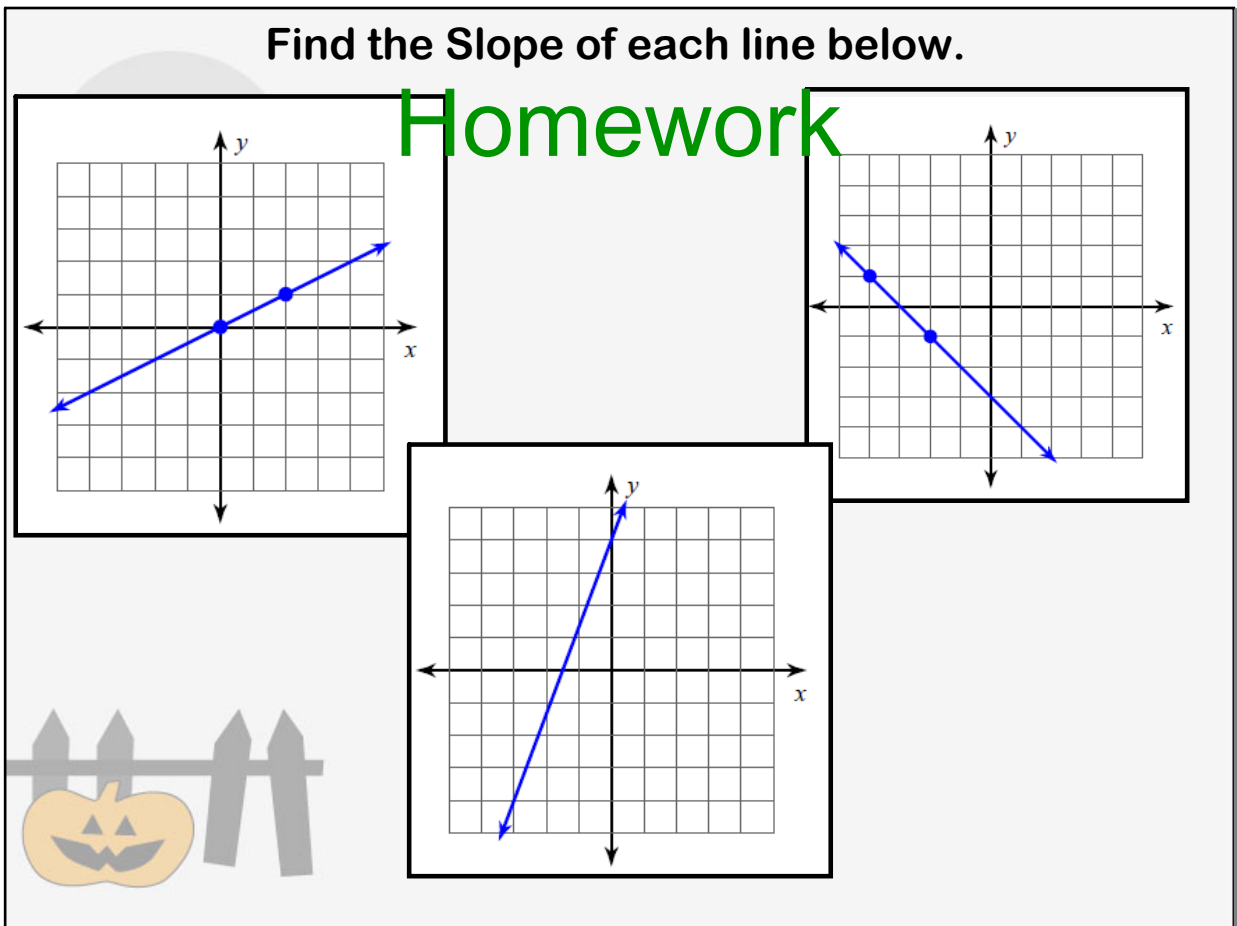
1. (1,2) and (3,4)	2. (7,2) and (3,5)
3. (0,2) and (4,6)	4. (-2,5) and (3, -4)



Jul 9-3:19 PM

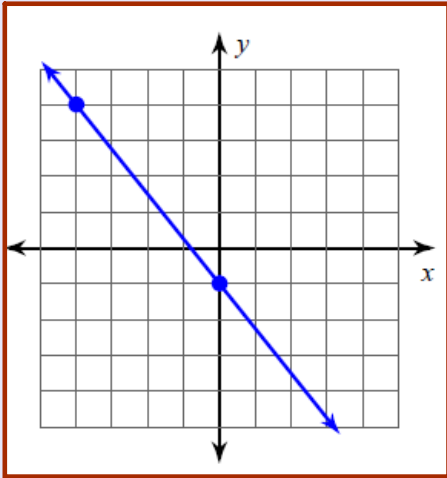
Find the Slope of each line below.

**Homework**



Jul 9-3:19 PM

## Warm-Up



**Find the slope of the line connecting the points  $(-3, 5)$  and  $(7, 2)$**

Oct 15-10:21 AM

## Unit #2: Linear Equations

**Lesson:**

**Slope**

**(Day 2)**

The greatest discovery of all time  
is that a person can  
change his future by  
merely changing his attitude.

Oprah Winfrey



celeb  
quote

Oct 15-10:05 AM

Students will be able to find the slope of a function

## We can also find the slope looking a table

**FUNDRAISING:** The table shows the amount of money a Booster Club made washing cars for a fundraiser. Use the information to find the rate of change in dollars per car

Cars Washed	
Number	Money (\$)
5	40
10	80
15	120
20	160

Annotations: Red arrows on the left indicate a change of +5 in the number of cars between rows. Blue arrows on the right indicate a change of +40 in the money earned between rows.

Find the unit rate to determine the rate of change.

$$\frac{\text{change in money}}{\text{change in cars}} = \frac{40 \text{ dollars}}{5 \text{ cars}} \quad \text{The money earned increases by } \$40 \text{ for every 5 cars.}$$

$$= \frac{8 \text{ dollar}}{1 \text{ car}} \quad \text{Write as a unit rate.}$$

So, the number of dollars earned increases by \$8 for every car washed.

Oct 28-8:40 PM

Students will be able to find the slope of a function

The number of minutes included in different cell phone plans and the costs are shown in the table. What is the approximate rate of change in cost per minute?

Cost (\$)	38	50	62	74	86
Minutes	1,000	1,500	2,000	2,500	3,000

Oct 28-8:40 PM



Students will be able to find the slope of a function

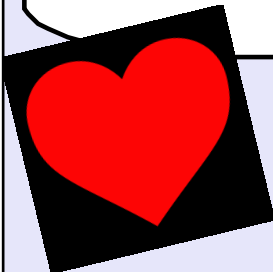
The table shows the amount of money a Booster Club made washing cars for a fundraiser. Use the information to find the rate of change in dollars per car.

Cars Washed	
Number	Money (\$)
5	40
10	80
15	120
20	160

Oct 28-8:40 PM

Students will be able to find the slope of a function

A person's heart rate varies according to the type of activity they are doing. The table below shows a person's heart rate over time. Graph these points onto a coordinate plane. Find the slope to find how many beats per minute the person is experiencing. See if you can relate these numbers to a sequence of events according to the individuals heart rate.



Time (min)	0	2	5	7	9
Number of Beats	64	92	146	84	64

Oct 28-8:40 PM

Students will be able to find the slope of a function

The table shows the number of miles a plane traveled while in flight. Use the information to find the approximate rate of change in miles per minute.

<b>Time (min)</b>	30	60	90	120
<b>Distance (mi)</b>	290	580	870	1,160

Oct 28-8:40 PM

Students will be able to find the slope of a function

You go in for an interview and are given two different positions. Now you have to decide which job to take. Take a look at the information in the table and on the graphs.

Do you think you would be able to decide which position to take based on this information?

Option A

X (years)	Y (\$ in thousands)
1	27
2	31
3	35
4	39

Option B

X (years)	Y (\$ in thousands)
1	32
2	34
3	36
4	38

Oct 28-8:40 PM

## Homework:

1) Find the slope. Explain what the slope represents.

Water Level Loss	
Week	Water Loss (cm)
1	1.5
2	3
3	4.5
4	6

2) The table below shows the relationship between the number of seconds  $y$  it takes to hear the thunder after a lightning strike and the distance  $x$  you are from the lightning

Distance ( $x$ )	0	1	2	3	4	5
Seconds ( $y$ )	0	5	10	15	20	25

Oct 28-9:03 PM

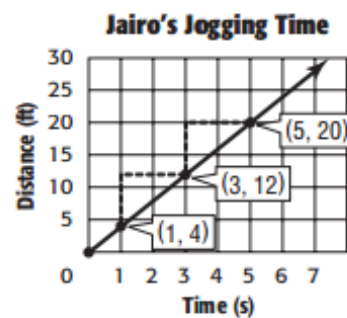
## Warm-Up

Use the information in the table to find the rate of change.

Number of Apples	Number of Seeds
3	30
7	70
11	110

- A  $\frac{10}{1}$                       C  $\frac{40}{4}$   
 B  $\frac{1}{10}$                         D  $\frac{4}{40}$

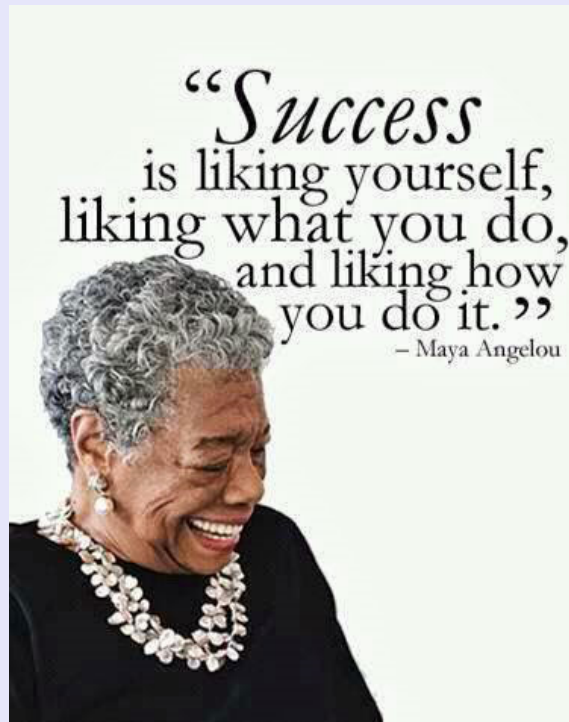
**SHORT RESPONSE** Find the slope of the line below that shows the distance Jairo traveled while jogging.



Oct 15-10:21 AM

## Unit #2: Linear Equations

### Lesson: Writing Linear Equations



Oct 15-10:06 AM

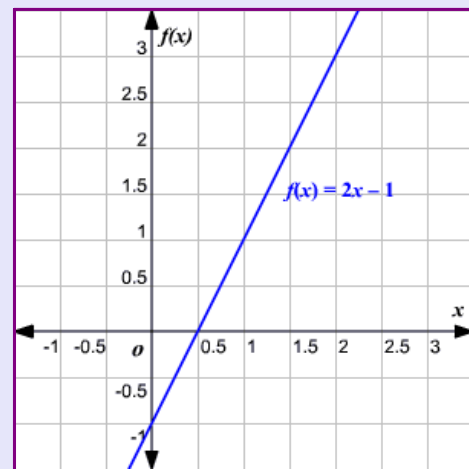
## Linear Functions

Students will be able to graph linear functions.

**Equation of a line:**  $y = mx + b$

- $m$  is the slope
- $b$  is the  $y$ -intercept

How you would write the equation of the line if you knew the slope was 4 and the  $y$ -intercept was 7.



Oct 17-3:50 PM

# Linear Functions

Students will be able to graph linear functions.

Examples: Name the slope and describe how to move from one point to another on the given line. Name the y- intercept.

1.  $y = 3x - 5$

2.  $y = x + 2$

3.  $y = -\frac{2}{3}x$

Oct 17-3:50 PM

Students will be able to graph linear functions.

**Write the equation of the line with the given information.**

**1. Slope = 3 and the y- intercept is -1**

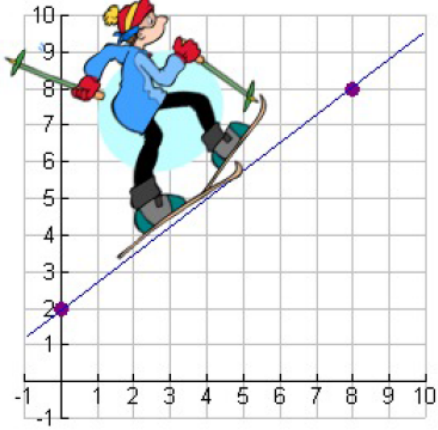
**2.  $b = -2$  and  $m = 1/2$**

**3.  $m = -1$**



Oct 17-3:50 PM

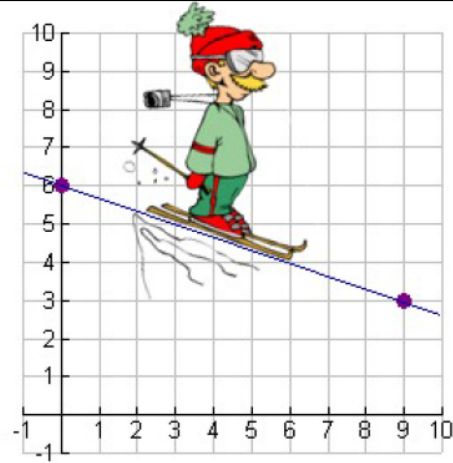
1.



$m =$  \_\_\_\_\_

Equation: \_\_\_\_\_

2.

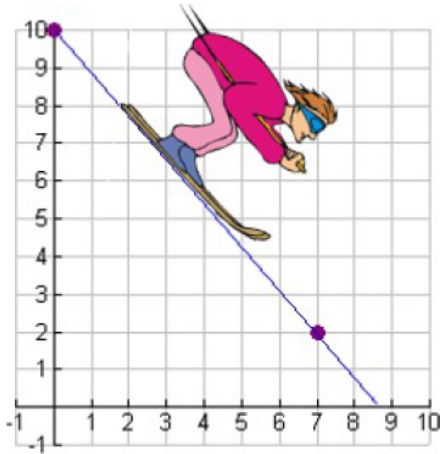


$m =$  \_\_\_\_\_

Equation: \_\_\_\_\_

Oct 17-3:55 PM

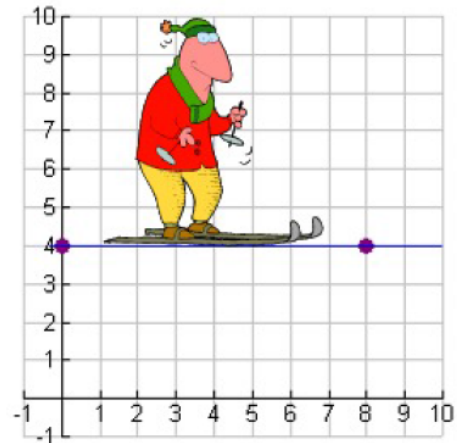
3.



$m =$  \_\_\_\_\_

Equation: \_\_\_\_\_

4.

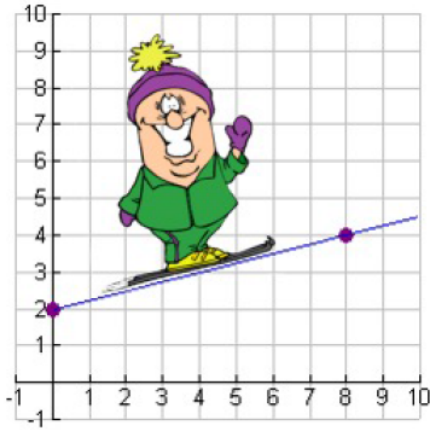


$m =$  \_\_\_\_\_

Equation: \_\_\_\_\_

Oct 17-3:55 PM

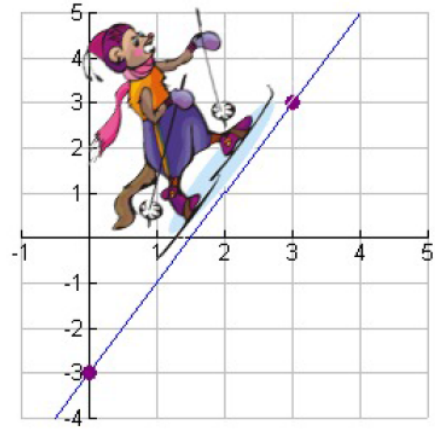
5.



$m =$  \_\_\_\_\_

Equation: \_\_\_\_\_

6.

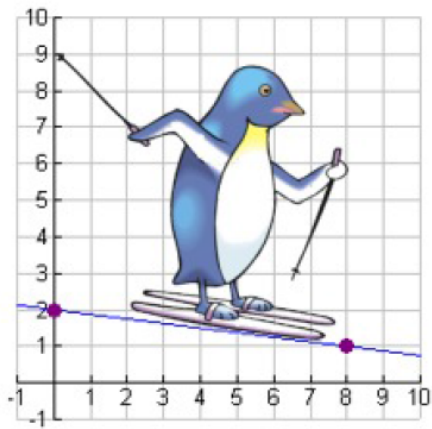


$m =$  \_\_\_\_\_

Equation: \_\_\_\_\_

Oct 17-3:55 PM

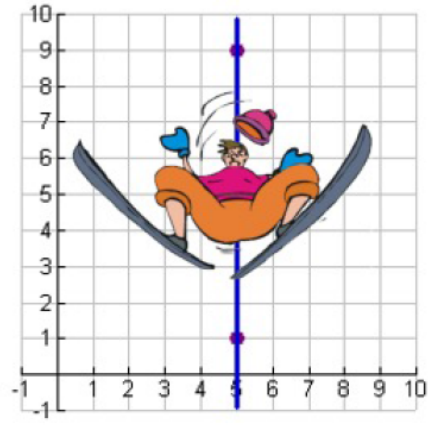
7.



$m =$  \_\_\_\_\_

Equation: \_\_\_\_\_

8.



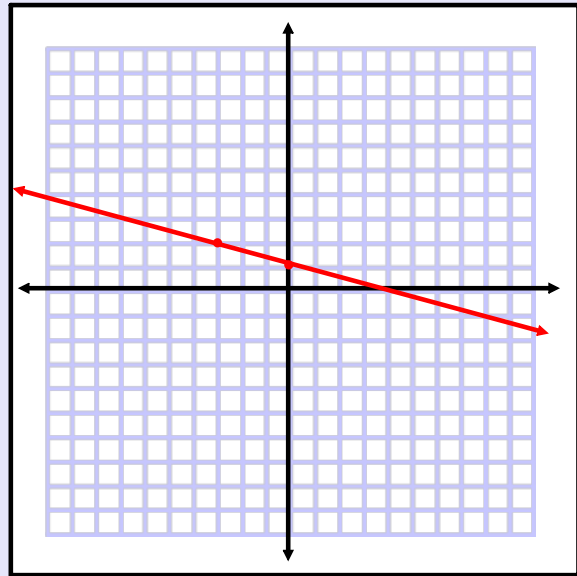
$m =$  \_\_\_\_\_

Equation: \_\_\_\_\_

Oct 17-3:55 PM

## Warm-Up

Find the equation of the line below:



Oct 15-10:21 AM

## Unit #2: Linear Equations

Lesson:  
Writing Linear  
Equations

YESTERDAY  
IS HISTORY  
TOMORROW  
IS MYSTERY  
TODAY  
IS A GIFT

~ELEANOR ROOSEVELT~

Oct 15-10:06 AM



Students will be able to write the equation of a line.

**Write the equation of a line that has a slope of 1 and passes through the point (-1,2)**

"old school" way

~~Steps to writing the equation of a line:~~

1. Determine the slope of the line
2. Substitute the slope and a point into the equation
3. Solve the equation for y

Jul 9-3:19 PM

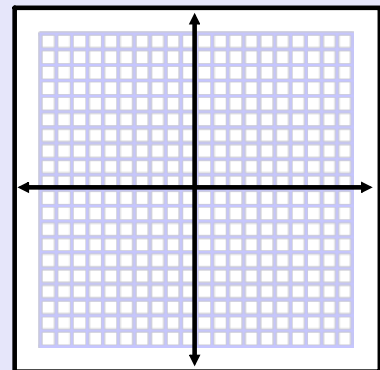
Students will be able to write the equation of a line.

**Write the equation of a line that has a slope of 1 and passes through the point (-1,2)**

"new school" way

~~Steps to writing the equation of a line:~~

1. Plot the point on the graph, using the slope given determine a second point on the line
2. Using the two points, type them into your list on the calculator
3. Calculate the Linear Regression
4. Copy your screen and write the equation of the line



Jul 9-3:19 PM

Students will be able to write the equation of a line.

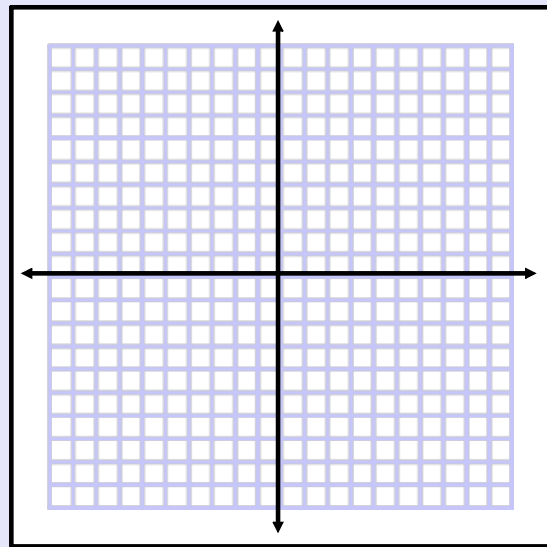
**Write the equation of a line that has a slope of  $-1$  and passes through the point  $(3, 3)$**

**Second point:**

**$m =$**

**$b =$**

**Equation of the line:**



Jul 9-3:19 PM

Students will be able to write the equation of a line.

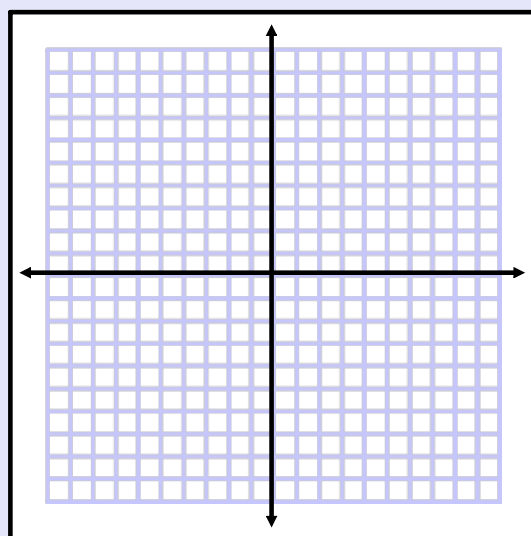
**Write the equation of a line that has a slope of  $-1/2$  and passes through the point  $(4, 0)$**

**Second point:**

**$m =$**

**$b =$**

**Equation of the line:**



Jul 9-3:19 PM

Students will be able to write the equation of a line.

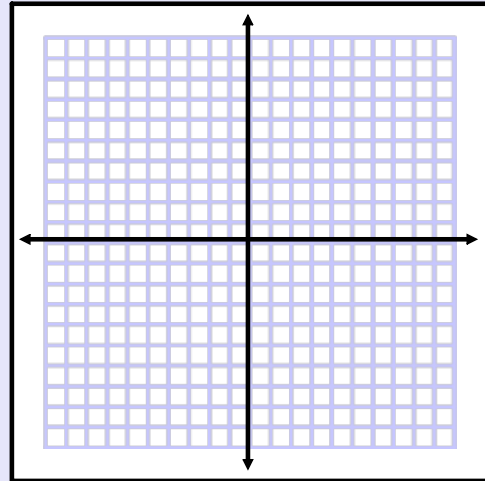
**Write the equation of a line that has a slope of -2 and passes through the point (2,-1)**

**Second point:**

**m =**

**b =**

**Equation of the line:**



Jul 9-3:19 PM

**Homework:** Find the linear equation

1.  $(4, -3)$ ,  $m = -1$

2.  $(-5, -6)$ ,  $m = 2$

3.  $(-7, 2)$ ,  $m = 3$

4.  $(3, 5)$ ,  $m = -2$

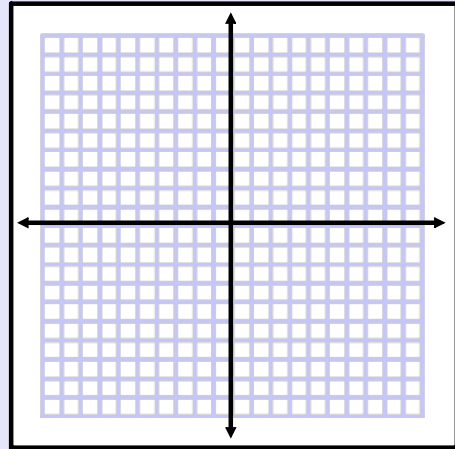
5.  $(6, -2)$ ,  $m = -3$

6.  $(5, -2)$ ,  $m = 2$

Jul 9-3:19 PM

## Warm-Up

Determine the equation of a line with a slope of 2 passing through the point (5,-2)



Oct 15-10:21 AM

## Unit #2: Linear Equations


Lesson:  
Writing Linear  
Equations



Oct 15-10:06 AM

Let's Review

Students will be able to write the equation of a line.



**Find the slope of the line that passes through the points (5,2) and (8,-4).**

**"old school" by hand**

**"new school" by calculator**

Jul 9-3:19 PM

Equation of a line:

Students will be able to write the equation of a line.

$$y = mx + b$$

**SLOPE**      **y-intercept**

Anytime we need to get the equation of a line, we need two things

**1** a point      **2** a slope

**ALWAYS!**

**1. Write the equation of the line with a slope of -2 and a y-intercept of 3.**

**2. Write the equation of the line with a y-intercept of -2 and a slope of  $\frac{4}{3}$**

Jul 9-3:19 PM

Students will be able to write the equation of a line.

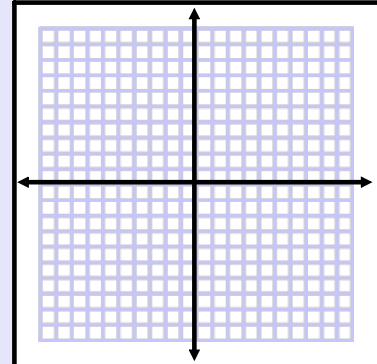
**Write the equation of a line that passes through the points (5,7) and (6,8).**

Remember- we are going to type the coordinates into 2 lists and use our calculator to find the equation of our line!

**m =**

**b =**

**Equation of the line:**



Use of the graph is optional.

Jul 9-3:19 PM

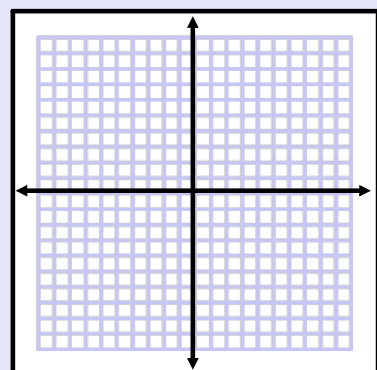
Students will be able to write the equation of a line.

**Write the equation of a line that passes through the points (1,2) and (3,8).**

**m =**

**b =**

**Equation of the line:**



Use of the graph is optional.

Jul 9-3:19 PM

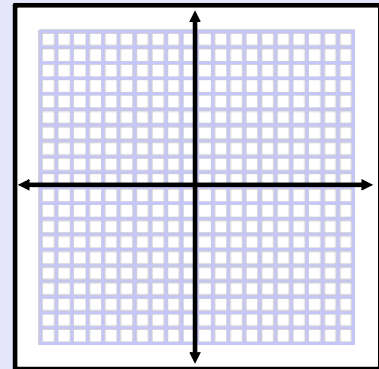
Students will be able to write the equation of a line.

**Write the equation of a line that passes through the points (0,5) and (-3,2).**

**m =**

**b =**

**Equation of the line:**



Use of the graph is optional.

Jul 9-3:19 PM

## Homework:

Write the slope-intercept form of the equation of the line through the given points.

1) through: (0, 3) and (-4, -1)

2) through: (0, 2) and (1, -3)

3) through: (-4, 0) and (1, 5)

4) through: (-4, -2) and (-3, 5)

Jul 9-3:19 PM

## Homework:

5) through:  $(5, 4)$  and  $(-4, 3)$

6) through:  $(-4, 2)$  and  $(0, -5)$

7) through:  $(5, -2)$  and  $(-4, -3)$

8) through:  $(-4, 5)$  and  $(5, -5)$

Jul 9-3:19 PM

## Unit #2: Linear Equations

**Lesson:**  
**Quiz Tomorrow!!!**

“ Education is  
the most  
powerful  
weapon which  
you can use  
to change  
the world. ”

Nelson Mandela

Oct 15-10:06 AM



## Warm-Up

1) Evaluate:  $x^2 + x - 2$ ,  
when  $x = -1$

2) Which of the following  
choices is the Associative  
Property

1)  $4(x + 2) = 4x + 8$

2)  $4 + 5 = 5 + 4$

3)  $5 + (-5) = 0$

4)  $4 + (3 + 1) = (4 + 3) + 1$

Oct 2-8:18 AM

## Unit #1: Basics of Algebra

Lesson:  
Literal Equations

**“YOU CAN'T GET MUCH  
DONE IN LIFE IF YOU ONLY  
WORK ON THE DAYS WHEN  
YOU FEEL GOOD”** -JERRY WEST

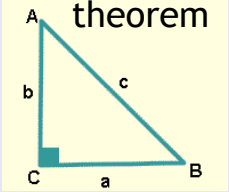
believe-toachieve.tumblr.com

Sep 23-7:47 AM

Students can solve linear equations and inequalities in one variable

Equations with several variables (letters) are called literal equations.  
 Your job, usually, will be to solve the equation for one of the variables. The letters that do not represent your desired variable move to the other side of the equal sign so that the one variable you are solving for stands **alone**.  
 Even though there are more letters in these equations, the methods used to solve these equations are the same as the methods you use to solve all equations.

pythagorean theorem

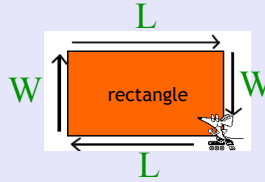


$$a^2 + b^2 = c^2$$

slope intercept form

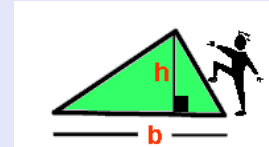
$$y = mx + b$$

perimeter of a rectangle



$$P = 2L + 2W$$

area of a triangle



$$A = \frac{1}{2}bh$$

Sep 23-7:49 AM

Students can solve linear equations and inequalities in one variable

Example #1	Steps
<p><b>Solve for x:</b></p> $ax + b = c$ $- b \quad -b$	<p>1. Move <b>b</b> (the opposite of add is subtract)</p>
$ax = c - b$ $\frac{ax}{a} = \frac{c - b}{a}$	<p>2. Move <b>a</b> (the opposite of multiply is divide)</p>
$x = \frac{c - b}{a}$	<p>3. <b>x</b> is what we are solving for and it stands alone. Done.</p>

Sep 23-7:49 AM

Students can solve linear equations and inequalities in one variable

**LITERAL EQUATIONS CAN BE SOLVED THE SAME WAY EQUATIONS ARE SOLVED.**

Remember get  $x$  by itself

Solve for  $x$  in both equations:

(a)  $5x + 3 = 33$

(b)  $bx + r = h$



Sep 23-8:20 AM

Students can solve linear equations and inequalities in one variable

**Solve each literal equation for  $x$ :**

1)  $ax + 3b = 2f$

2)  $\frac{x - y}{2} = c$

Sep 23-8:23 AM

Students can solve linear equations and inequalities in one variable

## Solve the Literal Equation

1) Solve for s:

$$A = s^2$$

2) Solve for h

$$V = \pi r^2 h$$

Sep 23-8:23 AM

Students can solve linear equations and inequalities in one variable

## Solve the Literal Equation

1) Solve for x:

$$a(x + b) = w$$

2) Solve for m:

$$y = mx + b$$

Sep 23-8:23 AM

Students can solve linear equations and inequalities in one variable

The volume of a pyramid is given by

$$V = \frac{1}{3} \pi r^2 h$$

What is h expressed in terms of B and V?



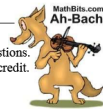
Sep 23-8:23 AM

## Homework:

### Literal Equations

Name \_\_\_\_\_

Directions: Solve each of the following literal equations for 'a'. Find the matching answer in the box at the bottom. Be careful! There are more answers than there are questions. Use your answers to decipher these Vanity License Plates. All work must be shown for credit.



1.  $c = d(a + b)$

2.  $a^2 + b^2 = c^2$

3.  $\frac{a}{b} = \frac{c}{d}$

4.  $d = a^2bc^3$

5.  $b = \frac{c^3}{ad}$

6.  $d = a + b + c$

7.  $c = d + ab$

8.  $b = \frac{1}{2}ac^2$

9.  $ab = c + a$

10.  $bc\pi = 2\pi a$

11.  $2(a + b) = c^3$



7 4 8 1



9 4 1 3 5 1 4 11 10 2

### Letter Box:

A	$c^2 - b^2$	C	$\frac{c^3 - 2b}{2}$	D	$\frac{bc}{d}$	E	$\frac{2b}{c^3}$	G	$\frac{c}{b-1}$
I	$\frac{c^3}{bd}$	K	$\frac{bc}{2}$	L	$\frac{c-bd}{d}$	M	$c - b$	N	$\frac{c-d}{b}$
O	$\sqrt{\frac{d}{bc^3}}$	R	$d - b - c$	S	$\sqrt{c^2 - b^2}$	T	$\frac{b}{2c^2}$	U	$\frac{d}{bc^3}$

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"Ab-Bach" Series

## Warm-Up

1) Solve for x:

$$2x + y = 6$$

2) Is the relation  $\{(5, -4), (5, 6), (6, 3), (6, -2)\}$  a function? Explain

Oct 15-10:21 AM

## Unit #2: Linear Equations

**Lesson:**  
**Slope-Intercept**  
**Form**



THE ONLY PERSON YOU  
SHOULD TRY TO BE  
BETTER THAN IS THE  
PERSON YOU WERE  
YESTERDAY.

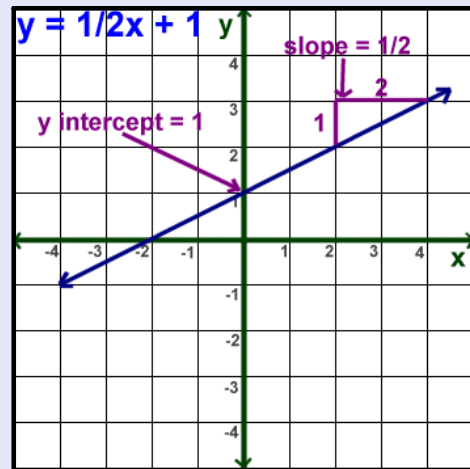
Oct 15-10:23 AM

Students can solve linear equations and inequalities in one variable. Students can identify the slope and y-intercept.

**Linear Equations**  
are written in  
**slope-intercept**  
**form**

$$y = mx + b$$

↑
↑  
 slope                      y-intercept



Oct 15-11:31 AM

Students can solve linear equations and inequalities in one variable. Students can identify the slope and y-intercept.

**Identify the slope and the y-intercept**

1)  $y = -2x + 4$

$m =$

$b =$

2)  $y = \frac{1}{2}x - 6$

$m =$

$b =$

3)  $y = \frac{-3}{4}x - 9$

$m =$

$b =$

4)  $y = 6 + 5x$

$m =$

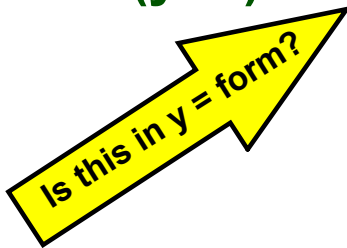
$b =$

Oct 15-11:31 AM

Students can solve linear equations and inequalities in one variable. Students can identify the slope and y-intercept.

Before I can *identify* my slope and *y-intercept* I need to make sure my function is written in *slope-intercept form* ( $y =$  ).

$$2x + 4 = y$$



$m =$

$b =$

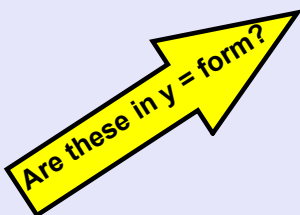
Oct 15-11:31 AM

Students can solve linear equations and inequalities in one variable. Students can identify the slope and y-intercept.

*Identify* the slope and the y-intercept

1)  $-3x + y = 4$

2)  $5x - y = 6$



Oct 15-11:31 AM

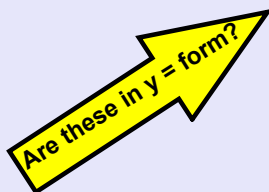


Students can solve linear equations and inequalities in one variable. Students can identify the slope and y-intercept.

**Identify** the slope and the y-intercept

3)  $2x + 4y = 12$

4)  $-3x - 6y = 18$



Oct 15-11:31 AM

Students can solve linear equations and inequalities in one variable. Students can identify the slope and y-intercept.

**With a partner, Identify** the slope and the y-intercept

1)  $\frac{2}{3}x - 6 = 15$

2)  $-4 - 5x = y$

3)  $5x + 10y = 20$

4)  $3x - y = 18$

5)  $2y - 4x = 8$

Oct 15-11:31 AM

## Homework:

### Find the Slope and Y-intercept for Each Equation

1)  $y = -\frac{4}{3}x + 1$

slope = \_\_\_\_\_

y-intercept = \_\_\_\_\_

2)  $-x + 4y = -16$

slope = \_\_\_\_\_

y-intercept = \_\_\_\_\_

3)  $5x + 3y = 24$

slope = \_\_\_\_\_

y-intercept = \_\_\_\_\_

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

slope = \_\_\_\_\_

y-intercept = \_\_\_\_\_

5)  $y = \frac{1}{4}x - 2$

slope = \_\_\_\_\_

y-intercept = \_\_\_\_\_

6)  $-x + 2y = -20$

slope = \_\_\_\_\_

y-intercept = \_\_\_\_\_

Oct 16-12:06 PM

## Homework:

7)  $y = \frac{1}{2}x + 4$

slope = \_\_\_\_\_

y-intercept = \_\_\_\_\_

8)  $-5x + 4y = -16$

slope = \_\_\_\_\_

y-intercept = \_\_\_\_\_

9)  $-5x + 3y = -9$

slope = \_\_\_\_\_

y-intercept = \_\_\_\_\_

10)  $y = -\frac{2}{5}x - 2$

slope = \_\_\_\_\_

y-intercept = \_\_\_\_\_

Oct 16-12:06 PM

## Warm-Up

1. Determine the slope and y-intercept of the equation

$$3x - 2y = 4$$

Oct 15-10:21 AM

## Unit #2: Linear Equations

Lesson:  
Graphing Linear  
Functions



Oct 15-10:05 AM

Students will be able to graph linear functions.

**Equation of a Line:**  $y = mx + b$



slope  $y$ -intercept

★ To graph a line the equation **must be** in  $y = mx + b$  form ★

Graphing by hand

- start at the  $b$  value on the  $y$ -axis
- using the  $m$  (slope) rise the top number and run (always to the right) the bottom number

Graphing with the graphing calculator

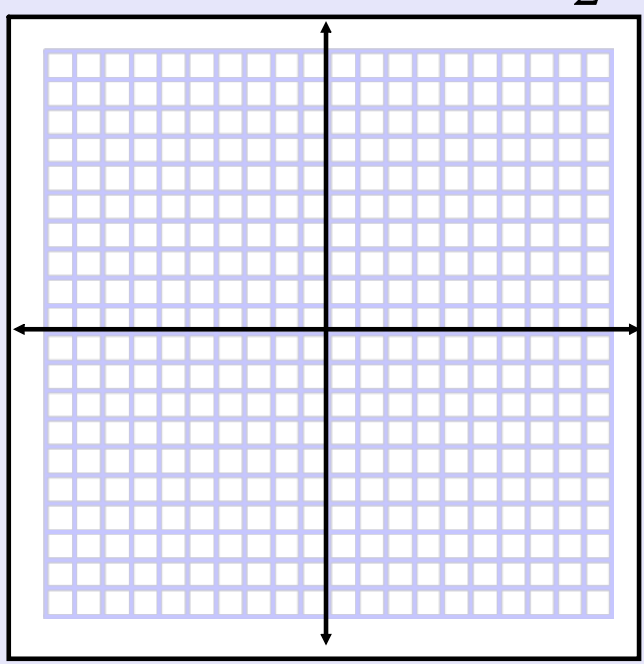
- Push  and type the equation in
- Now push  to get the table
- Plot all of your points between 10 and -10 and copy them into the chart

Always connect your dots with a straight line, put arrows on both ends and LABEL your line!!

Jul 9-3:19 PM

Students will be able to graph linear functions.

Graph the equation  $y = \frac{3}{2}x - 2$



**What is the slope?**

$m =$

**How will you move?**

**What is the  $y$ -intercept?**

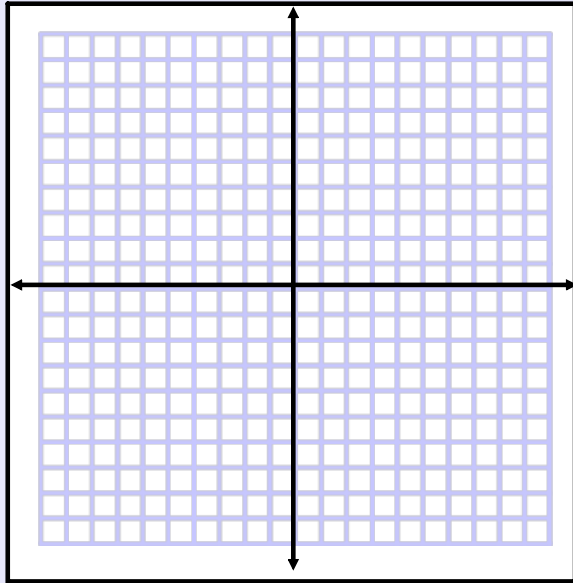
$b =$

**Where will you begin?**

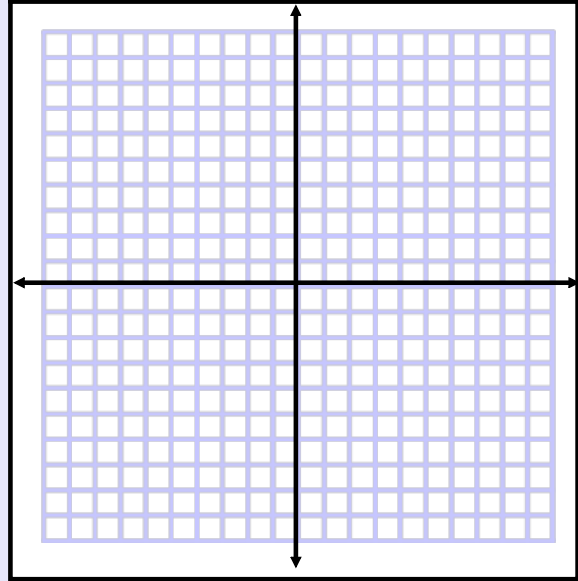
Jul 9-3:19 PM

Students will be able to graph linear functions.

Graph the equation  $y = \frac{1}{4}x + 2$



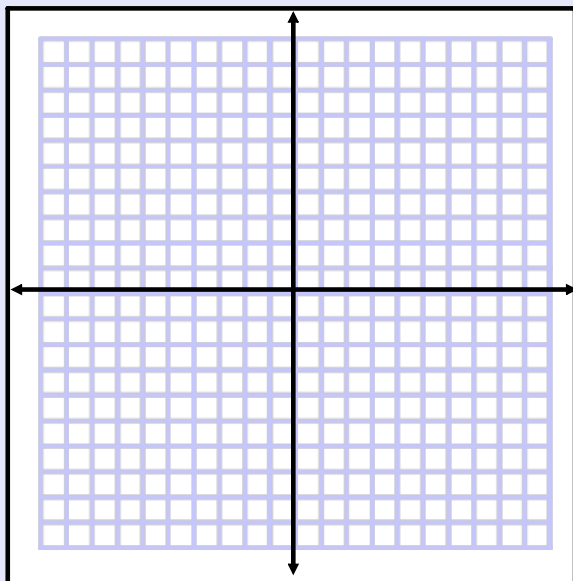
Graph the equation  $y = -2x + 5$



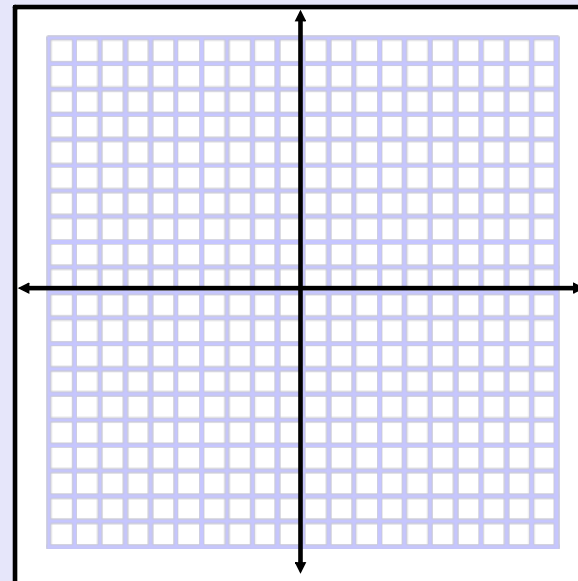
Jul 9-3:19 PM

Students will be able to graph linear functions.

Graph the equation  $y = x - 4$



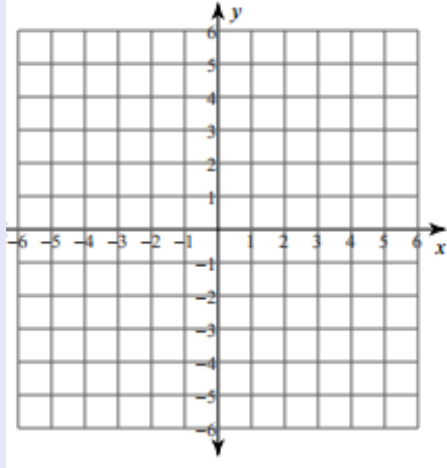
Graph the equation  $y = -\frac{1}{2}x + 3$



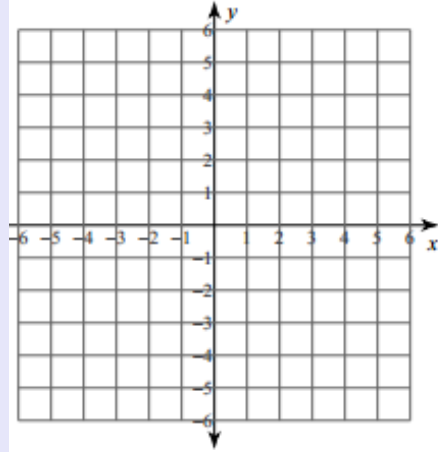
Jul 9-3:19 PM

# Homework

1)  $y = \frac{1}{4}x + 2$



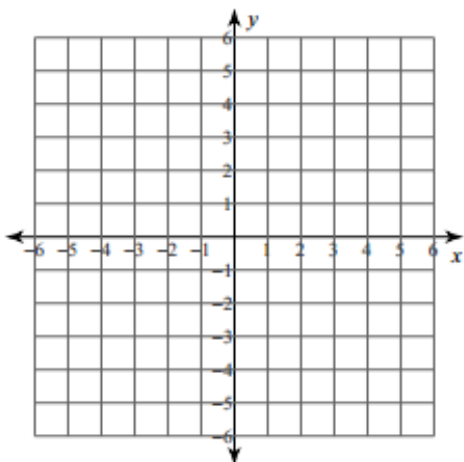
2)  $y = -\frac{1}{3}x + 3$



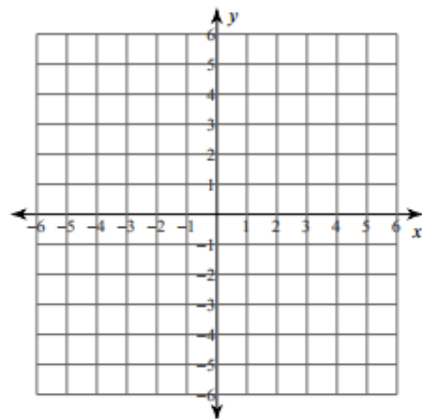
Jul 9-3:19 PM

# Homework

3)  $y = 2x + 5$

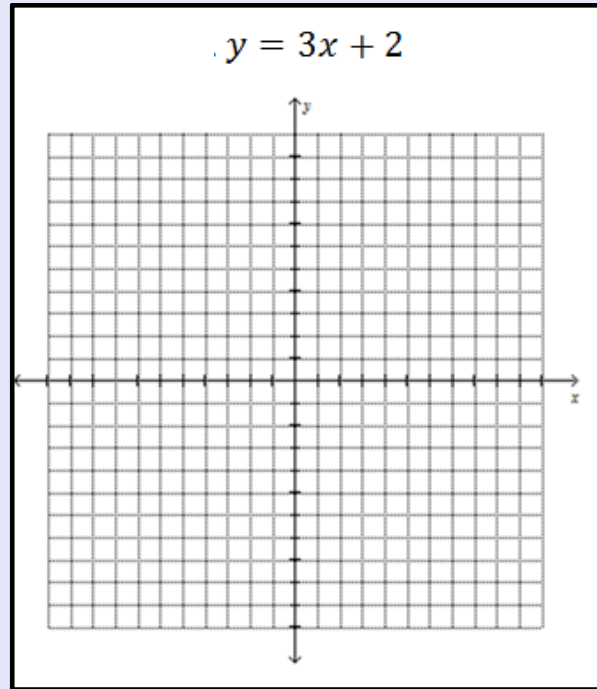


4)  $y = \frac{1}{2}x - 2$



Jul 9-3:19 PM

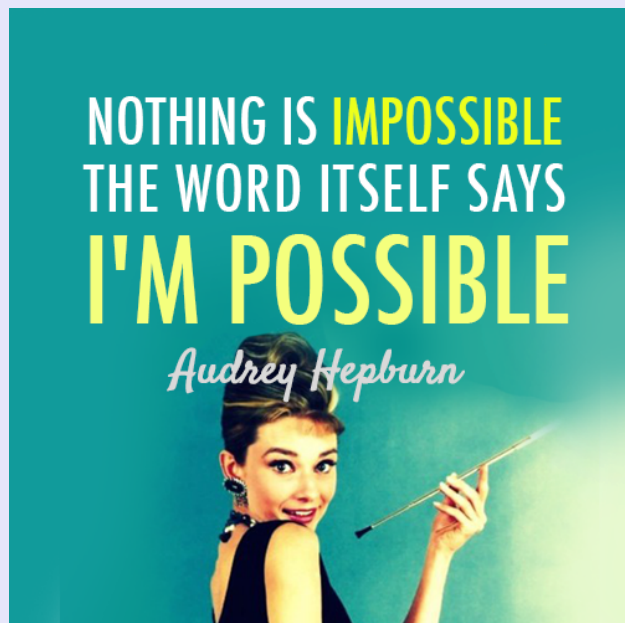
# Warm-Up



Oct 15-10:21 AM

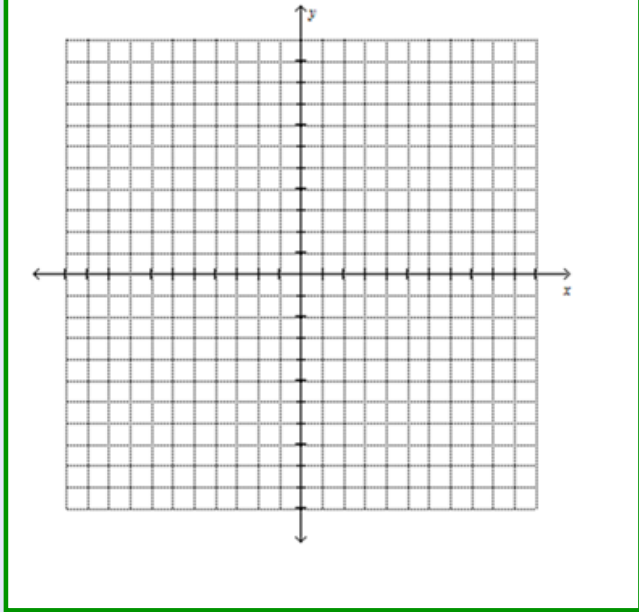
## Unit #2: Linear Equations

Lesson:  
Graphing Linear  
Functions



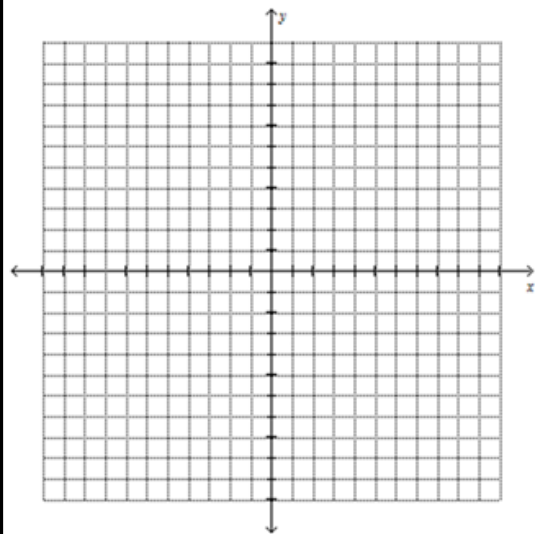
Oct 15-10:05 AM

8.  $2y = 4x + 6$

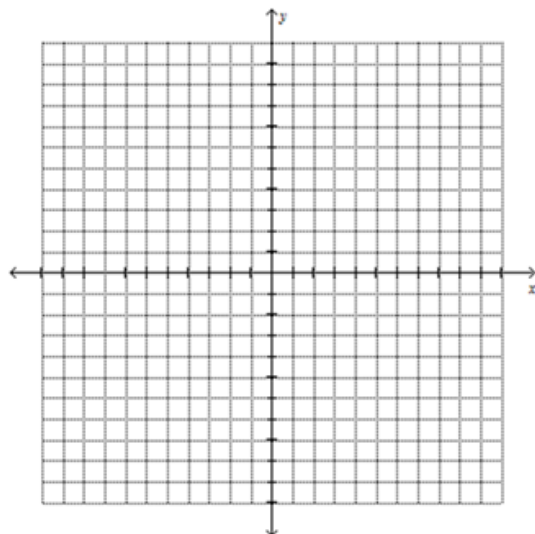


Oct 14-3:26 PM

9.  $6x + 2y = 8$



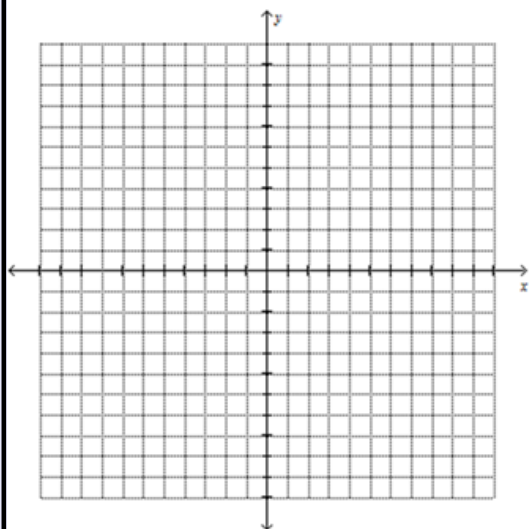
10.  $x - y = -3$



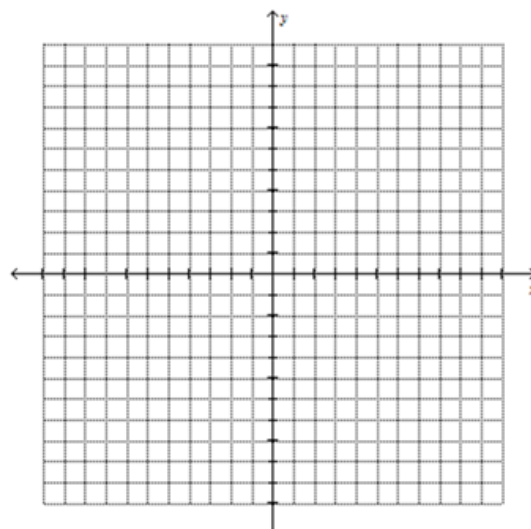
Oct 14-3:26 PM



11.  $2x + 3y = 9$



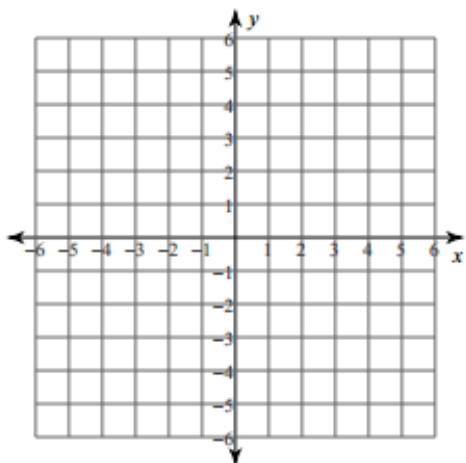
12.  $2y = -4x + 8$



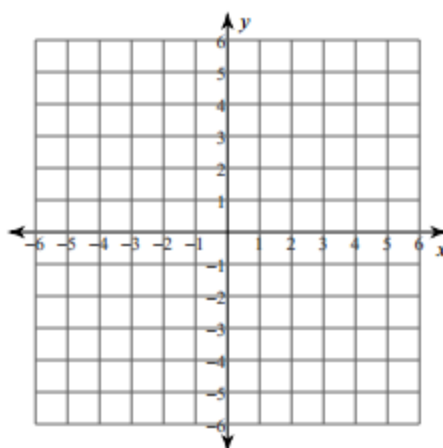
Oct 14-3:26 PM

## Homework:

1)  $7x + y = 5$



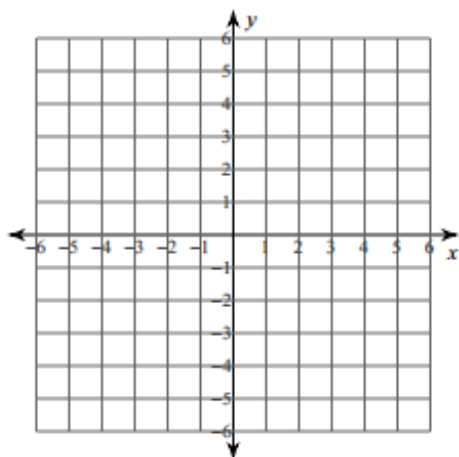
2)  $3x + 5y = -5$



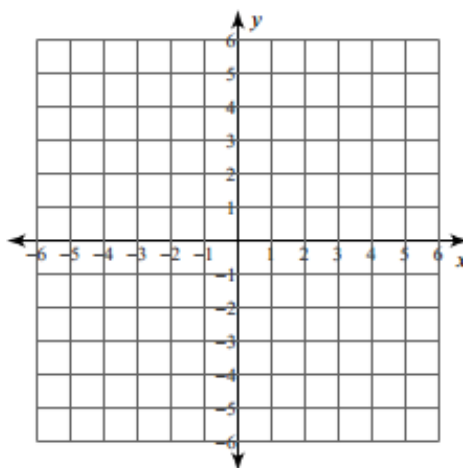
Oct 28-8:22 PM

## Homework:

3)  $2x + y = 4$

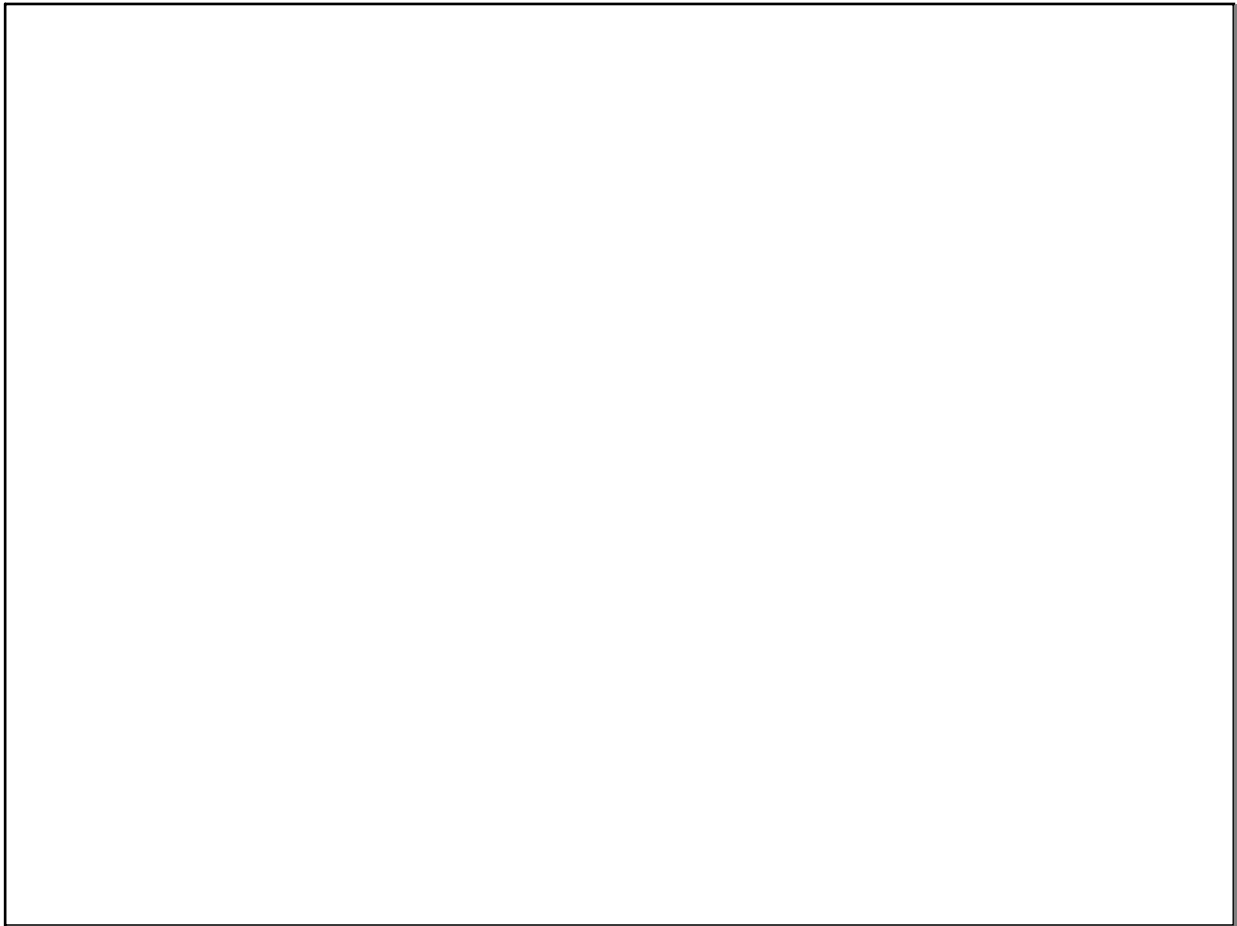


4)  $6x + 5y = 20$



Oct 28-8:22 PM

Oct 29-7:04 AM



Oct 29-12:14 PM

I can find the solution to a linear/linear system graphically.

A **system of equations** is a set or collection of 2 or more equations with a set of unknown variables.

In solving a system of equations, we try to find values for each of the unknown variables that will satisfy every equation in the system.

We can solve a system of equation using 4 methods:

1. Graphically
2. Algebraically (Elimination)
3. Algebraically (Substitution)

Dec 5-3:50 PM

I can find the solution to a linear/linear system graphically.

**Remember our friends from WSHS???**  
**They did the "Quad Solve" rap? They have**  
**another good one for Systems of**  
**Equations...Let's watch!!!**

<http://www.youtube.com/watch?v=1qHTmxlaZWQ>

Dec 5-3:50 PM

I can find the solution to a linear/linear system graphically.

TODAY, WE WILL DETERMINE:

- HOW MANY SOLUTIONS A SYSTEM OF LINEAR EQUATIONS CAN HAVE
- WHAT THE "SOLUTION" TO A SYSTEM OF LINEAR EQUATIONS REALLY IS

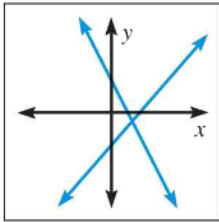
Think about it-What are the different scenarios that can happen when you graph 2 linear equations on the same coordinate axes?

Dec 5-3:50 PM

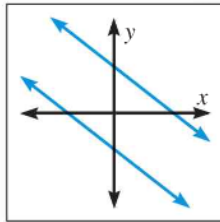
I know how many solutions we can have to a linear/linear system.

**CONCEPT  
SUMMARY**

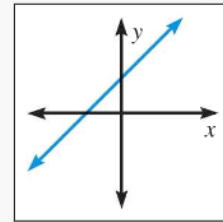
**NUMBER OF SOLUTIONS OF A LINEAR SYSTEM**



**Lines intersect**  
one solution



**Lines are parallel**  
no solution



**Lines coincide**  
infinitely many solutions  
(the coordinates of every  
point on the line)

Dec 5-3:50 PM

I can find the solution to a linear/linear system graphically.

**So basically, when you are asked to find the SOLUTION to a system of equations, you simply FIND THE POINT OF INTERSECTION of the two **lines!!!****

Now what....

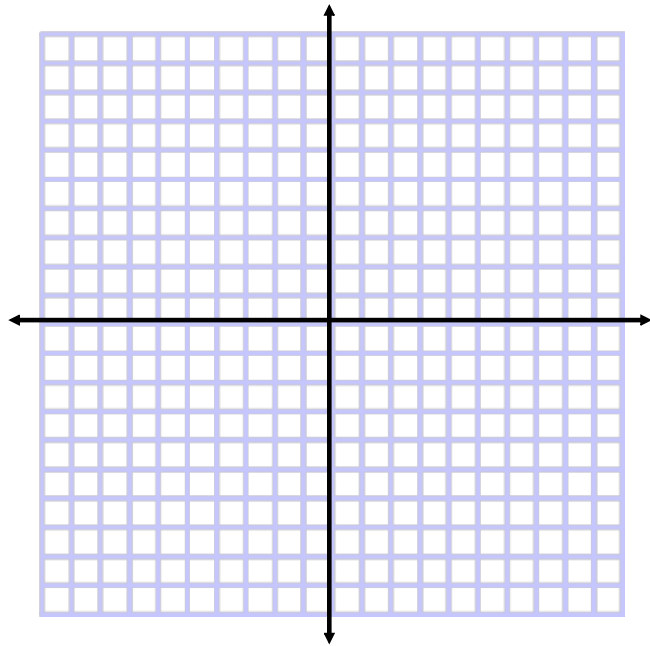
Dec 5-3:50 PM

I can find the solution to a linear/linear system graphically.

State the solution of the system of equation below:

$$y = 3x - 2$$

$$y = -x - 6$$



Dec 5-3:50 PM

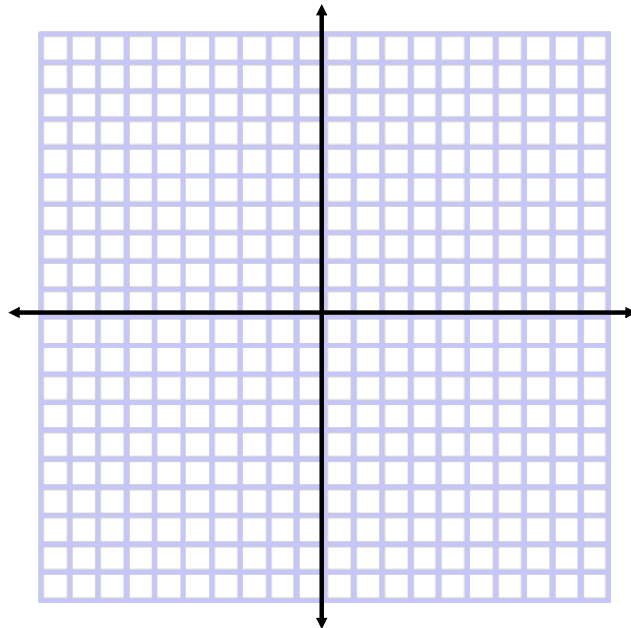
I can find the solution to a linear/linear system graphically.

Solve the following system of equations

**GRAPHICALLY:**

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

$$y = -x + 1$$



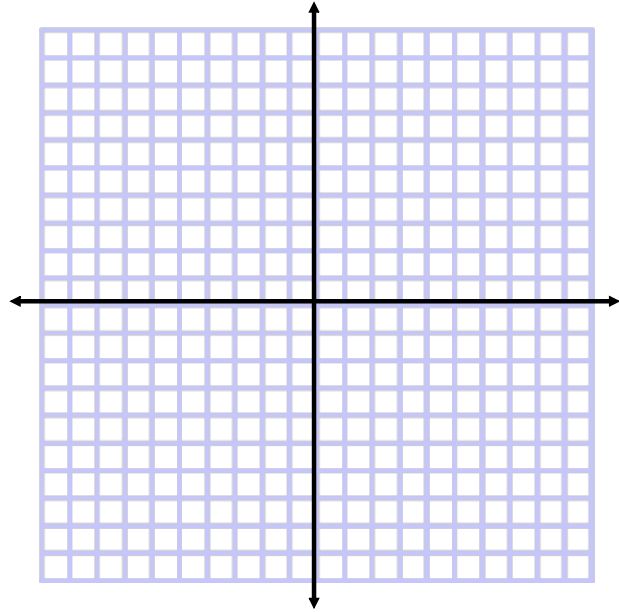
Dec 5-3:50 PM

I can find the solution to a linear/linear system graphically.

Determine by **GRAPHING** how many solutions there are to the system of equations below.

$$2x + y = 5$$

$$2x + y = 1$$



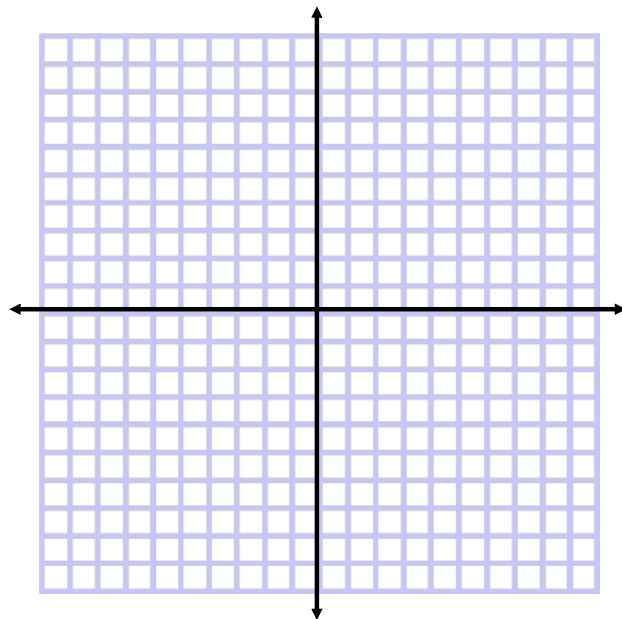
Dec 5-3:50 PM

I can find the solution to a linear/linear system graphically.

Determine by **GRAPHING** the solution to the system of equations below.

$$3x + y = -1$$

$$9x - 3y = 3$$



Dec 5-3:50 PM

## Unit #2: Linear Equations

Lesson:  
Solving Systems  
of Equations by  
Graphing

The only way  
to learn  
**mathematics**  
is to do  
**mathematics.**

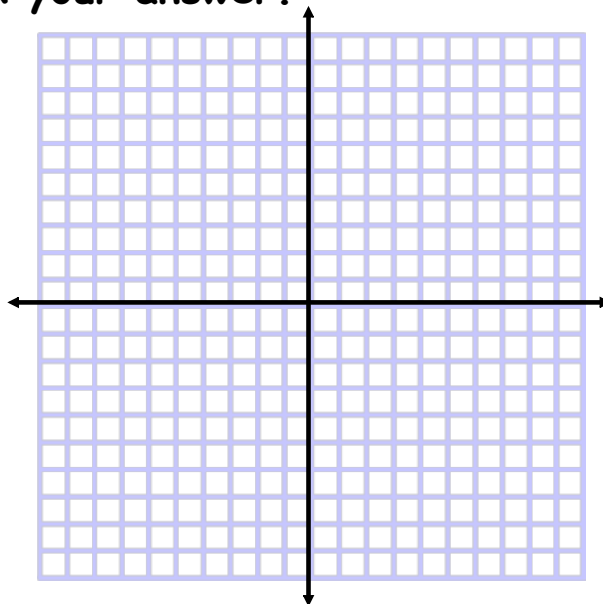
PAUL HALMOS

Dec 5-3:55 PM

Determine by GRAPHING the solution to the system of equations below. **Check your answer.**

$$2x + y = 4$$

$$4x - 2y = 0$$



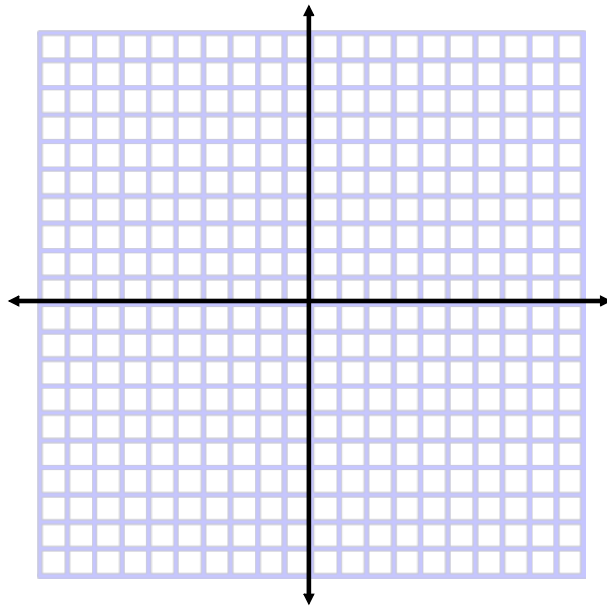
Dec 5-3:55 PM



**Solve the following system of equations GRAPHICALLY:**

$$2y + 4 = -x$$

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

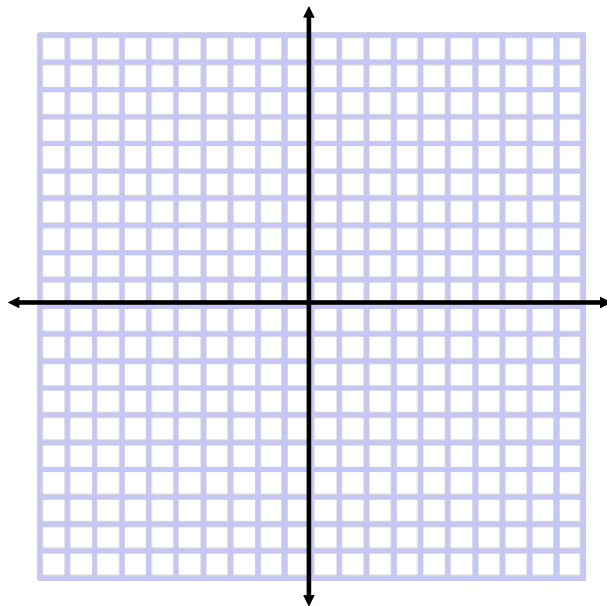


Dec 5-3:55 PM

**Solve the following system of equations GRAPHICALLY:**

$$5x + 3y = 12$$

$$-x + 3y = -6$$

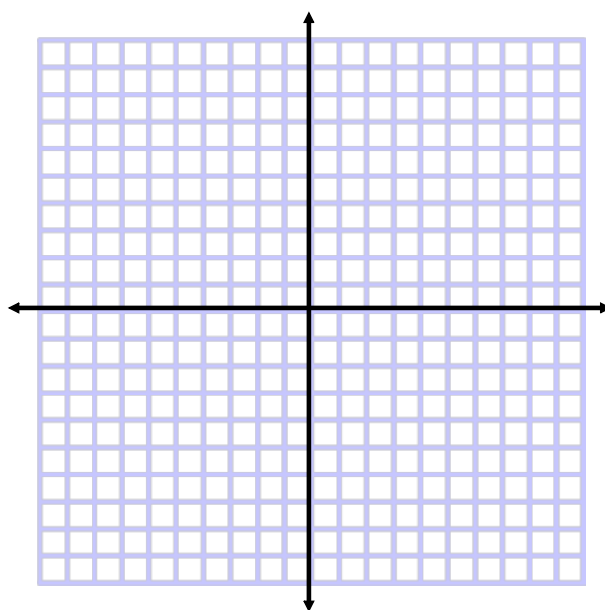


Dec 5-3:55 PM

**Solve the following system of equations GRAPHICALLY:**

$$3y - x = -1$$

$$y + x = 1$$

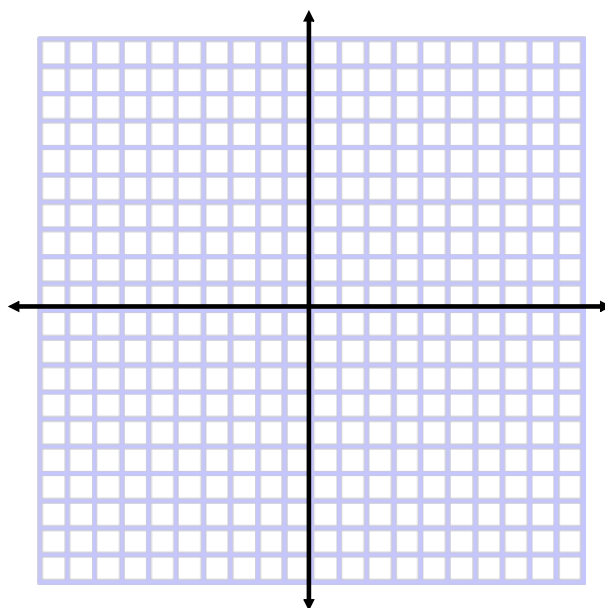


Dec 5-3:55 PM

**Solve the following system of equations GRAPHICALLY:**

$$2y = -3x + 4$$

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

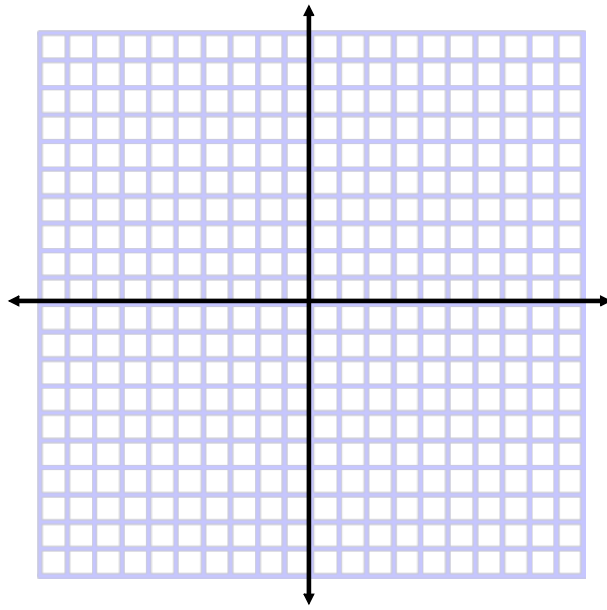


Dec 5-3:55 PM

Solve the following system of equations **GRAPHICALLY**:

$$4x - 2y = 10$$

$$y = -2x - 1$$

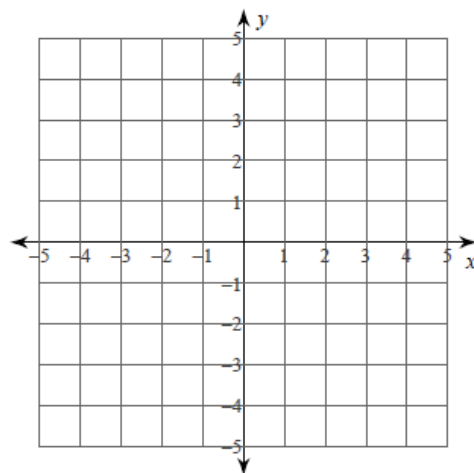


Dec 5-3:55 PM

## Warm-Up

1)  $y = -\frac{5}{3}x + 3$

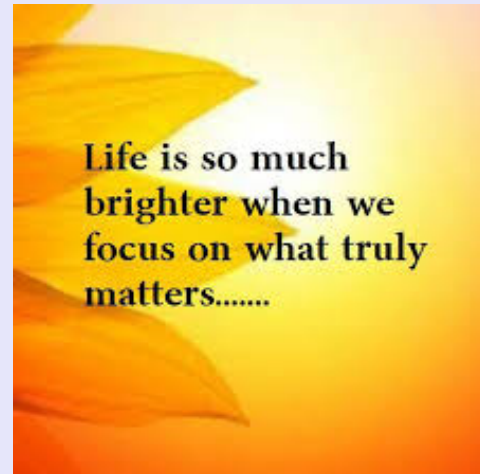
$$y = \frac{1}{3}x - 3$$



Oct 29-12:12 PM

## Unit #2: Linear Functions

**Lesson:**  
**Intro to Systems**  
**of Equations**  
**Activity**



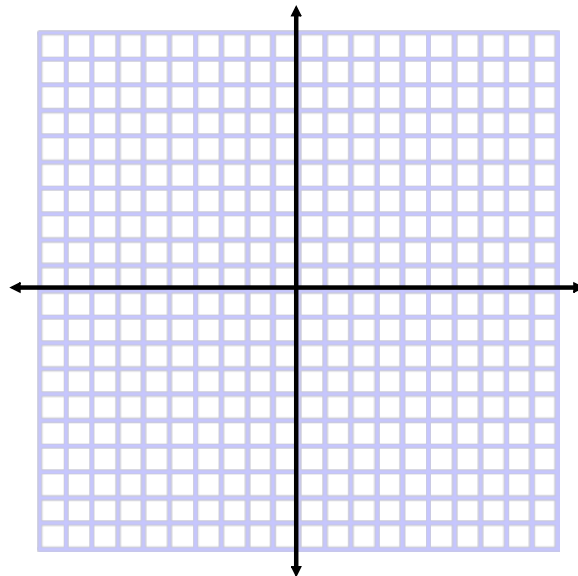
Oct 29-12:15 PM

**Do Now:**

**Solve the following system of equations GRAPHICALLY:**

$$2x - 3y = 12$$

$$y = 4x - 10$$



Dec 18-3:19 PM

## Unit #2: Linear Functions

*Lesson:  
Solving Systems  
Review by  
Substitution*

**Math** may not  
teach me how to add love or  
subtract hate but it gives me  
hopes that every problem has  
*a solution.*  
creativeisnumber1.tumblr.

Dec 18-3:19 PM

*I can solve Systems Review by Substitution*

**Solve the following system of equations**

**ALGEBRAICALLY:**  $2x - 3y = 12$

$$y = 4x - 10$$

- 1. Get both equations in  $y=mx + b$  form**
- 2. Set equations equal to each other**
- 3. Put one side into  $Y_1$  and the other into  $Y_2$**
- 4. Zoom 6 (if you can't see the intersection then Zoom 3 enter until you can)**
- 5. 2<sup>nd</sup>, Trace, 5, Enter, Enter, Enter**
- 6. Write down your answer as a coordinate (x,y)**

Dec 18-3:19 PM

**Solve the following system of equations**

**ALGEBRAICALLY:**  $y = 6x - 11$

$-2x - 3y = -7$

1. Get both equations in  $y=mx + b$  form
2. Set equations equal to each other
3. Put one side into  $Y_1$  and the other into  $Y_2$
4. Zoom 6 (if you can't see the intersection then Zoom 3 enter until you can)
5. 2<sup>nd</sup>, Trace, 5, Enter, Enter, Enter
6. Write down your answer as a coordinate (x,y)

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**Solve the following system of equations**

**ALGEBRAICALLY:**  $2x - 3y = -1$

$y = x - 1$

1. Get both equations in  $y=mx + b$  form
2. Set equations equal to each other
3. Put one side into  $Y_1$  and the other into  $Y_2$
4. Zoom 6 (if you can't see the intersection then Zoom 3 enter until you can)
5. 2<sup>nd</sup>, Trace, 5, Enter, Enter, Enter
6. Write down your answer as a coordinate (x,y)

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**Solve the following system of equations**

**ALGEBRAICALLY:**  $y = -3x + 5$

$$5x - 4y = -3$$

1. Get both equations in  $y=mx + b$  form
2. Set equations equal to each other
3. Put one side into  $Y_1$  and the other into  $Y_2$
4. Zoom 6 (if you can't see the intersection then Zoom 3 enter until you can)
5. 2<sup>nd</sup>, Trace, 5, Enter, Enter, Enter
6. Write down your answer as a coordinate  $(x,y)$

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