Warmup 10/(Slope of this line:
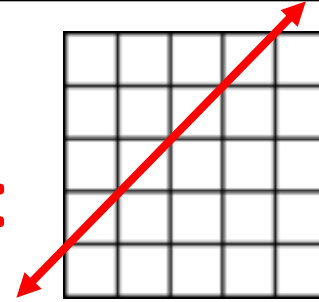
1. Copy and complete the table using the equation **y = 4x + 10.**

x	y
0	10
1	14
2	18
3	22
4	26

2. Which equation would lead to this table?

$$y = 2x + 35$$

x	y
0	35
1	37
2	39
3	41
4	43

Retaking the Functions Test…

- **If you want to retake it, <u>you need to turn in the corrections by tomorrow</u>!!!**

- **You would be taking the retake during PLT Thursday or Friday.**

Table of Contents

BACK TO THIS PAGE!!!

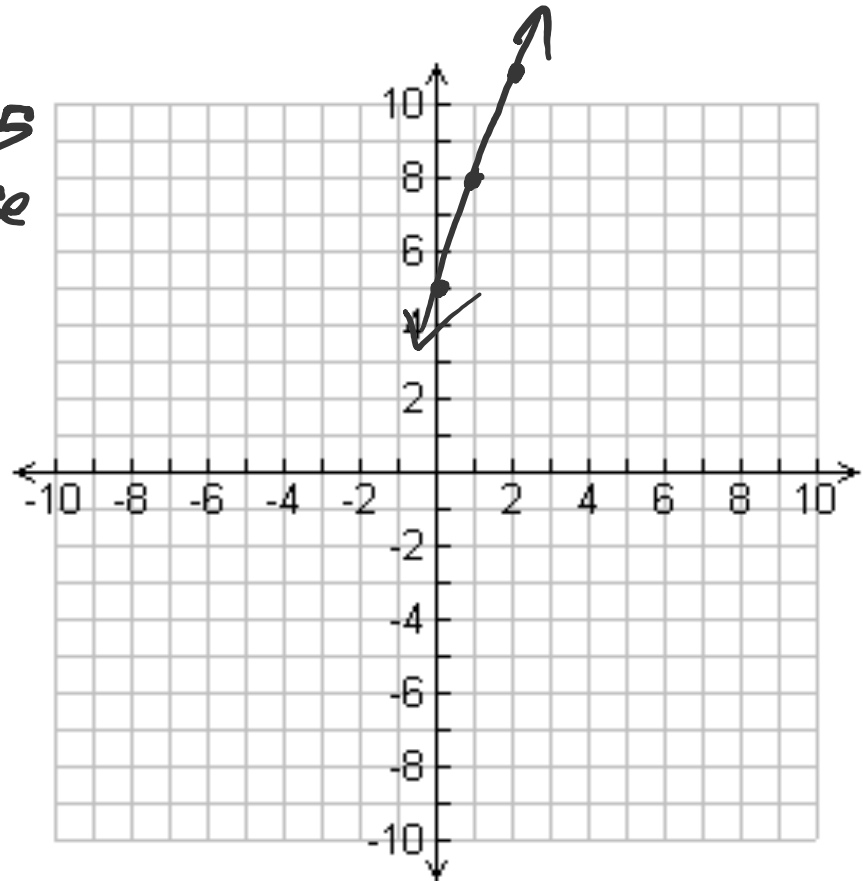# <u>Slope-Intercept Form</u>

<u>Objective:</u>

- Be able to graph the equation of a straight line <u>*without*</u> making a table

- Be able to write an equation of a straight line from a graph

Can you fill in the table **REALLY FAST???**
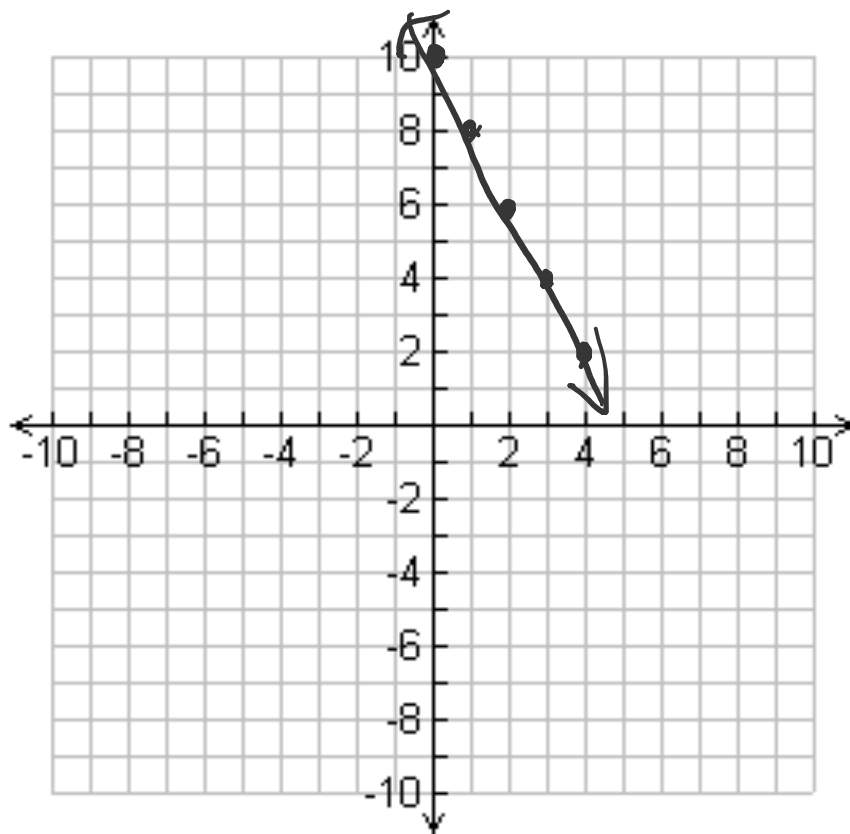
- $y = 3x + 5$

start @ 5
increase
by 3

x	y
0	5
1	8
2	11
3	14
4	17

"Start with 5 dollars, gain 3 dollars per day"

Can you fill in the table **REALLY FAST???**

- $y = -2x + 10$

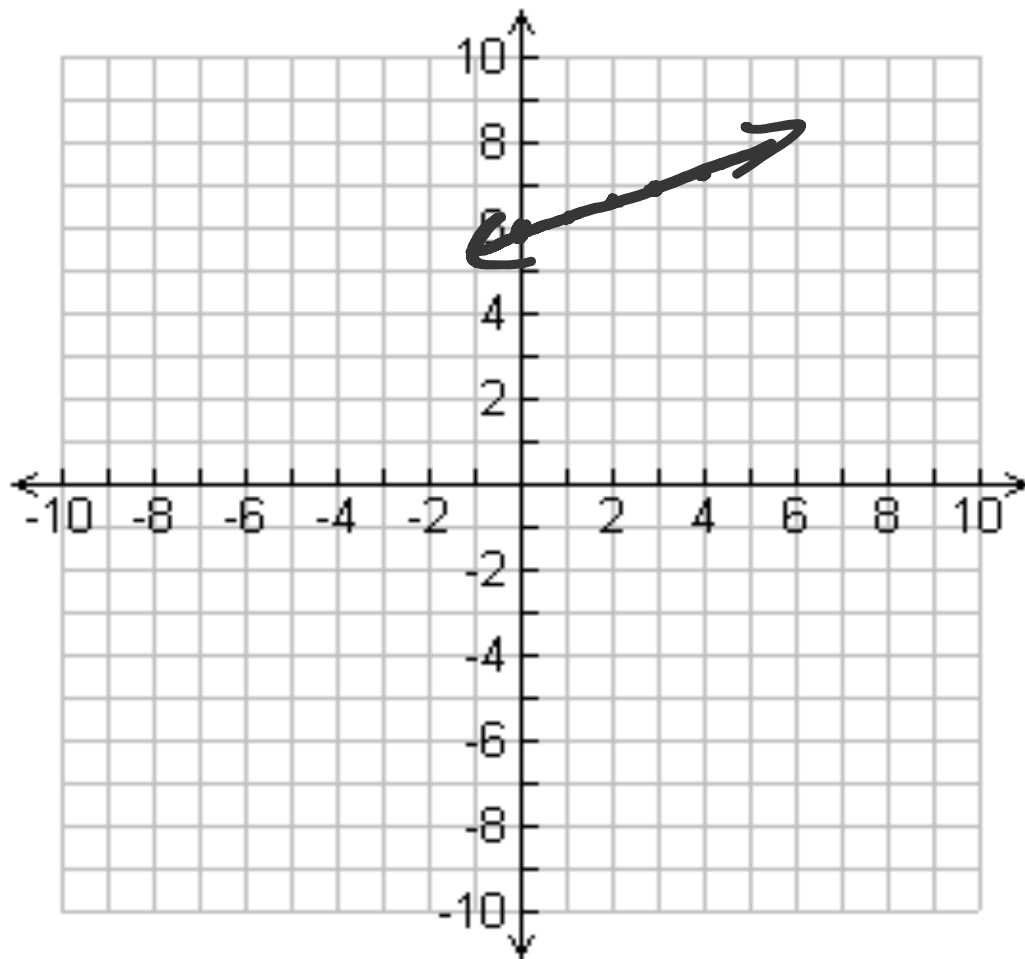| x	y
0	10
1	8
2	6
3	4
4	2

"Start with 10 dollars, LOSE 2 dollars per day"

Can you fill in the table **REALLY FAST???**

- $y = \frac{1}{3}x + 6$

x	y
0	6
1	6⅓
2	6⅔
3	7
4	7⅓

"Start with 6 dollars, gain 1/3 dollar per day"

"Start with 6 dollars, gain 1 dollar every 3 days"

Slope-Intercept Form

$$y = mx + b$$

"m" is the slope
- It controls how STEEP the line is

"b" is the Y-intercept
- The point where the line crosses the y-axis
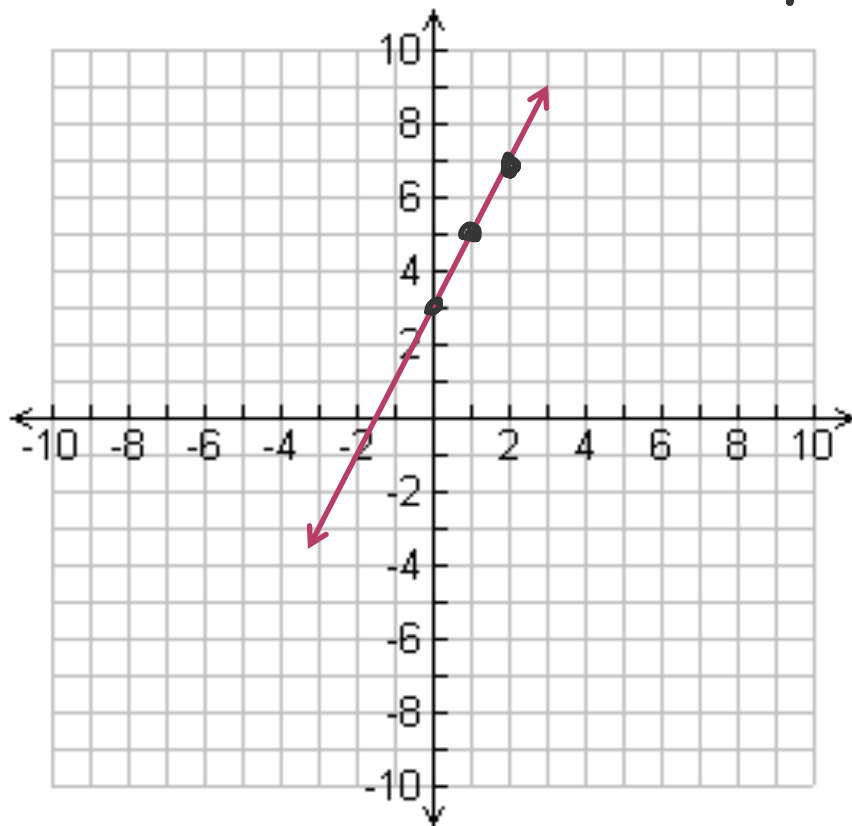(This is because if you plug in "0" for x,
you get this number for y)

(I'm not sure why they picked those letters. If you
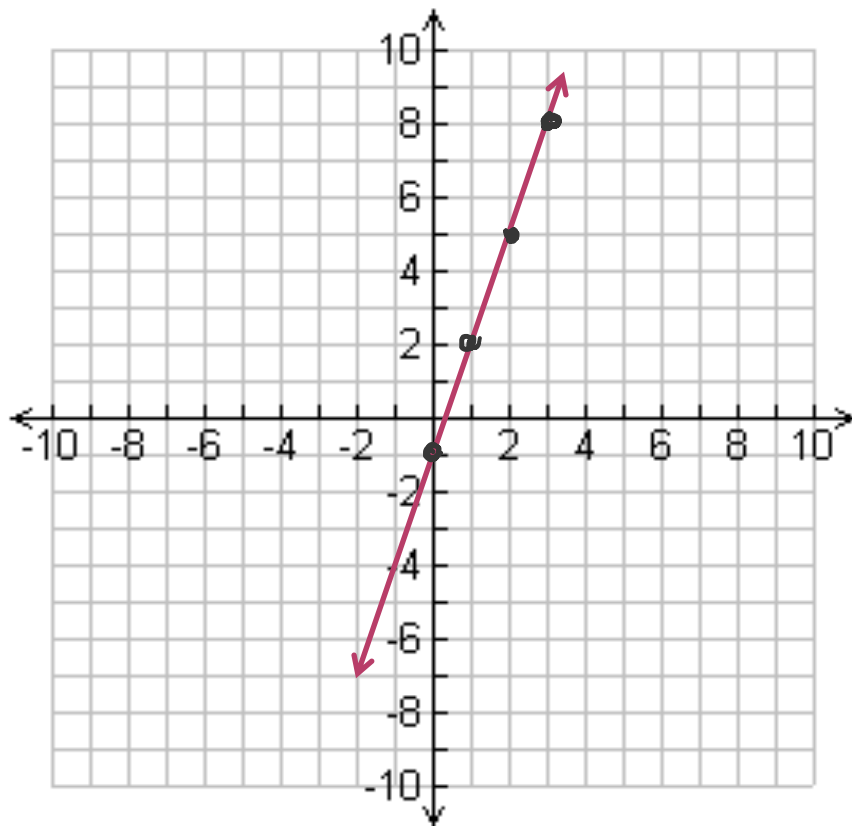find out why you can share it with the class)

QUIZ ON THURSDAY!!!

- **Rate of Change from a table**
- **Finding Slope from a graph**
- **Finding Slope without a graph**
- **Writing and graphing slope-intercept form equations (today)**

- Graph: $y = 2x \boxed{+ 3}$ $\longrightarrow$ start at $(0, 3)$

slope $= 2 = \dfrac{2 \text{ up}}{1 \text{ right}}$

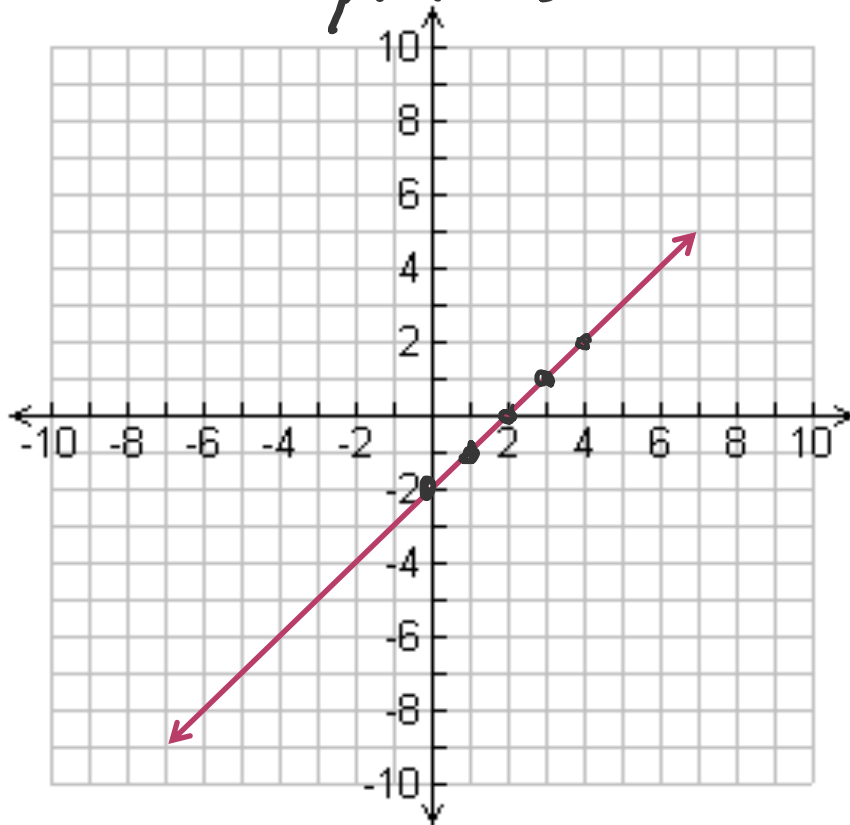Graph: $y = 3x \boxed{- 1}$ start at $(0, -1)$

slope $= 3 = \dfrac{3 \text{ up}}{1 \text{ right}}$

- Graph: $y = -4x - 5$
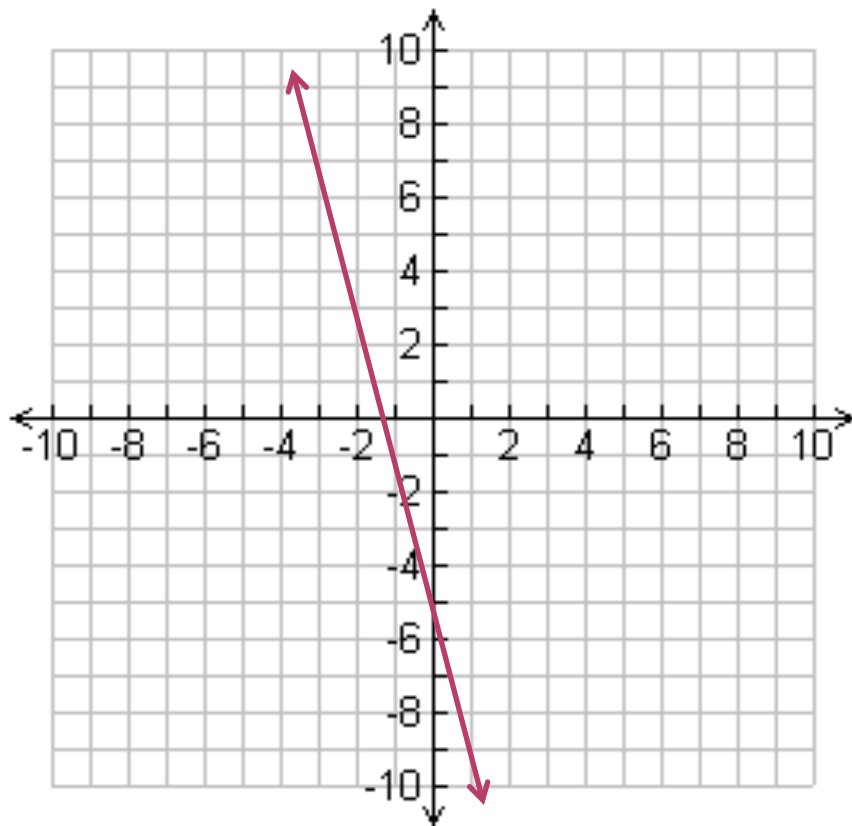
- Graph: $y = x - 2$

$y = 1x - 2$

Slope is 1!

- Graph: $y = 3x$

$$\downarrow$$

$$y = 3x + 0$$

Y-intercept is 0!
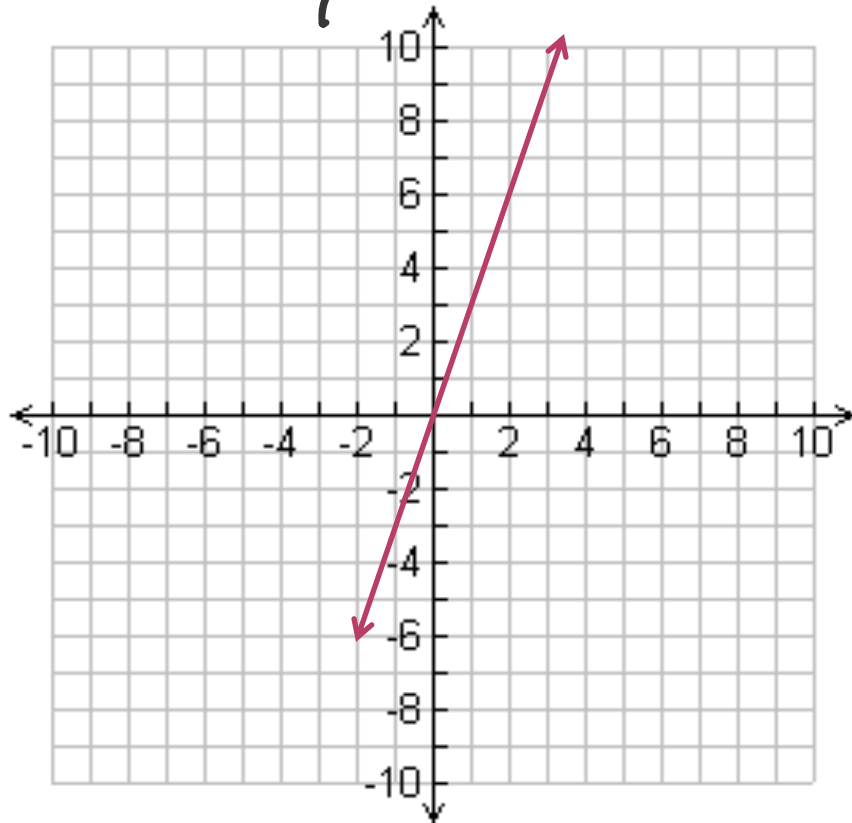
- Graph: $y = \dfrac{5}{2}x$ up right
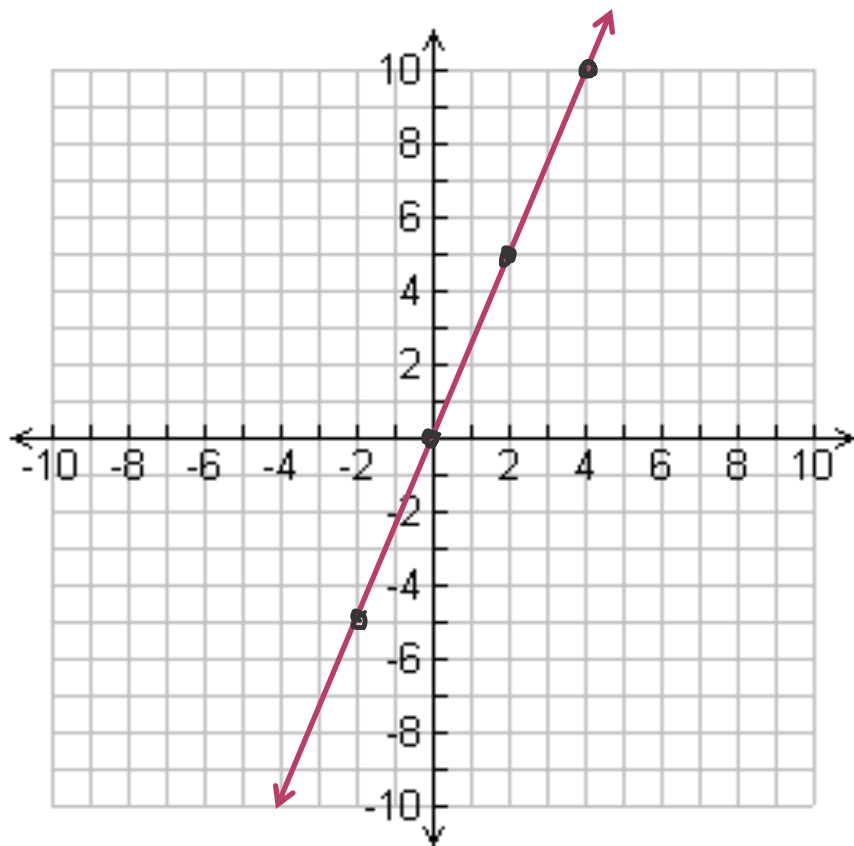
(3 MORE)

- y = ½ x + 4 → start at (0,4), go $\frac{\text{up } 1}{\text{right } 2}$

- y = -1/3 x → start at (0,0), go $\frac{\text{down } 1}{\text{right } 3}$

- y = 5/7 x + 1 → start at (0,1), go $\frac{\text{up } 5}{\text{right } 7}$
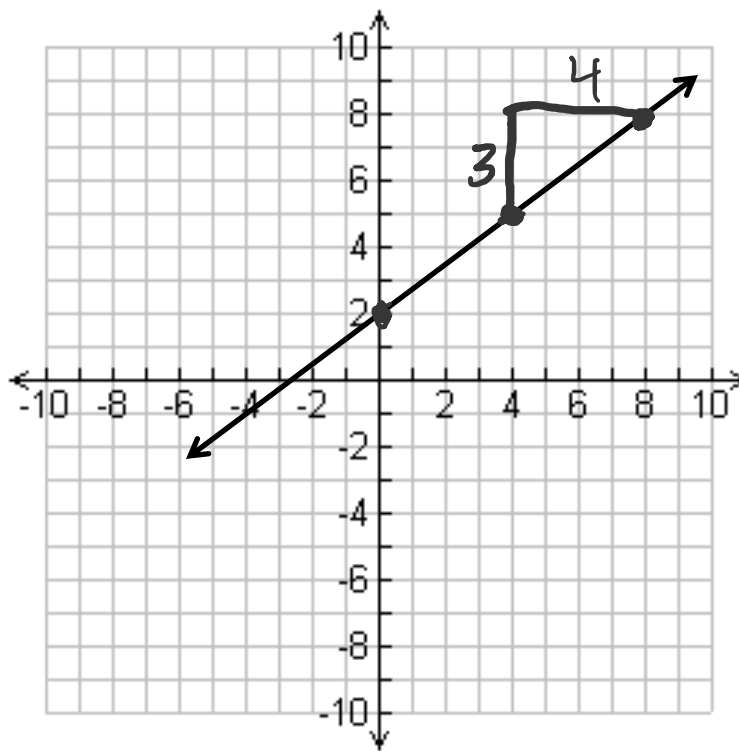
WRITE AN EQUATION OF THE LINE:
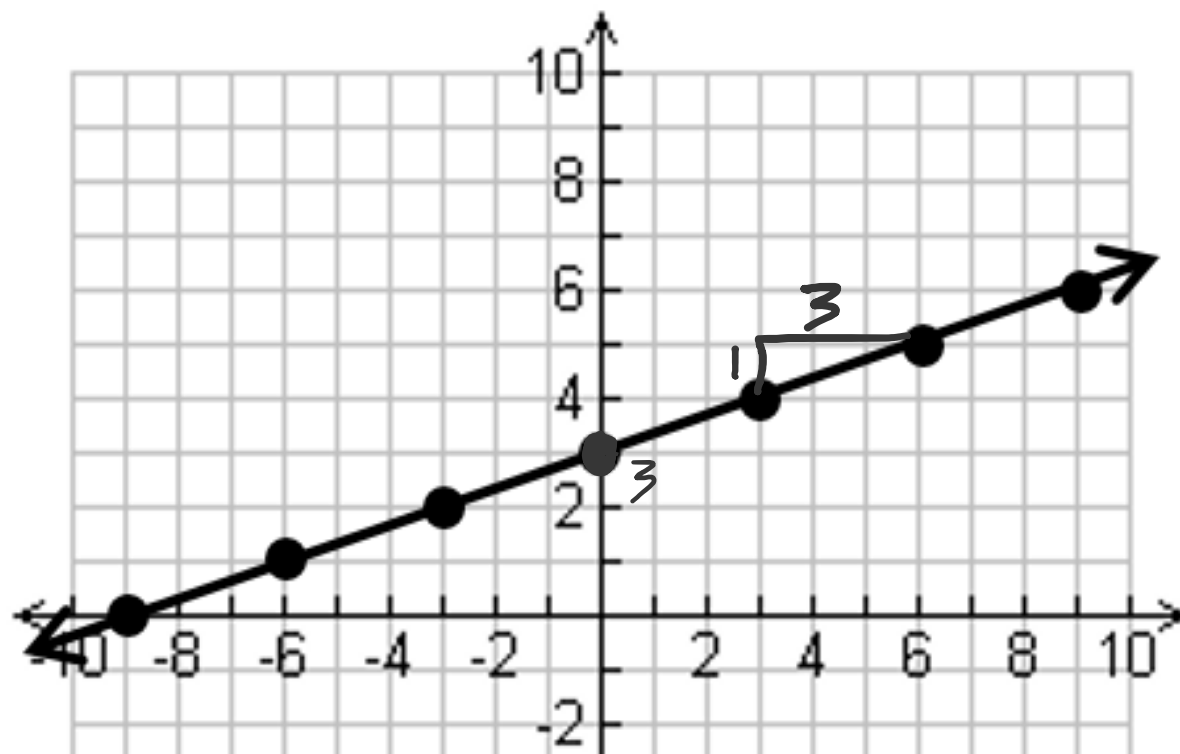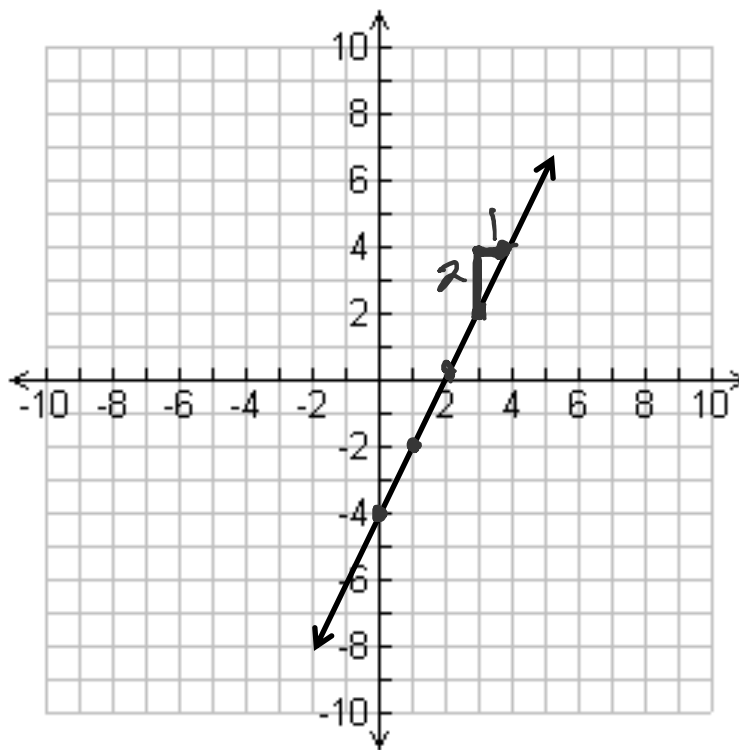

$$y = \frac{1}{3}x + 3$$

WRITE AN EQUATION OF THE LINE:
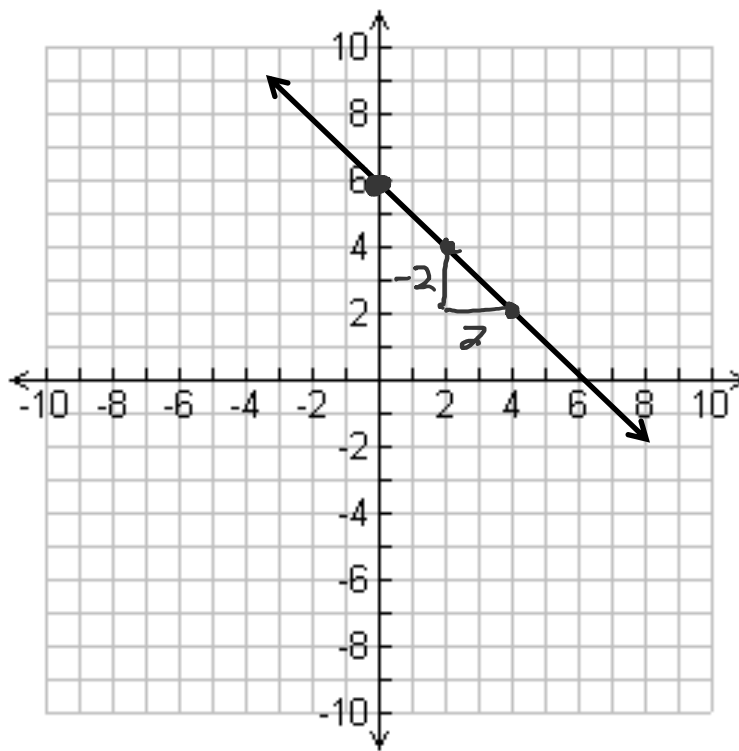
$$y = \frac{3}{4}x + 2$$

WRITE AN EQUATION OF THE LINE:

$$y = 2x - 4$$

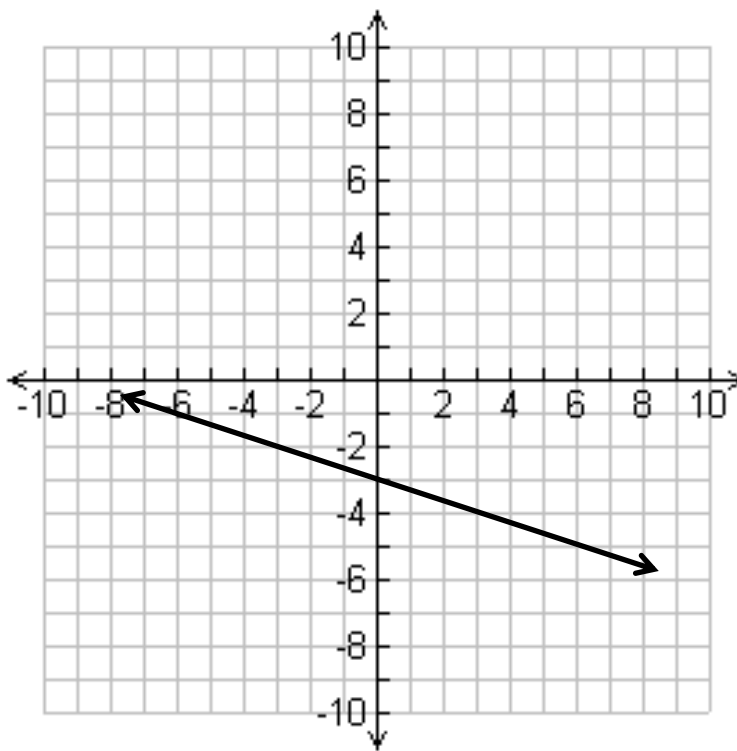# WRITE AN EQUATION OF THE LINE:
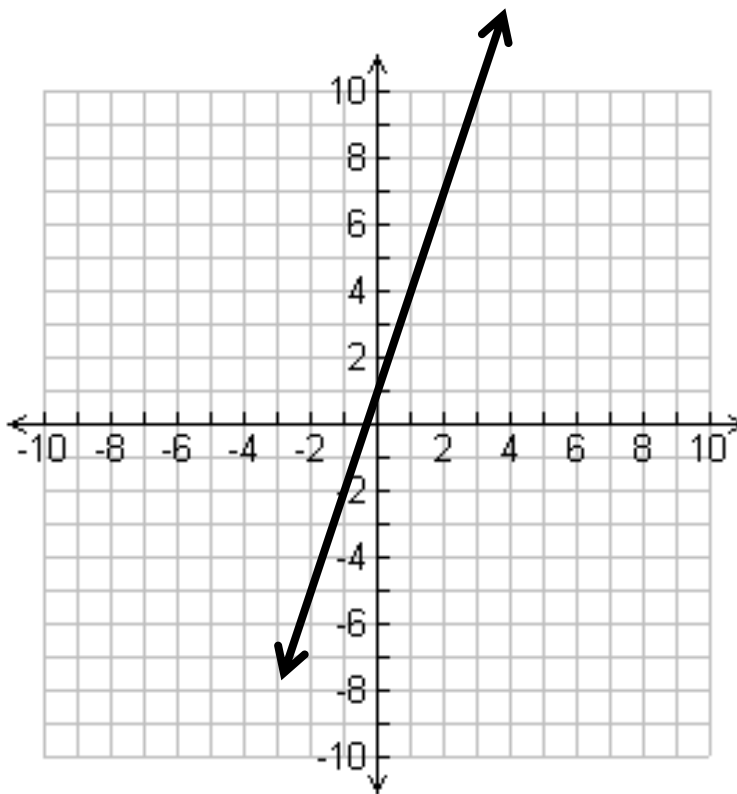
$$y = -x + 6$$

$-\dfrac{2}{2} = -1$

WRITE AN EQUATION OF THE LINE:

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

WRITE AN EQUATION OF THE LINE:

$$y = 3x + 1$$

HOMEWORK: SLOPE-INTERCEPT FORM 4-SECTION WORKSHEET

- **Due Thursday**