

Welcome to math! I am so glad that you are here today.

1st block → Please find your new seat. The seating chart is on the front board.

Find the slope given two points:

1. $(3, 2)$ and $(5, 6)$
2. $(-2, 1)$ and $(5, -1)$

Announcements

- Unit 5
 - ~~Slope~~
 - ~~Direct Variation~~
 - Slope Intercept Form
 - Standard Form
 - Point Slope Form
 - Test on 11/8

Direct Variation Homework

Any questions?

Slope Intercept Form

11/1/2018

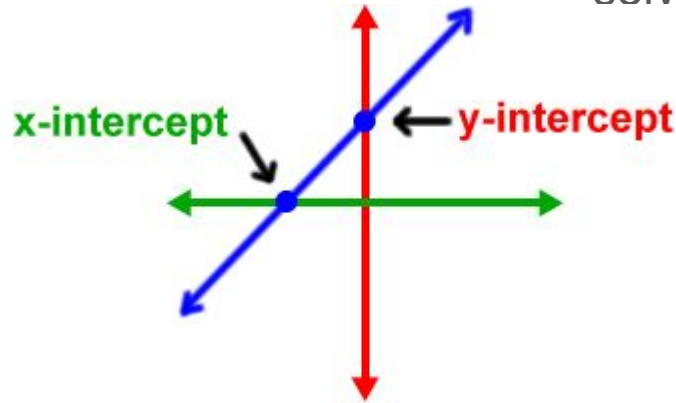
The x and y intercept

X-Intercept

- The point where a graph crosses the ___- axis.
- X-intercepts happen when the y-coordinate is zero.
- To find the x-intercept from an equation, replace y or $f(x)$ with zero and solve for x.

Y-Intercept

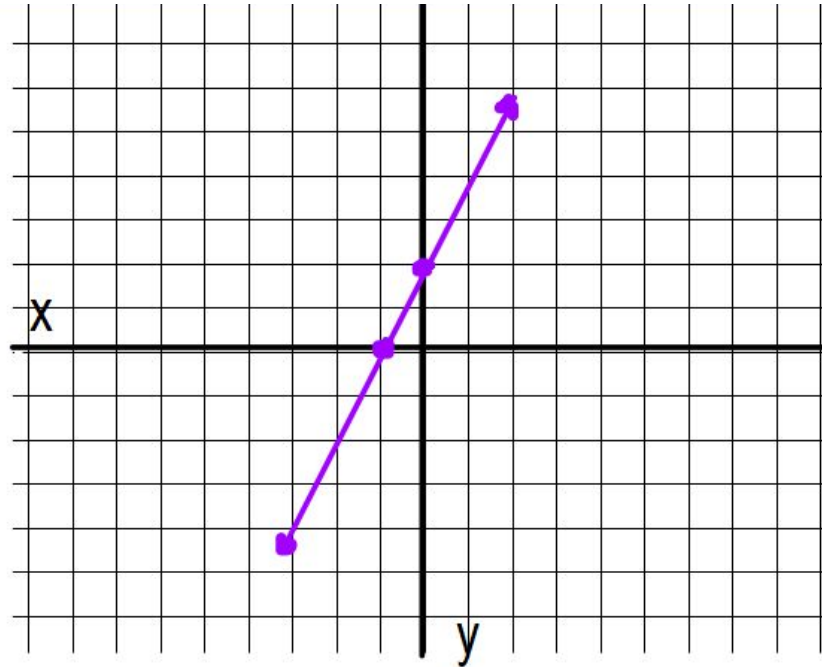
- The point where a graph crosses the ___- axis.
- Y-intercepts happen when the x-coordinate is zero.
- To find the y-intercept from an equation, replace x with zero and solve for y.



slope:

x intercept:

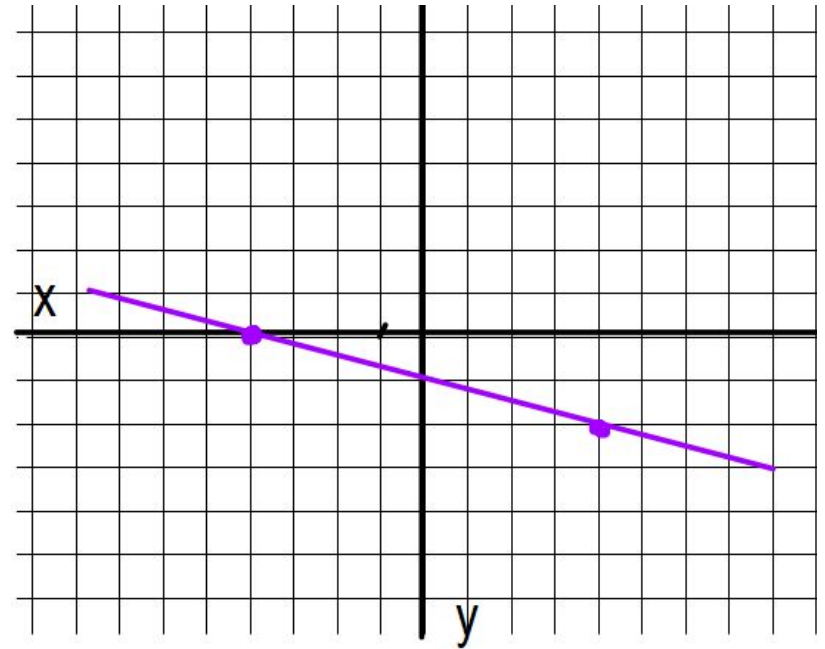
y intercept:



slope:

x intercept:

y intercept:



SLOPE Y-INTERCEPT FORM

$$(y = mx + b)$$

$$y = m \cdot x + b$$

Create Foldable

Slope
intercept
form!

Y

=

m

x

+

b

y is
the
dependent
variable

=

m

x

+

b

Slope
intercept
form!

y

m

x

$+$

b

Slope
intercept
form!

Y

=

m is the
slope!

$$m = \frac{\text{rise}}{\text{run}}$$

$$m = \frac{\Delta y}{\Delta x}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

(HOW you Move)

X

+

b

Slope
intercept
form!

y

=

m

x is the
independent
variable

+

b

Slope
intercept
form!

y

$=$

m

x

b

Slope
intercept
form!

Y

=

m

X

+

b is
the
y
intercept

(where you
Begin!)

When our equation is in slope-intercept form ($y = mx + b$), we can use the equation to find the _____ and _____-intercept.

If the equation is NOT in slope intercept form, we can rearrange it and then find the _____ and _____-intercept.

SLOPE Y-INTERCEPT FORM

$$(y = mx + b)$$

Identify the slope and y-intercept of the equation

$$y = 4x + 3$$

$$m = 4$$

$$b = 3$$

$$y = 4x + 3$$

$$(0,3)$$

*Find the "m" & "b" values
from the $y = mx + b$ form*

$$y = x - 6$$

$$m = 1$$

$$b = -6$$

$$y = 1x - 6$$

$$(0,-6)$$

Identify the slope and y-intercept of the equation

$$y = 3x - 2$$

$$y = -7x + 9$$

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

Given the slope and y-intercept, write the equation

$$m = 5 \quad b = -9$$

$$m = -2 \quad b = 8$$

$$m = \frac{4}{5} \quad b = 17$$

Identify the slope and y-intercept of the equation

$$y + 3x = 15$$

$$2y - 4x = 8$$

$$y + 8 = 5x$$

Graphing Using Slope Intercept Form

1) Equation MUST be in _____ to graph.

2) Find _____ (slope) and _____ (y-intercept)

3) Plot _____ (y-intercept) on the graph.

**b is where you Begin.

4) Start at y-intercept and use _____ (slope) to plot points for the line.

** _____ is how many you Move

**if m is positive, move _____ and to the right.

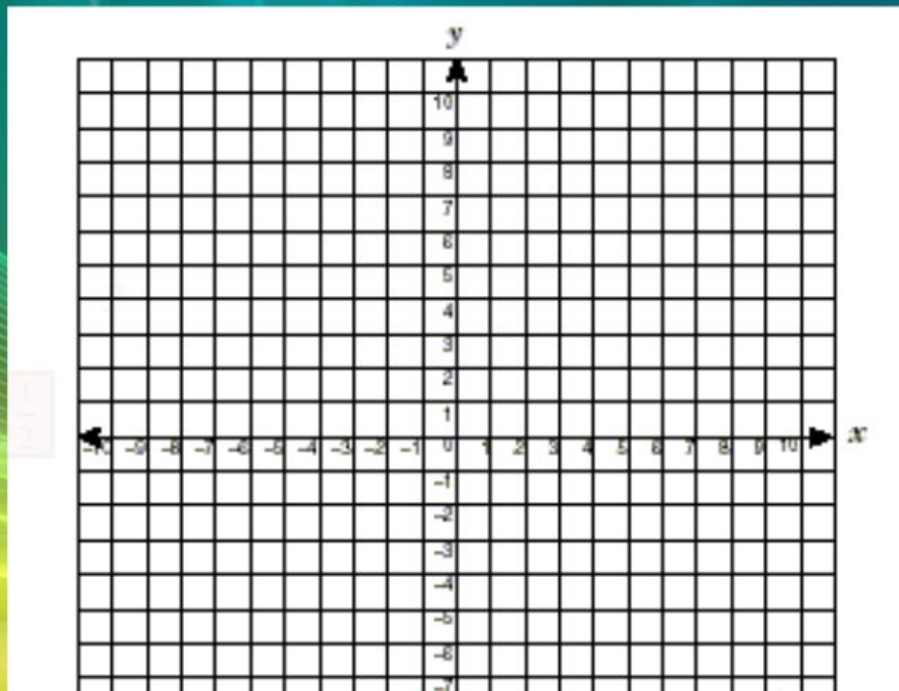
**if m is negative, move _____ and to the right.

5) Draw a _____ through the points.

SLOPE Y-INTERCEPT FORM

$$(y = mx + b)$$

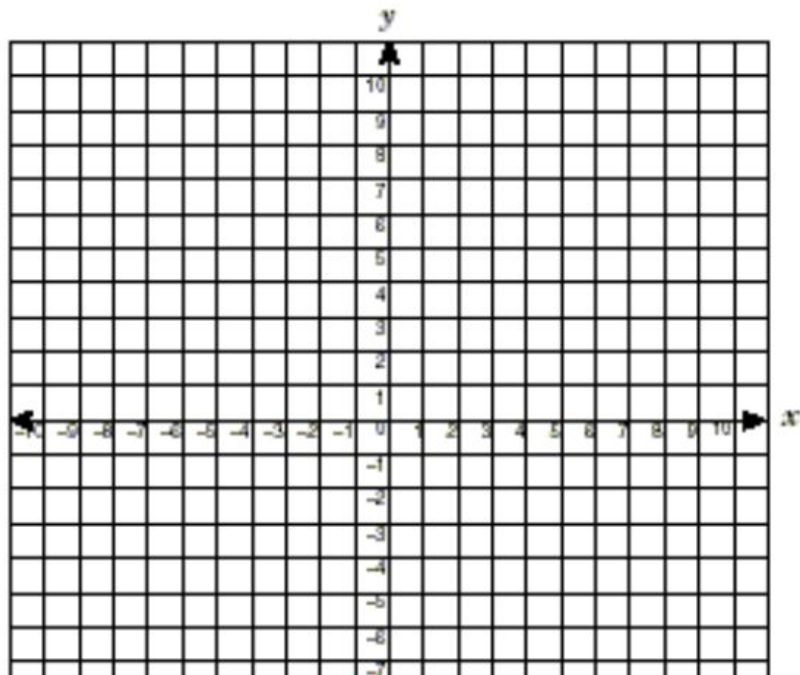
Graph: $y = 3x - 2$



PRACTICE

$$(y = mx + b)$$

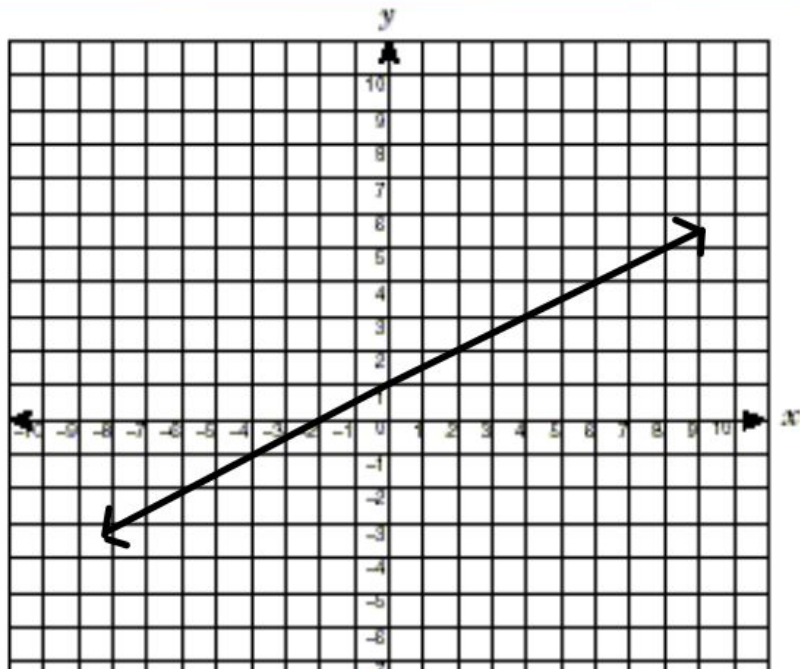
$$y = -7x + 9$$



PRACTICE

$$(y = mx + b)$$

Write an equation. (*name m and b first!)



Homework

5-3 Practice Worksheet