

What's Going On?

Checking In

The Test.

Minds on

What do you know?

Action!

Horizontal and Vertical Lines

Consolidation

Whiteboards!

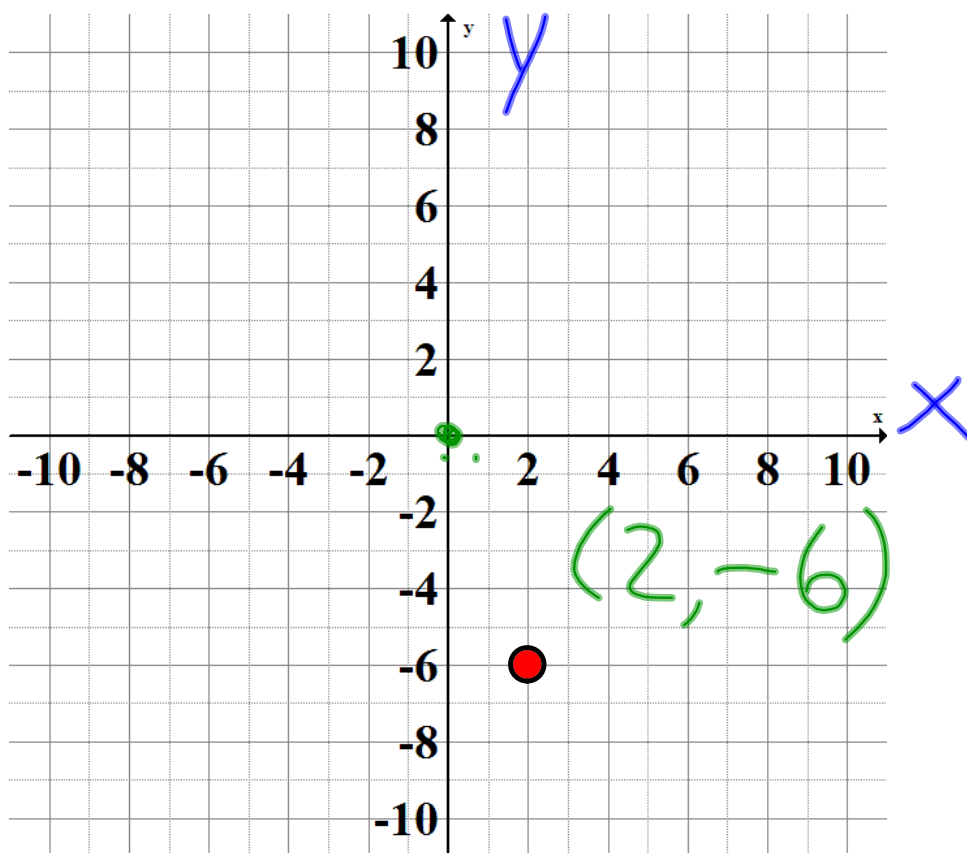
**Learning Goal - I will be able to graph lines in
Slope y-Intercept Form and create Slope y-Intercept Form
equations from graphs.**

Unit 4

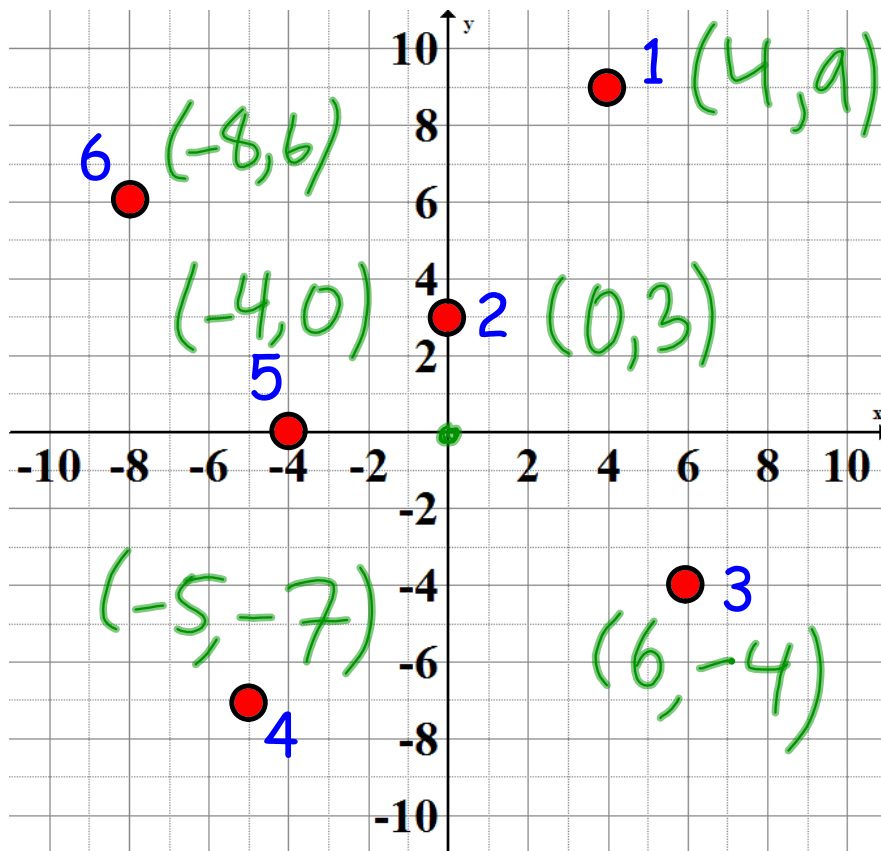
Analyse Linear Relations

Day 1: Slope y-Intercept Form

What are my Coordinates?



What are my Coordinates?



A Few Things From Last Unit

WORD WALL

In the last unit we talked about

- initial values
- vertical intercepts
- constant

They all represented the same thing!!

$$y = mx + b$$


In the last unit we talked about

- initial values
- vertical intercepts
- constant

$$y = mx + b$$

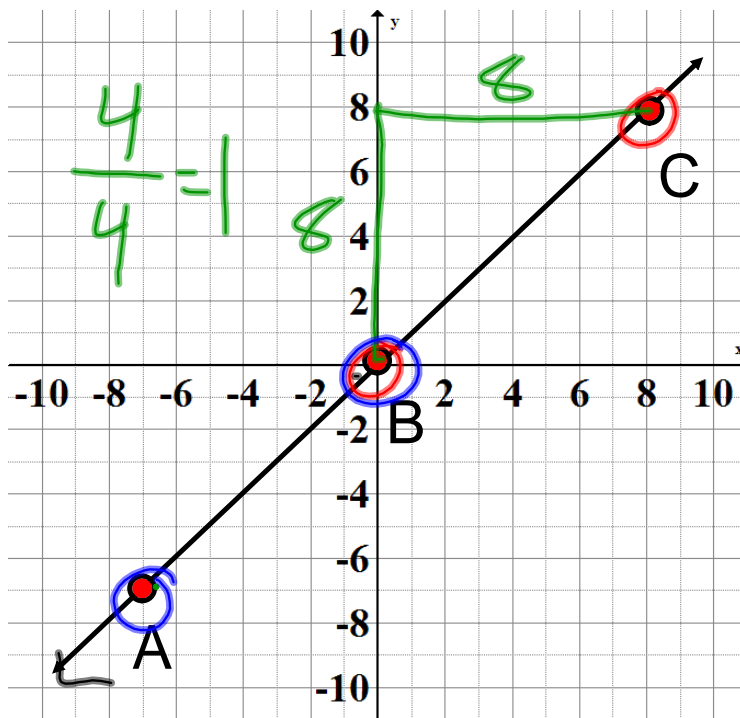


In this unit we will also call b the

y-intercept

Minds on

What do you know?



Slope?

$$\frac{8}{8} = 1$$

y-intercept?



Equation?

$$y = 1x$$

$$y = x$$

$$y = 8x$$

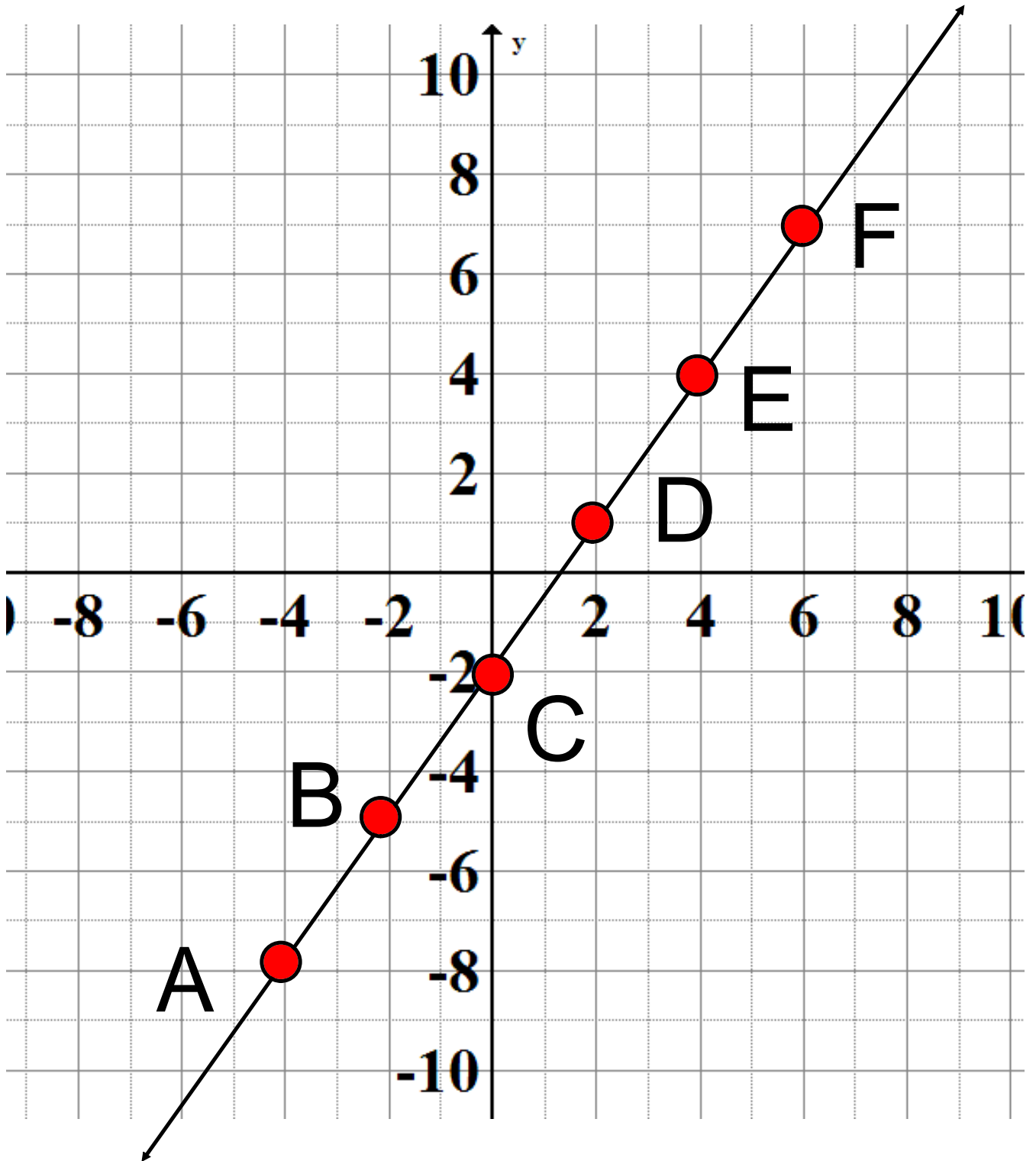
$$y = 1x - 5$$

$$y = mx + b$$

$$y = x$$

Minds on

What do you know?



Slope?

$$\boxed{\frac{3}{2}}, \frac{1}{2}, \boxed{\frac{1}{6}}, \frac{7}{6}$$

$$\boxed{1\frac{1}{2}}, \boxed{\frac{1.5}{1}}, \boxed{1.5}$$

y-intercept?

$$-2$$

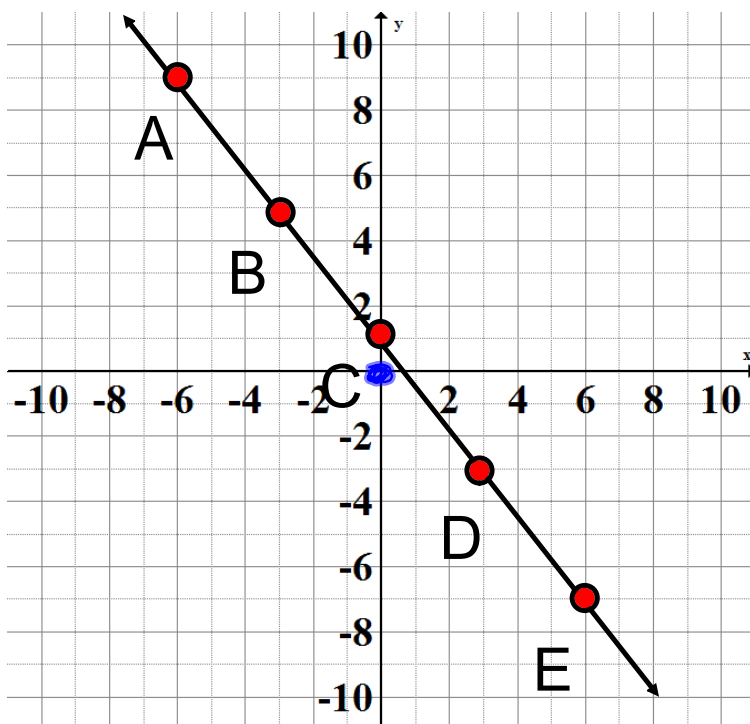
Equation?

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

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

Minds on

What do you know?



Slope?

$$-\frac{4}{3}, \frac{4}{-3}, -\frac{4}{3}$$

y-intercept?

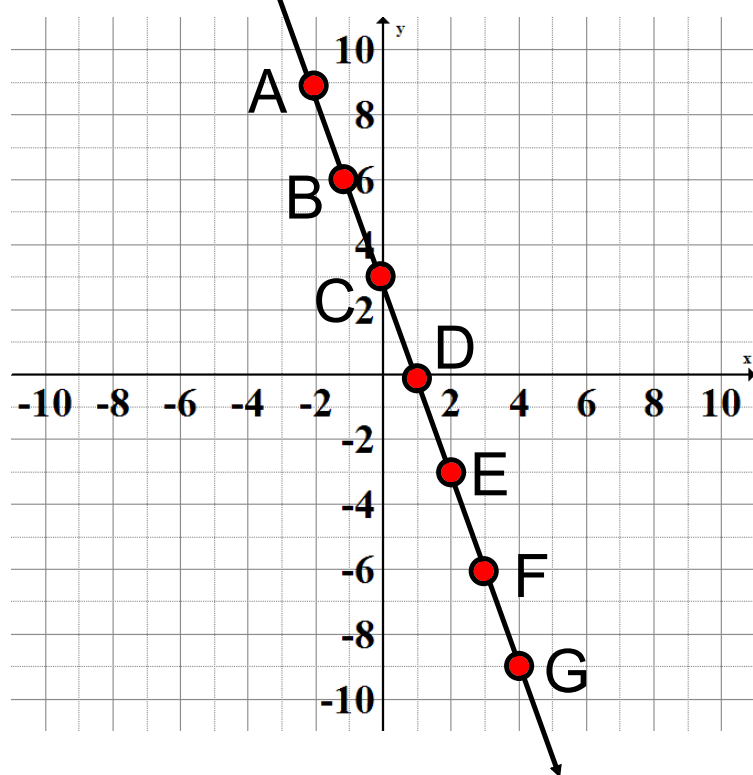
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Equation?

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

Minds on

What do you know?



Slope?


y-intercept?

Equation?

In the equation

$$y = mx + b$$

m is the slope of the line

- the "steepness"
- the rise between ANY two points
run  divide

b is the y-intercept of the line

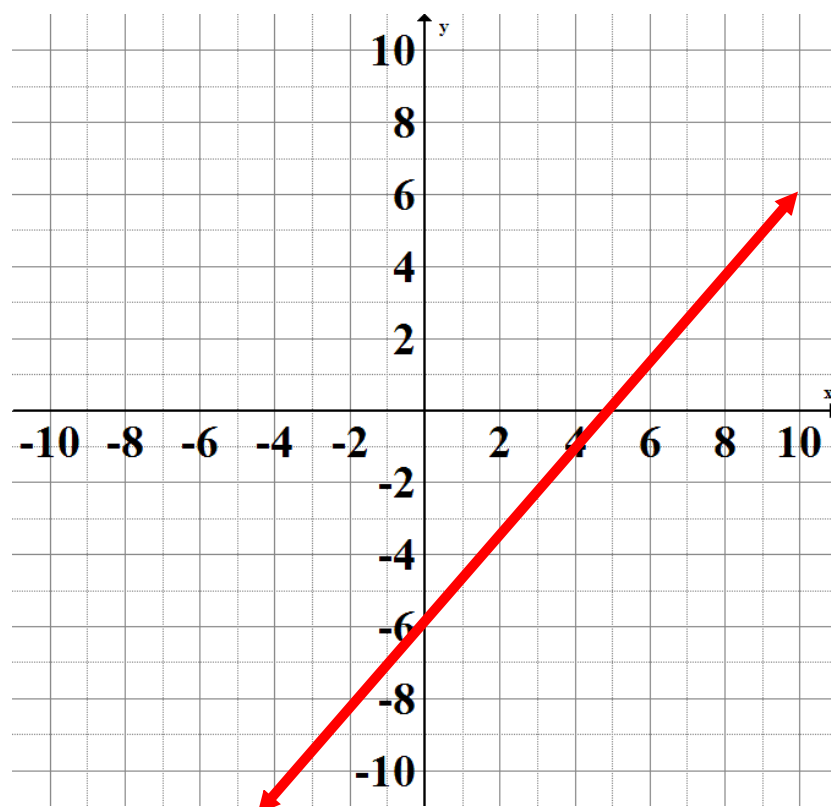
- the value of y when x is 0
- where the line crosses the y-axis
- the "initial value"

y-intercept of a line

- the value of y when x is 0
- where the line crosses the y -axis
- the "initial value"

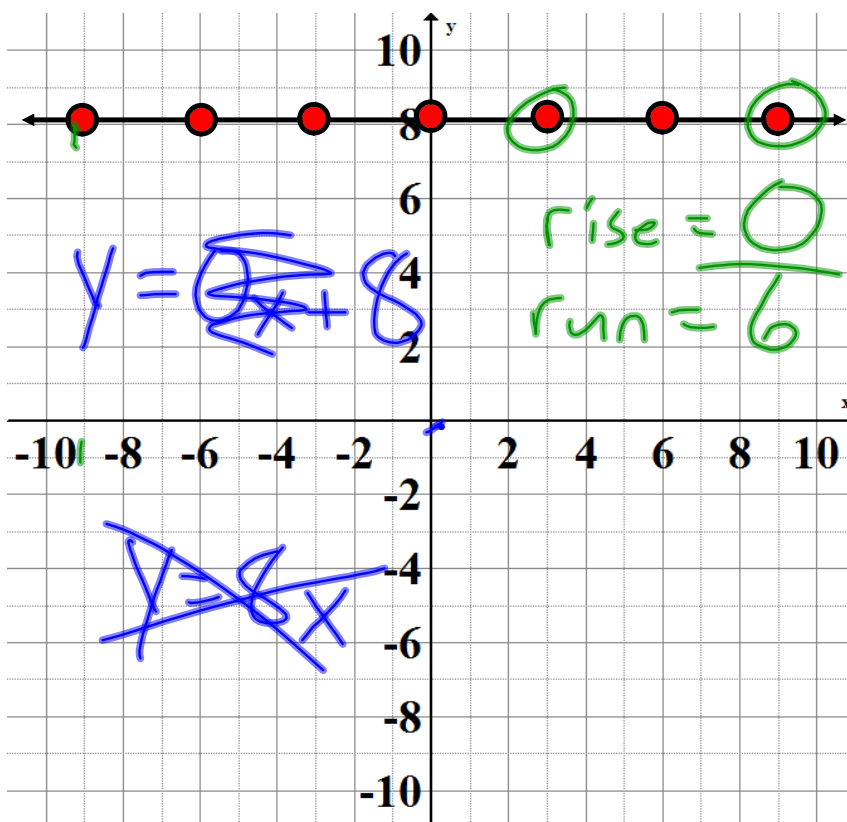
x-intercept of a line

- the value of x when y is 0
- where the line crosses the x -axis



Action!

Horizontal and Vertical Lines



Slope?

0

y-intercept?

8

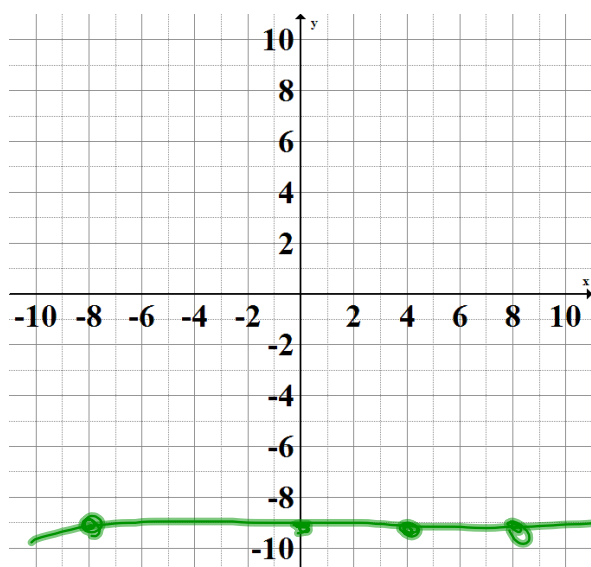
Equation?

$y = 8$

Action!

Horizontal and Vertical Lines

$$y = -9$$



Slope?

0

y-intercept?

-9

x-intercept?

none

Action!

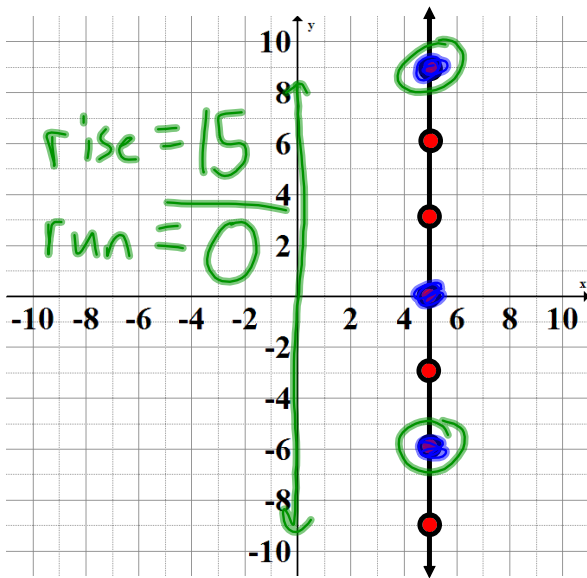
Horizontal and Vertical Lines

- A Horizontal Line has a Slope of 0.
- The equation of a Horizontal Line is always in the form $y = b$ where b is the y -intercept of the line.
- A Horizontal Line does not have an x -intercept

Slope	Vertical Line	x -intercept
y -intercept	Horizontal Line	Undefined
	$x = a$	
	$y = b$	

Action!

• Horizontal and Vertical Lines



Slope?

undefined

y-intercept?

~~0~~ ~~5~~
NO idk what?

Equation?

$x = 5$

Slope

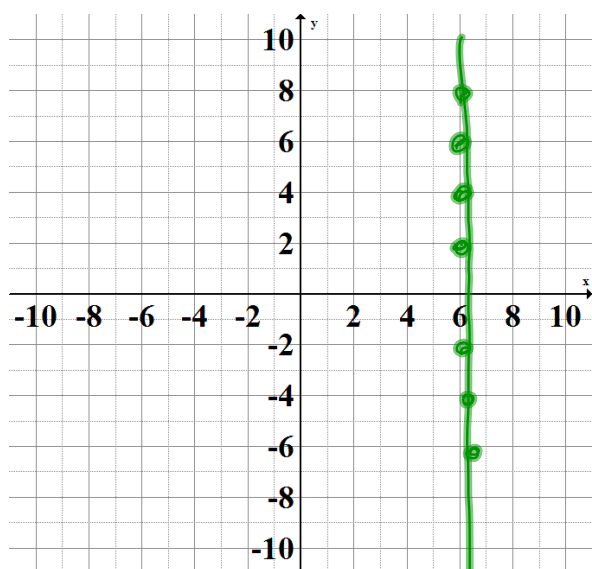
Zero

Undefined

Action!

Horizontal and Vertical Lines

$$x = 6$$



Slope?

y-intercept?

x-intercept?

Action!

~~Horizontal~~ and **Vertical** Lines

- The Slope of a Vertical Line is always Undefined.
- The equation of a Vertical Line is always in the form $x = a$ where a is the x-intercept of the line.
- A Vertical Line does not have a y-intercept.

Slope	Vertical Line	x-intercept
y-intercept	Horizontal Line	Undefined

$$x = a$$

$$y = b$$

Consolidation

Practice it!

Page 304
#1-8, 10, 12