

What's Going On?

Checking In

Minds on

Which ramp is steeper?

Action!

Slope!

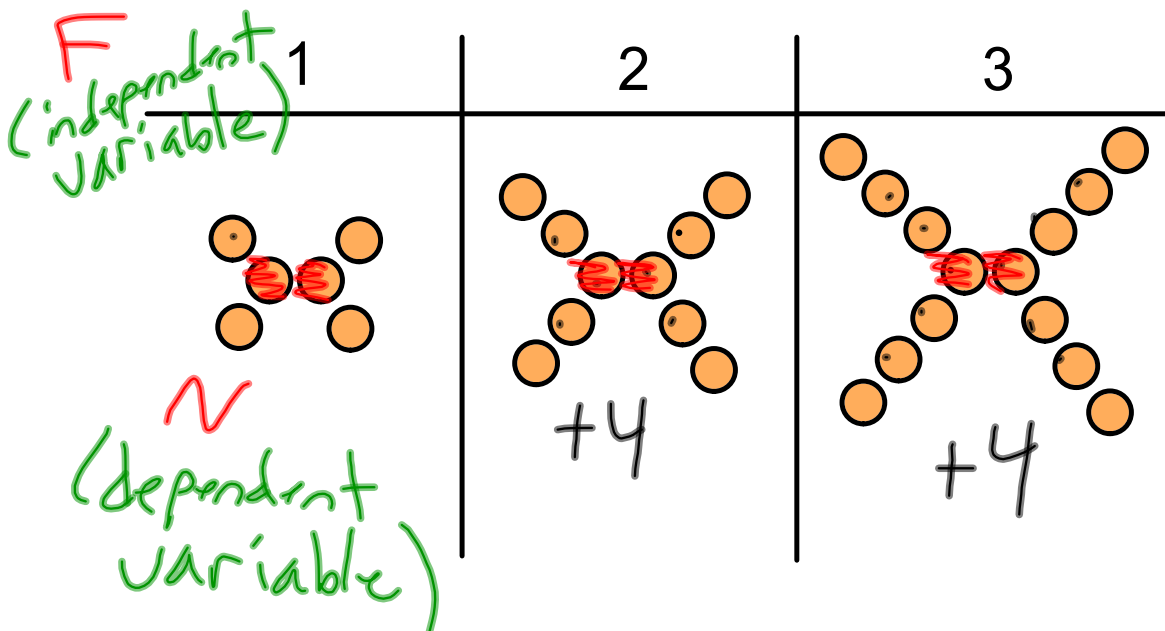
Consolidation

Fill in the blanks.

Learning Goal - I will be able to calculate the slope of a line!

a) Determine if the situation modeled below is Direct or Partial variation.

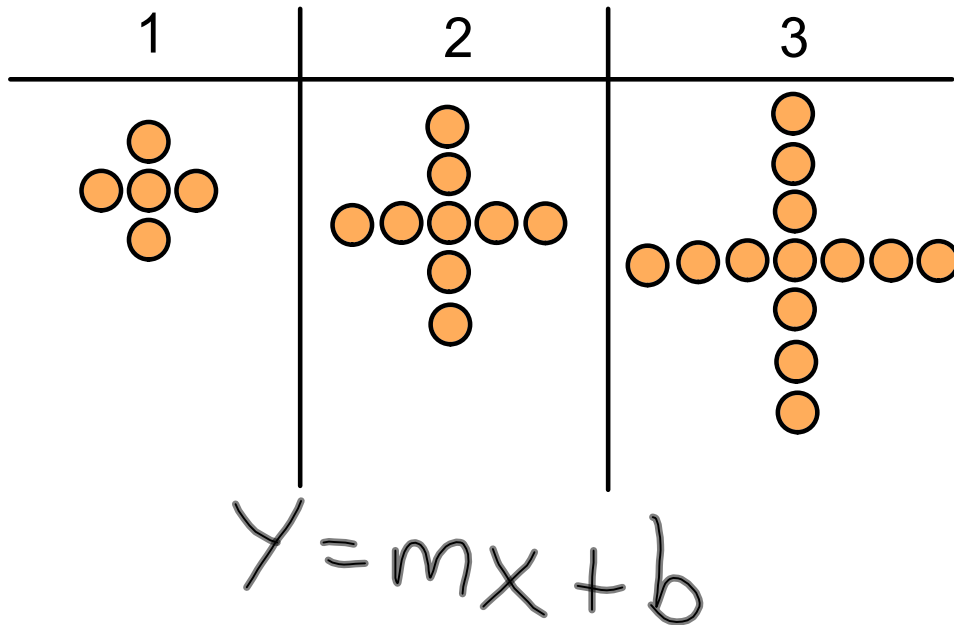
b) Create an equation to model the situation.



$$N = 4F + \underline{2}$$

a) Determine if the situation modeled below is Direct or Partial variation.

b) Create an equation to model the situation.



How much does it go up by each frame?

4

$$m = 4$$

If we went back to frame 0
how many would there be?

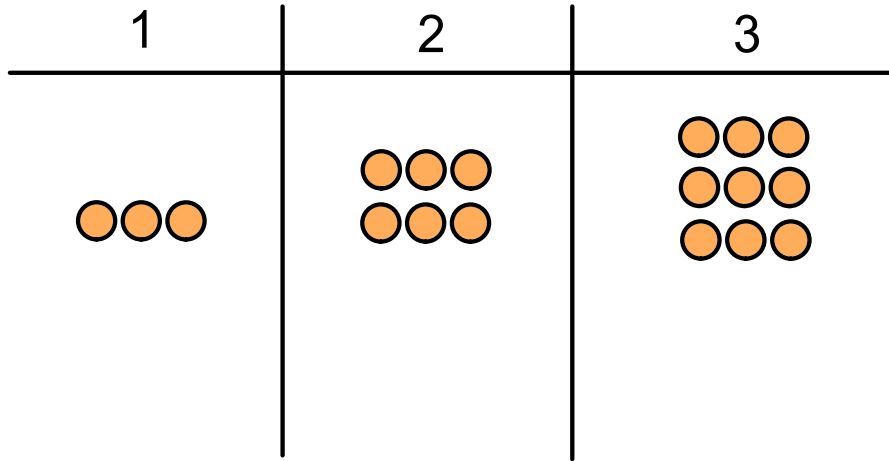
1

$$b = 1$$

$$Y = 4x + 1$$

a) Determine if the situation modeled below is Direct or Partial variation.

b) Create an equation to model the situation.



How much does it go up by each frame?

$$3 \quad m = 3$$

If we went back to frame 0 how many would there be?

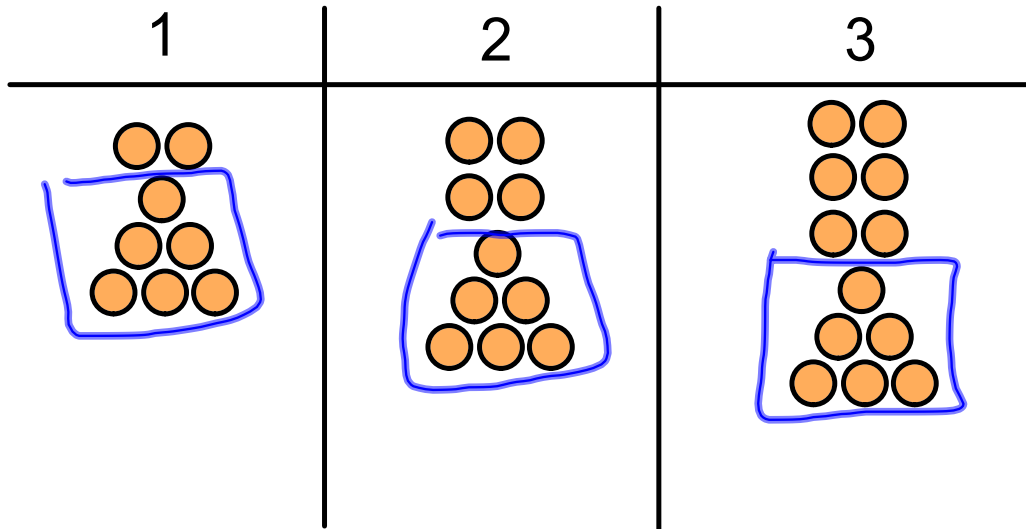
$$0$$

$$y = 3x + 0$$

$$y = 3x$$

a) Determine if the situation modeled below is Direct or Partial variation.

b) Create an equation to model the situation.



How much does it go up by each frame?

$$2 \quad m = 2$$

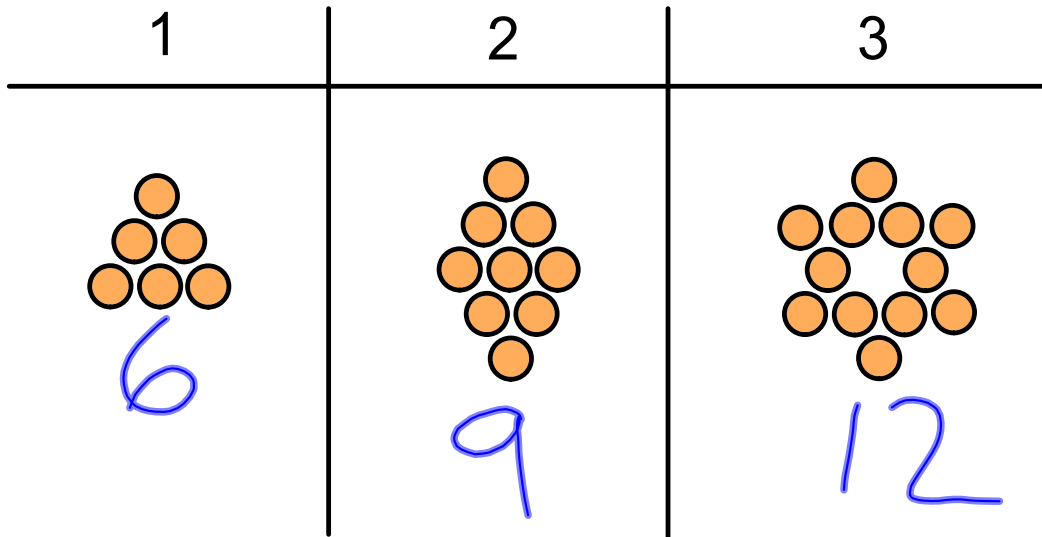
If we went back to frame 0 how many would there be?

$$6 \quad b = 0$$

$$y = 2x + 6$$

a) Determine if the situation modeled below is Direct or Partial variation.

b) Create an equation to model the situation.



How much does it go up by each frame?

$$3 \quad m = 3$$

If we went back to frame 0 how many would there be?

$$3 \quad b = 3$$

$$y = 3x + 3$$

- a) Determine if the situation modeled below is Direct or Partial variation.
- b) Create an equation to model the situation.

1	2	3
5	8	11

Handwritten annotations: Green arrows point from 5 to 8 and from 8 to 11, with '+3' written below each arrow.

How much does it go up by each frame?

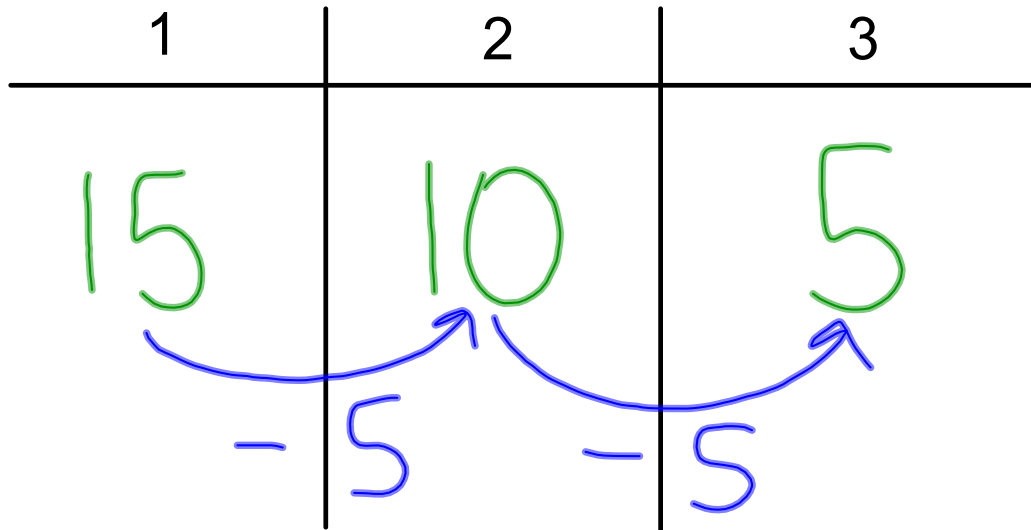
3 $m = 3$

If we went back to frame 0 how many would there be?

2 $b = 2$

$$y = 3x + 2$$

- a) Determine if the situation modeled below is Direct or Partial variation.
- b) Create an equation to model the situation.



How much does it go up by each frame?

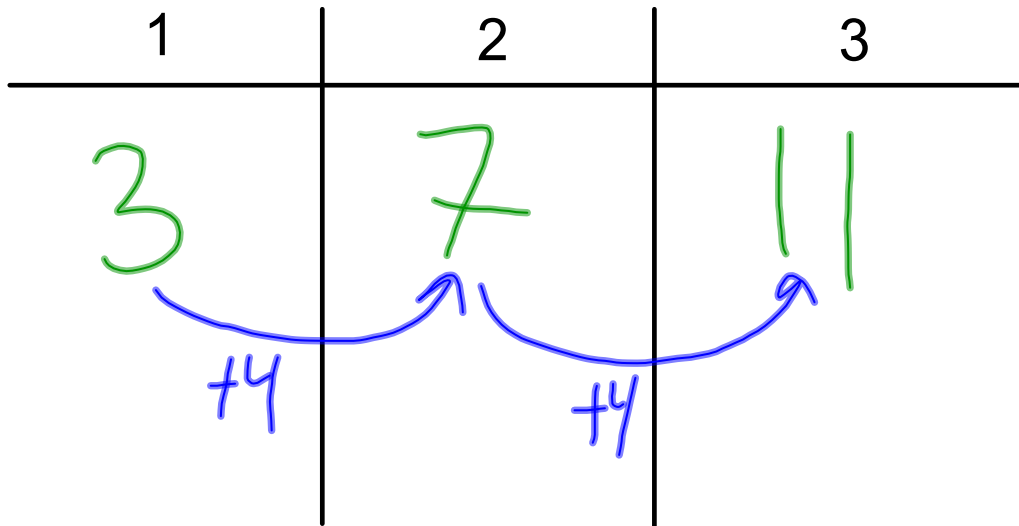
$$-5 \quad m = -5$$

If we went back to frame 0 how many would there be?

$$20 \quad b = 20$$

$$y = -5x + 20$$

- a) Determine if the situation modeled below is Direct or Partial variation.
- b) Create an equation to model the situation.



How much does it go up by each frame?

$$4 \quad m = 4$$

If we went back to frame 0 how many would there be?

$$-1 \quad b = -1$$

$$y = 4x - 1$$

a) Determine if the situation modeled below is Direct or Partial variation.

b) Create an equation to model the situation.

1	2	3
-5	-8	-11

Handwritten annotations: Green arrows show a constant difference of -3 between consecutive y-values. The slope $m = -3$ is indicated.

How much does it go up by each frame?

$$m = -3$$

If we went back to frame 0 how many would there be?

$$b = -2$$

$$y = -3x - 2$$

- a) Determine if the situation modeled below is Direct or Partial variation.
- b) Create an equation to model the situation.

1	2	3
-22	-17	-12

Handwritten annotations: Green arrows and '+5' labels indicate a constant increase of 5 units from frame 1 to 2, and from frame 2 to 3.

How much does it go up by each frame?

$$m = 5$$

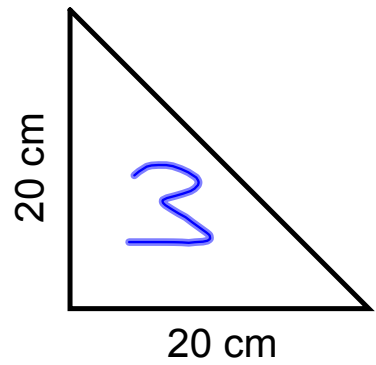
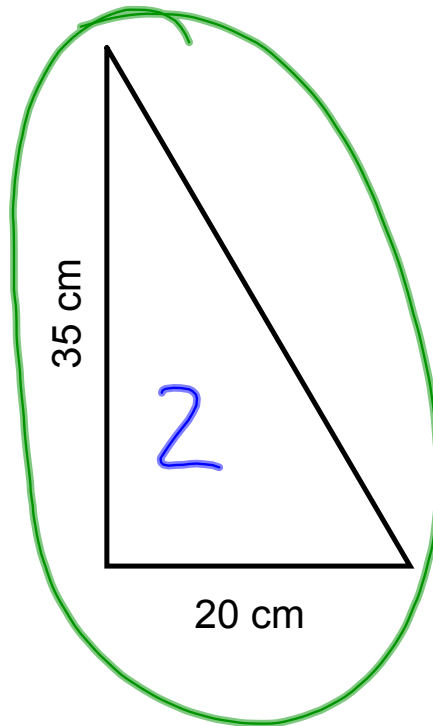
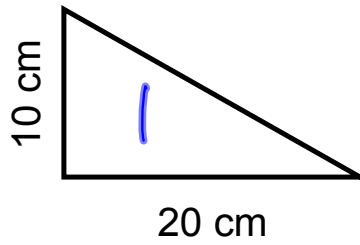
If we went back to frame 0 how many would there be?

$$b = -27$$

$$y = 5x - 27$$

Minds on

Which ramp is steepest?



Minds on

Which ramp is steepest?

a) A ramp that is 1 metre long and 2 metres high.



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

b) A ramp that is 2 metres long and 6 metres high.



$$\frac{6}{2} = 3$$

c) A ramp that is 2 metres long and 8 metres high.



$$\frac{8}{2} = 4$$

Minds on

Which ramp is steepest?

a) A ramp that is 1 metre long and 2 metres high.

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

b) A ramp that is 3 metres long and 6 metres high.

$$\frac{6}{3} = 2$$

c) A ramp that is 4.75 metres long and 9.5 metres high.

$$\frac{9.5}{4.75} = 2$$

Action!

Slope

Slope is a measure of the steepness of a line.

It is measured as $slope = \frac{rise}{run}$

The ***rise*** is the ***vertical distance*** between two points

(Change in y-values) -> "**The y's rise**"

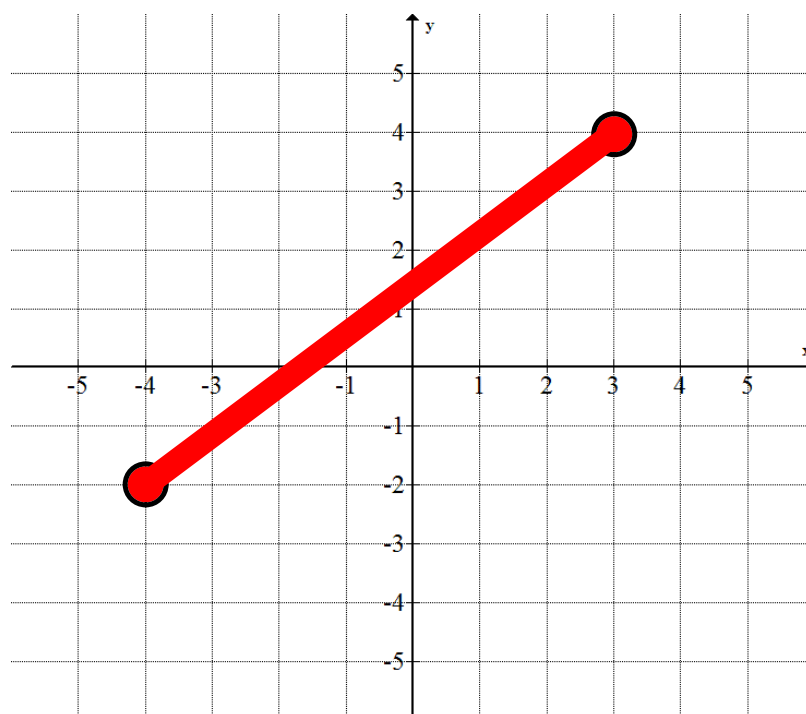
The ***run*** is the ***horizontal distance*** between two points.

(Change in x-values)

Action!



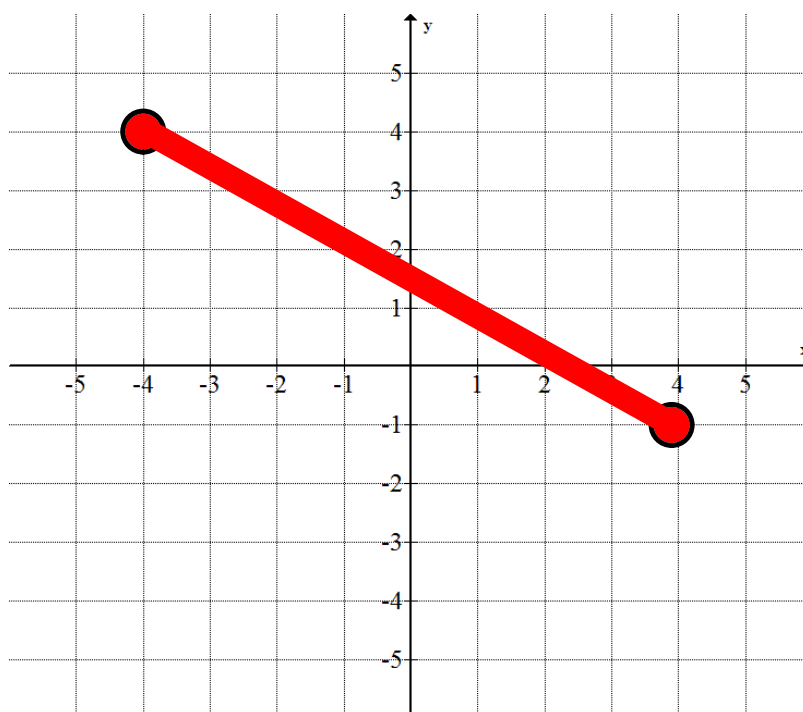
Positive Slope



Action!

Hang Man!

Lines with positive slope RISE
from LEFT to RIGHT.

Action!**Negative Slope**

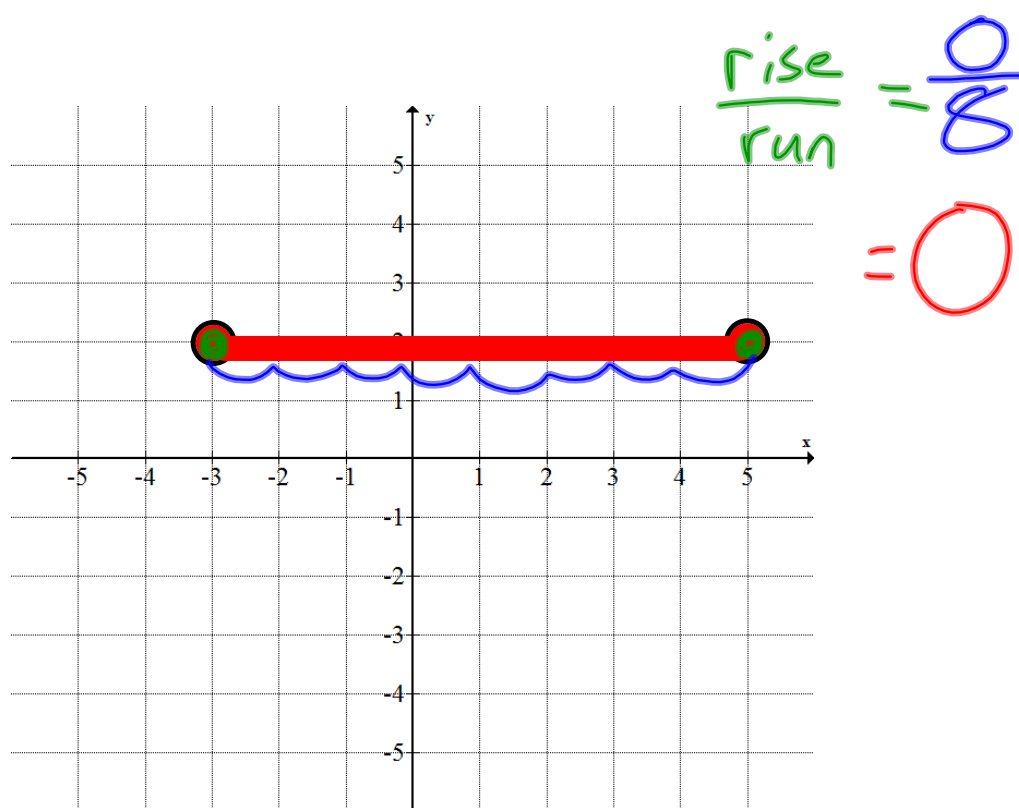
Action!

Hang Man!

Lines with negative slope FALL
from LEFT to RIGHT.

Action!

Horizontal Lines



Action!

Hangman!

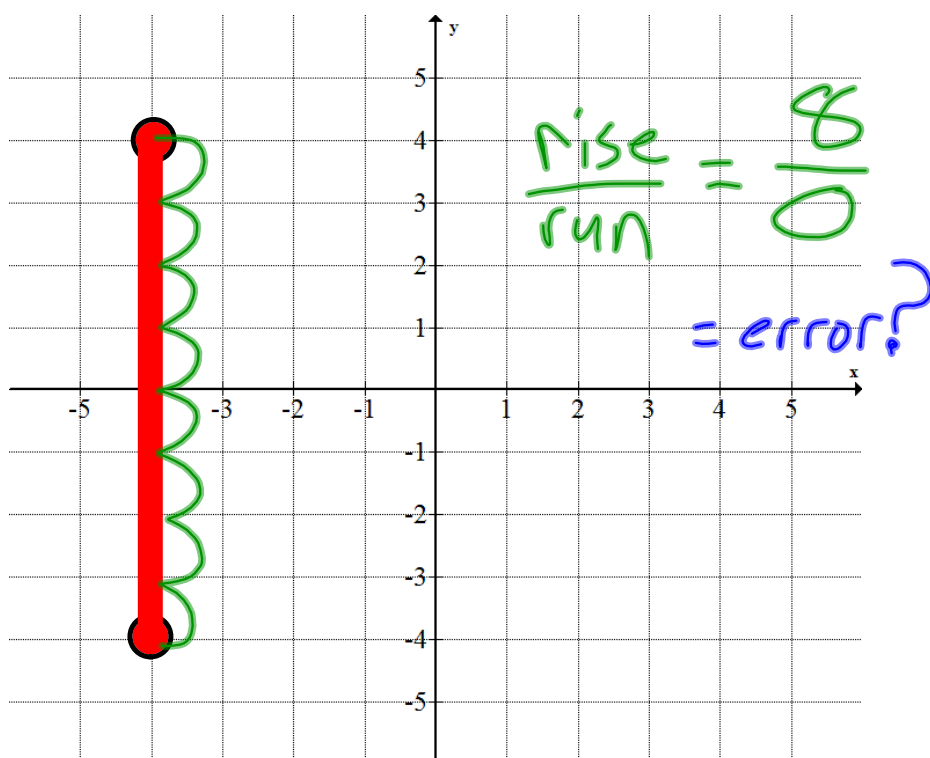
All horizontal lines have a slope of

Z E R O



Action!

Vertical Lines

use your
calculator...

Action!

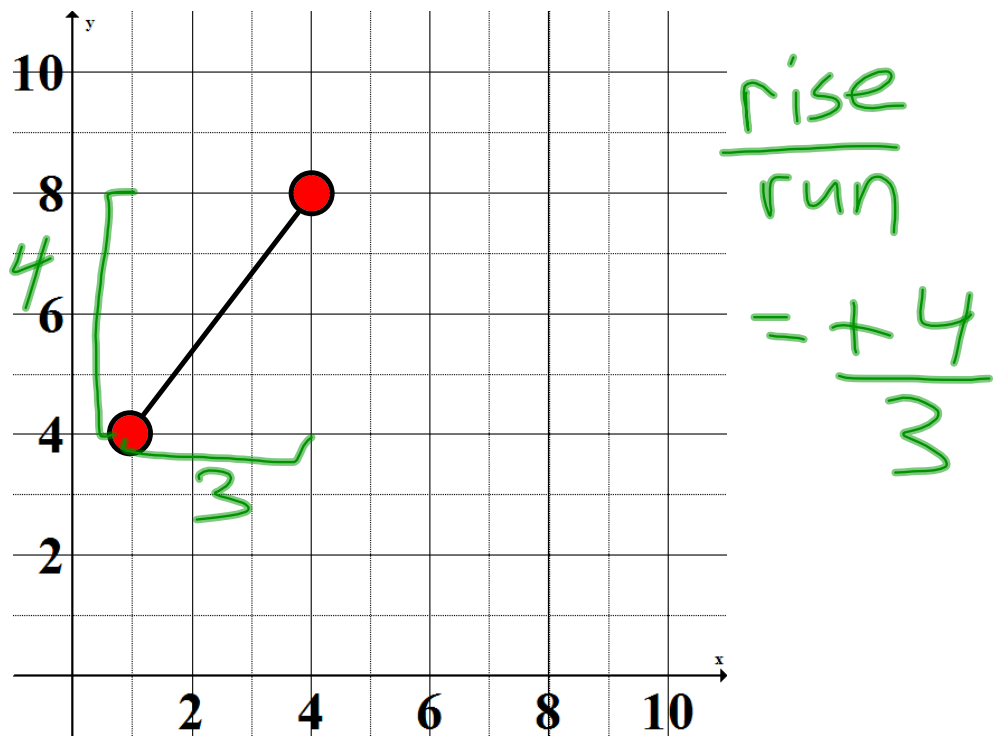
Hangman

The slope of all vertical lines is

UNDEFINED!

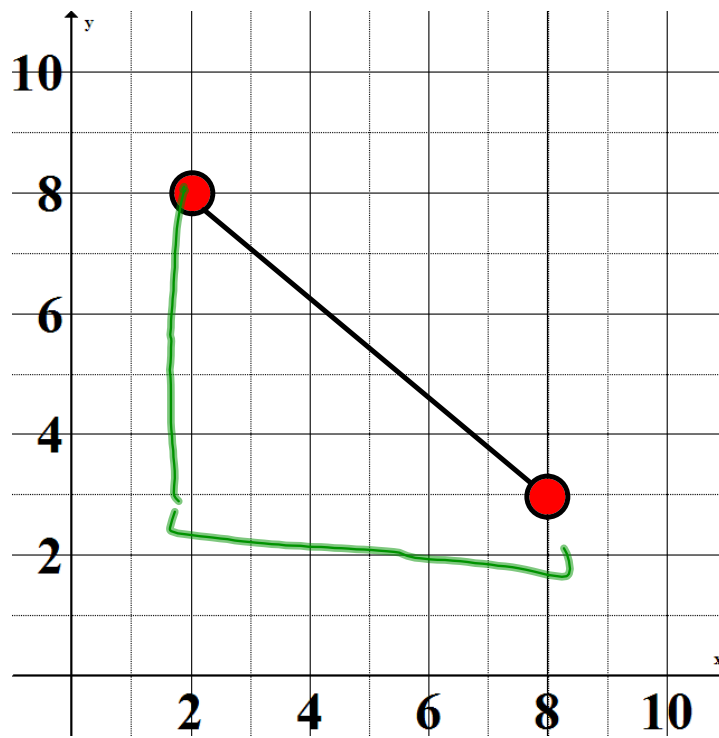
Action!

What's the Slope?



Action!

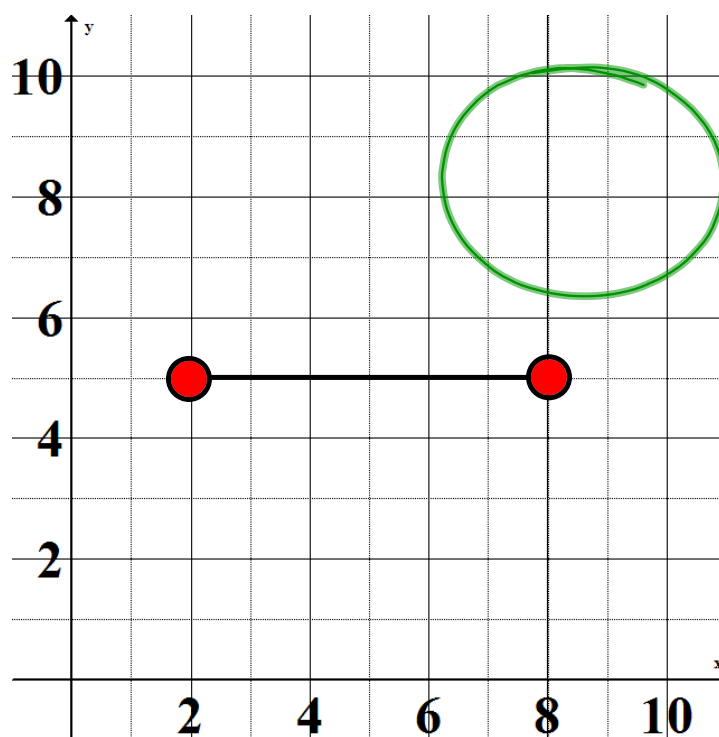
What's the Slope?



$$\frac{\text{rise}}{\text{run}} = \frac{6}{5}$$

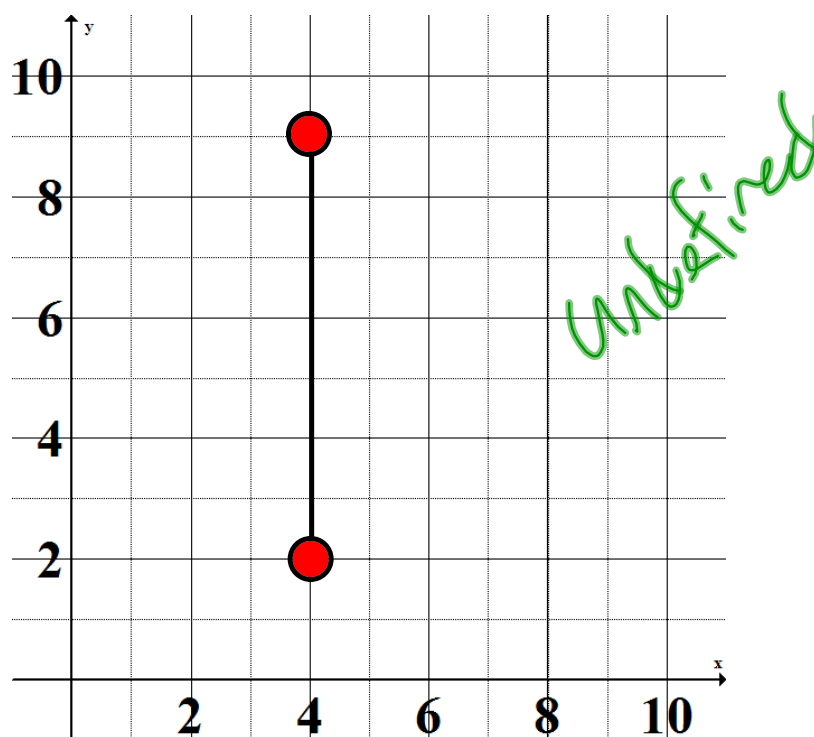
Action!

What's the Slope?



Action!

What's the Slope?



Consolidation

Practice it!

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