Slope!

The steepness of a line is called _____!

Circle the line with the biggest slope… 

The letter we use for slope is a lowercase ____! Why?! Because it comes from the French word *monter* which means to climb or to rise. FUN FACT!

When given a graph of a line, we need to know a simple definition of slope:

m =

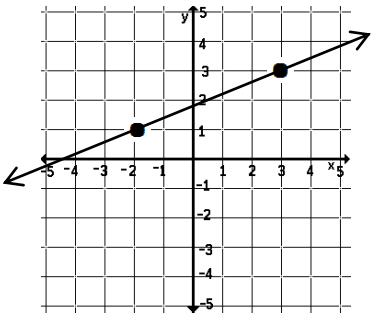
** Slope is the ratio of a line's _____ change to its _____ change. That's what we mean by "*rise over run"!*

How to find the slope of a line when given a graph of a line:

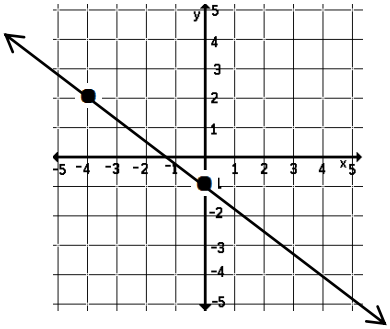
1) Start at the point farthest to the _____!

2) Find the *rise!* Up: _____
Down: _____

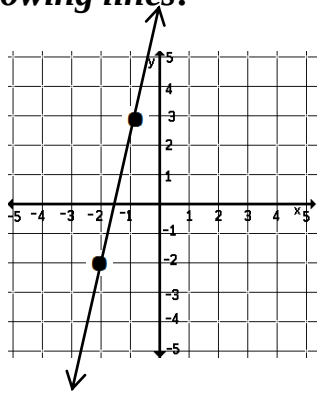
3) Find the *run!* Right: _____
Left: _____



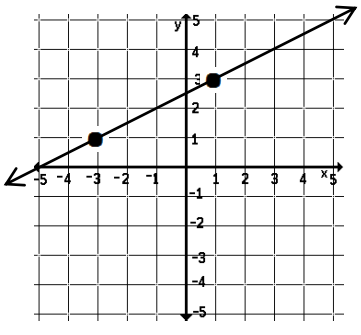
Find the slope of the following lines!



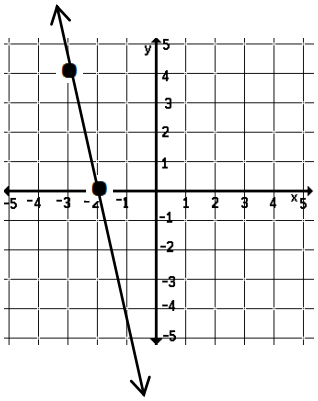
m =



m =



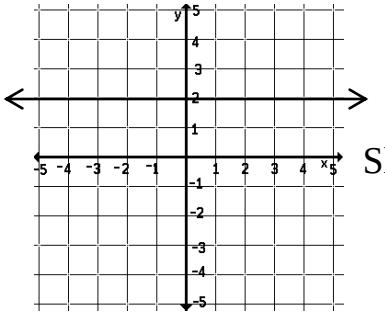
m =



m =

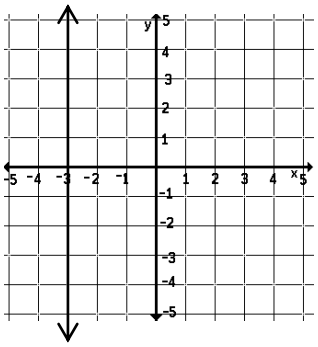
Horizontal and Vertical Lines…

Horizontal Line



Slope =

Vertical Line



Slope =

Sometimes we are not given a picture, but instead we are given 2 points on the line. When this is the case, we must implement another definition of slope:

m =

In other words, slope is $\frac{Change\ in}{Change\ in}$

How to find the slope of a line when given two points on the line:

1) Subtract one y-value from another y-value!
(It helps to draw arrows!)

2) Subtract one x-value from another x-value!
(It helps to draw arrows!)

IMPORTANT:
* Subtracting a negative means _____!

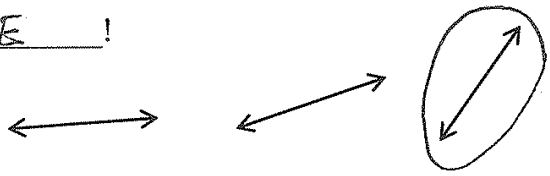
(1, 7) and (-2, 3)

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

(6, -1) & (4, 2) (4, 3) & (3, -2) (-1, 7) & (-3, 1) (3, 4) & (6, 5)

Slope!

The steepness of a line is called SLOPE !

Circle the line with the biggest slope… 

The letter we use for slope is a lowercase m ! Why?! Because it comes from the French word *monter* which means to climb or to rise. FUN FACT!

When given a graph of a line, we need to know a simple definition of slope:

$$m = \frac{\text{RISE}}{\text{RUN}}$$

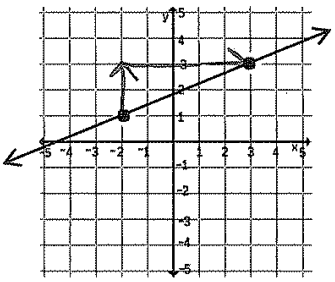
** Slope is the ratio of a line's VERTICAL change to its HORIZONTAL change. That's what we mean by "*rise over run*"!

How to find the slope of a line when given a graph of a line:

1) Start at the point farthest to the LEFT !

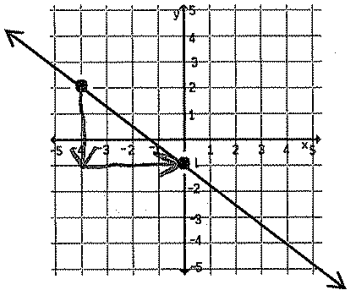
2) Find the *rise!* Up: POSITIVE
Down: NEGATIVE

3) Find the *run!* Right: POSITIVE
Left: NEGATIVE

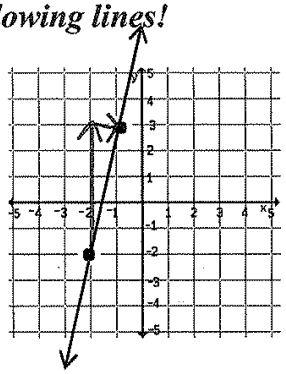


$m = \frac{2}{5}$

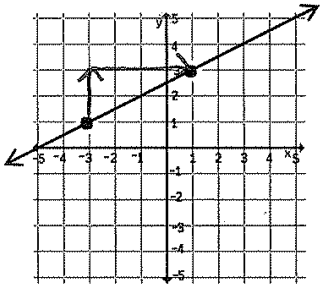
Find the slope of the following lines!



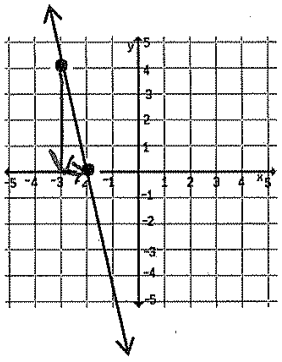
$m = \boxed{\frac{-3}{4}}$



$m = \frac{5}{1} = \boxed{5}$



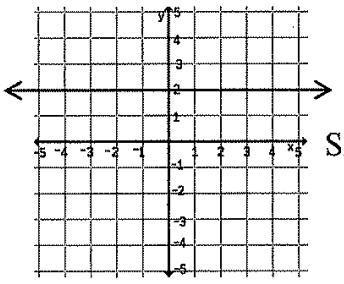
$m = \frac{2}{4} = \boxed{\frac{1}{2}}$



$m = \frac{-4}{1} = \boxed{-4}$

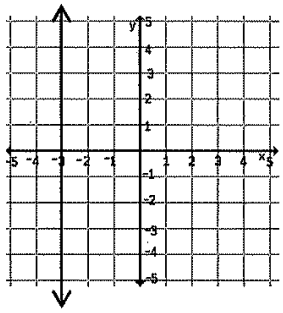
Horizontal and Vertical Lines…

Horizontal Line



Slope = 0

Vertical Line



Slope = UNDEFINED

Sometimes we are not given a picture, but instead we are given 2 points on the line. When this is the case, we must implement another definition of slope:

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

In other words, slope is $\frac{Change\ in\ y}{Change\ in\ x}$

How to find the slope of a line when given two points on the line:

1) Subtract one y-value from another y-value!
   (It helps to draw arrows!)

2) Subtract one x-value from another x-value!
   (It helps to draw arrows!)

IMPORTANT:
* Subtracting a negative means ADDITION !

(1, 7) and (-2, 3)

$\frac{7-3}{1+2} = \boxed{\frac{4}{3}}$

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

(6, -1) & (4, 2)

$\frac{-1-2}{6-4} = \boxed{\frac{-3}{2}}$

(4, 3) & (3, -2)

$\frac{3+2}{4-3} = \frac{5}{1} = \boxed{5}$

(-1, 7) & (-3, 1)

$\frac{7-1}{-1+3} = \frac{6}{2} = \boxed{3}$

(3, 4) & (6, 5)

$\frac{4-5}{3-6} = \frac{-1}{-3} = \boxed{\frac{1}{3}}$