MPM 1D

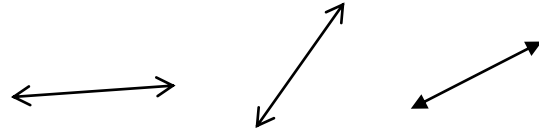**3.3 PART A: SLOPE OF A LINE**

One way of describing the slope of a line is _____

Order these lines from biggest to smallest 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.

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.
It is often referred to as "***rise over run***"!

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

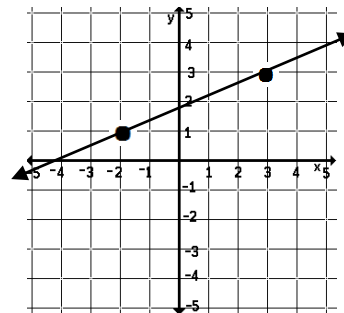1) Start at the point farthest to the _____!

2) Find the *rise!*   Up: _____
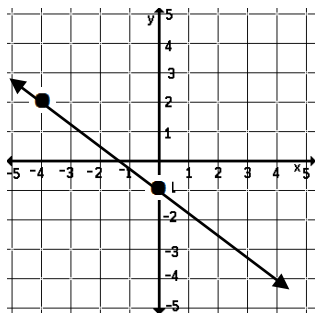   Down: _____
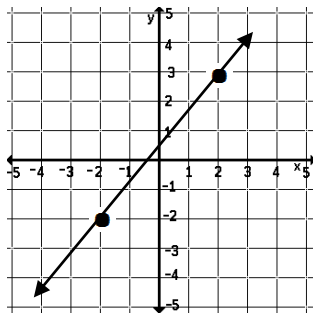
3) Find the *run!*   Right: _____
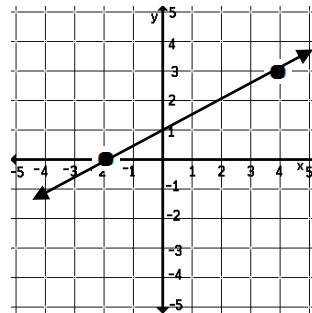   Left: _____
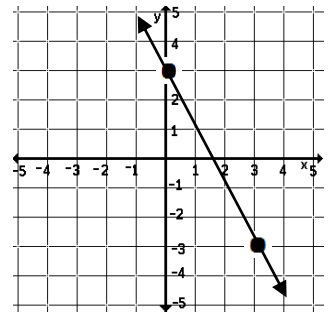
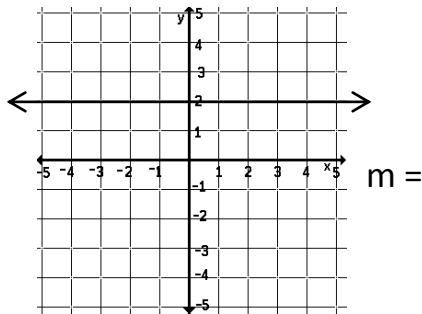### *Find the slope of the following lines!*

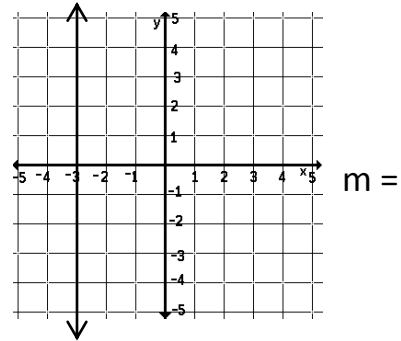$m \ =$ $m \ =$ $m \ =$ $m \ =$

Horizontal and Vertical Lines…

Horizontal Line

m =

Vertical Line

m =

Sometimes we are not given a picture, but instead we are given 2 points on the line. When this is the case, we use another definition of slope:
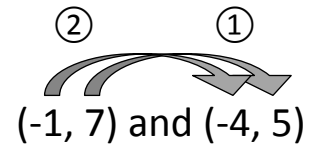
$$m \; = \;$$

In other words, slope is $\dfrac{Change\ in \; \rule{2cm}{0.4pt}}{Change\ in \; \rule{2cm}{0.4pt}}$

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 _____!

②   ①

(-1, 7) and (-4, 5)

$m =$ _____

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

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

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

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

4.   (3, 4) & (6, 5)