Slope

Reminders:

1. The symbol for slope is *m*.

2. A line that rises from left to right has a positive slope --- 

3. A line that rises from right to left has a negative slope --- 

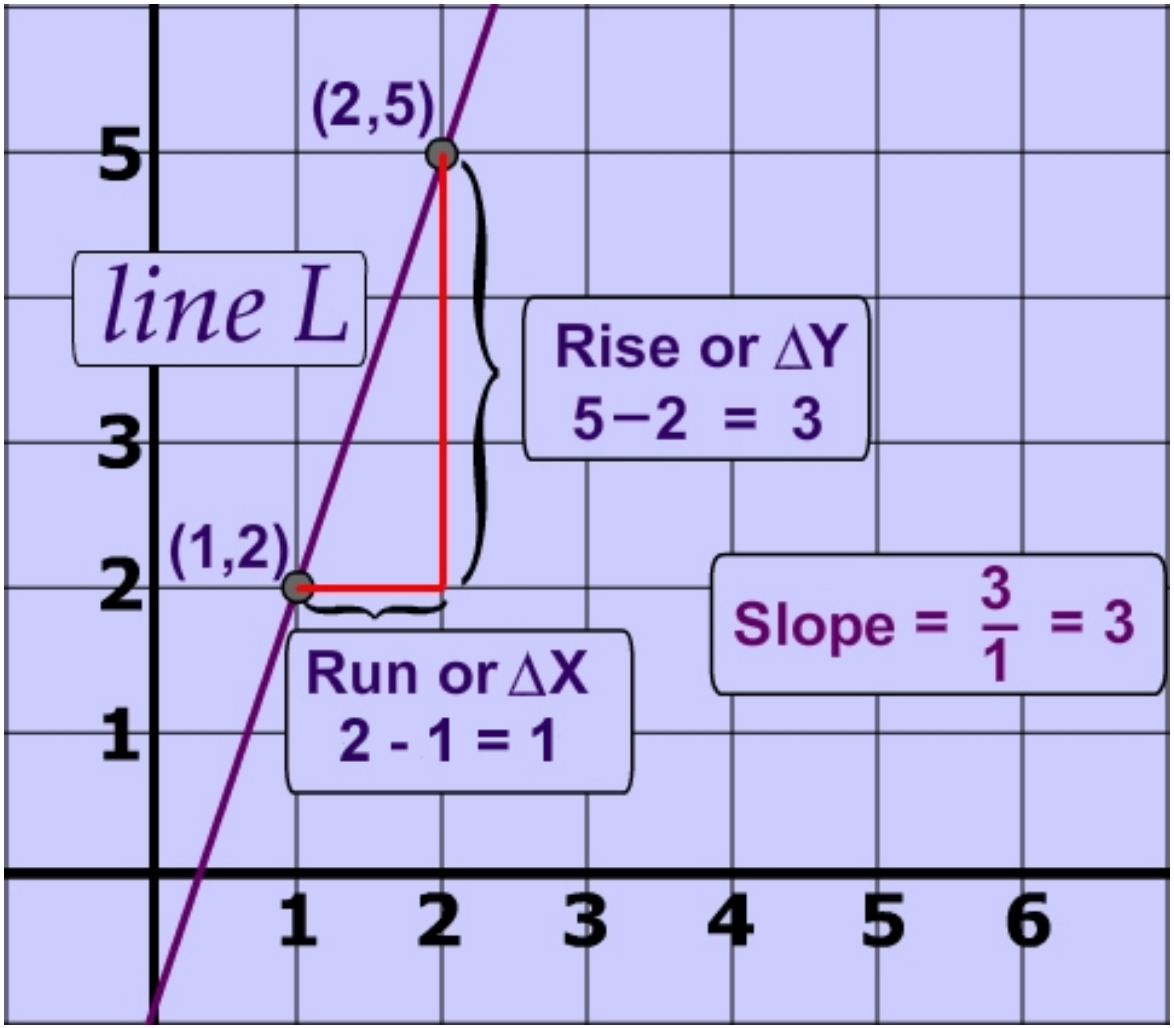
Slope can be defined in 3 ways.

It can be defined as $\frac{\text{rise}}{\text{run}}$, or $\frac{\Delta y}{\Delta x}$,

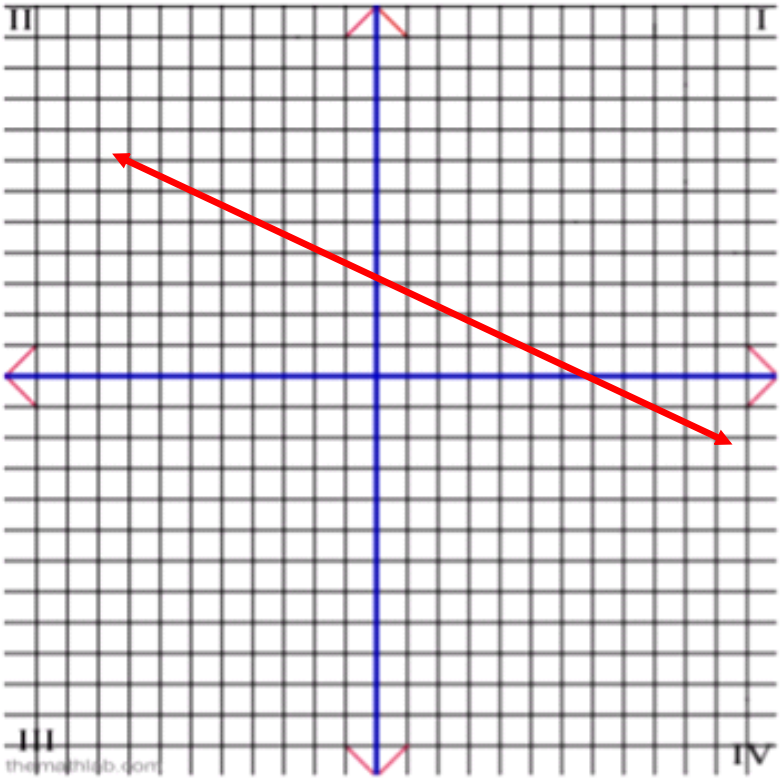
which is read as delta y over delta x.

In this course we will be referring to slope as: $m = \frac{y_2 - y_1}{x_2 - x_1}$

Sample Calculation



Example 1:



Step 1: Select 2 points from the graph.

Point 1-(x_1, y_1)-(,)

Point 2-(x_2, y_2)-(,)

Step 2: $m = \frac{y_2 - y_1}{x_2 - x_1}$

$m =$

$m =$

Example 2:

Determine the slope of the following line:

$$2x + y = 6$$

Step 1: Rearrange into the form $y = mx + b$

Step 2: Locate the value of "m"

The slope of the line is therefore ____.

Example 3:

Show that P(3,2), Q(-3, -2), and R(6,4) are collinear. What does "collinear" mean???

Step1: Find the slope of all three pairs of points.

$$m_{PQ} = \frac{y_2 - y_1}{x_2 - x_1} \qquad m_{QR} = \frac{y_2 - y_1}{x_2 - x_1} \qquad m_{PR} = \frac{y_2 - y_1}{x_2 - x_1}$$

$m_{PQ} =$ $m_{QR} =$ $m_{PR} =$

Step2: If the slope of all three pairs of points is the same, the points lie on the same straight line. Thus, the 3 points are collinear.