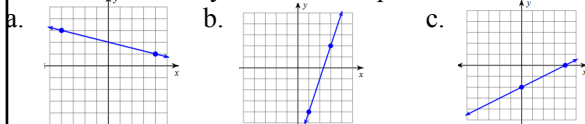


Problem of the Day: Find the slope from the graph.



Plan for the Day: Go over last week's homework

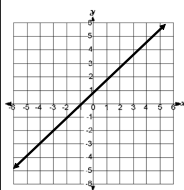
Notes on slope formula

More practice with slope

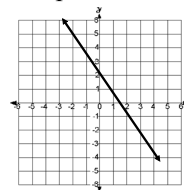
Objective: We will be able to find the slope of a line using the formula given a table or pair of points.

Today is National White Cane Safety Day!!

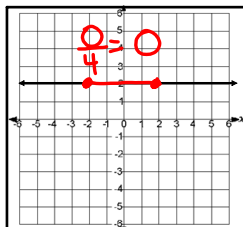
There are 4 different types of slope.



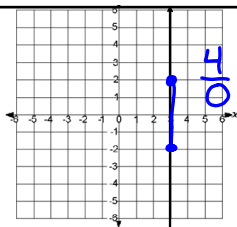
Positive slope - goes up from left to right;
 $m = +\#$



Negative slope - goes down from left to right
 $m = -\#$



NO slope (also called zero slope) - horizontal line; does not rise at all



Undefined slope - vertical line; does not run at all.

Slope is the ratio of the change in the vertical units (y) to the change in the horizontal units (x)

To find the slope using a formula, you need two ordered pairs (x, y).

Slope can be found using the points (x_1, y_1) and (x_2, y_2) by using the formula:

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

rise
run

Example 1: Find the slope of the line passing through the points $(-3, 4)$ and $(2, -6)$.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-6 - 4}{2 - (-3)} = \frac{-10}{5} = -2 = m$$

Example 2: Find the slope of the line passing through the points $(4, 1)$ and $(-3, 1)$.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1 - 1}{-3 - 4} = \frac{0}{-7} = 0 = m$$

Example 3: Find the rate of change of the line passing through the points $(1, 5)$ and $(-2, -7)$.

Example 4: Find the slope of the line passing through the points $(-2, 5)$ and $(-2, -3)$.

Example 5: Find the slope of the line for the line represented by the T-chart below.

x	y
-1	-5
0	-2
1	1
2	4

Example 6: Find the slope of the line between the points $(-6, 5)$ and $(9, 2)$.