

Graph Organizer Slope

Name: _____

Slope

Definition:
steepness of a line

$$\frac{\text{Change in } y}{\text{Change in } x}$$

Using Slope to Write Linear Equations

Slope-Intercept Form:

$$y = mx + b$$

$m = \text{slope}$

$b = y\text{-intercept}$
* start + graph

point-slope Form:

$$y - y_1 = m(x - x_1)$$

$m = \text{slope}$

Standard Form

$$Ax + By = C$$

$$\frac{\text{rise}}{\text{run}}$$

Slope Formula:
Given 2 points (x_1, y_1) & (x_2, y_2)
$$\frac{y_2 - y_1}{x_2 - x_1}$$

Find the slope between the 2 points:

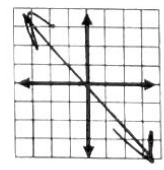
A) $(2, 8)$ & $(4, 7)$
$$m = \frac{7 - 8}{4 - 2} = -\frac{1}{2}$$

B) $(1, 3)$ & $(-2, 9)$

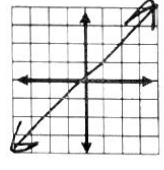
$$m = \frac{9 - 3}{-2 - 1} = \frac{6}{-3} = -2$$

Types of Slopes

positive:
Rises to right

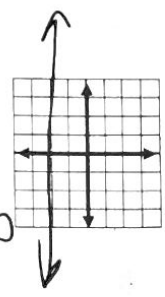


Negative:
Falls



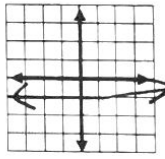
Zero:

Horizontal
 $y = \text{number}$



Undefined:

Vertical line
 $x = \text{number}$



NAME: _____

SLOPE REFERENCE SHEET!

From a Table

1. Find the constant rate of the x and y values
2. Write the slope as $\frac{y}{x}$

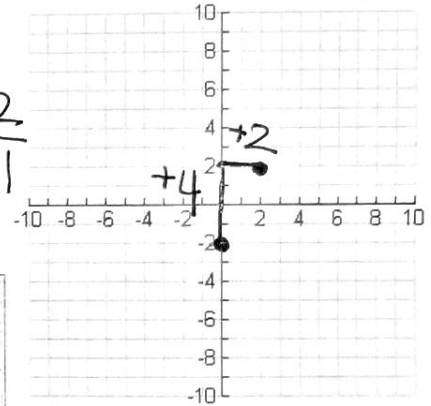
x	y
3	4
6	8
9	12
12	16
15	20

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

From a Graph

1. Choose two pts on the line
2. Count the rise then the run
3. Write the slope as $\frac{y}{x}$

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



What is SLOPE?

Slope describes the _____ of a line.

1. Solve the equation for _____
2. Slope is the _____ of _____ therefore, it is next to the variable _____.
3. The slope is the _____ of x.

$$y = mx + b$$

1. Label the _____ and _____ coordinates.
2. Find the _____ of y and the _____ of x by _____
3. Write the slope as the _____ of _____ over the _____ of _____.

From an Equation

From Two Points