

NOTES: LESSON 4.1 – CALCULATING & INTERPRETING SLOPE

Learning Goal: I can calculate the slope of a relationship when represented by a graph, table, equation, or ordered pairs.

Meta de Aprendizaje: Puedo calcular la pendiente de una relación cuando representada por un gráfico, tabla, ecuación o pares ordenados.

Language Goal: I can describe the slope of a relationship as a unit rate or rate of change, like “the y-value changes by _____ when the x-value changes by _____.”

Lenguaje Objetivo: Puedo describir la pendiente de una relación como una tasa unitaria o tasa de cambio, al igual que “los cambios de valor de y por _____ cuando cambia el valor de x por _____.”

$$y = mx + b$$

- _____ describes how much the _____ changes compared to the _____.
- The letter _____ is used to describe _____.
- Slope may also be described as _____ or _____.

Equations for Slope

$$m = \frac{y_2 - y_1}{x_2 - x_1} \text{ or } m = \frac{\text{rise}}{\text{run}} \text{ or } m = \frac{\text{fall}}{\text{run}}$$

- We only need _____ *ordered pairs (x, y)* to calculate slope.
- When using a graph, we need to pick “_____” as our two points to calculate slope.

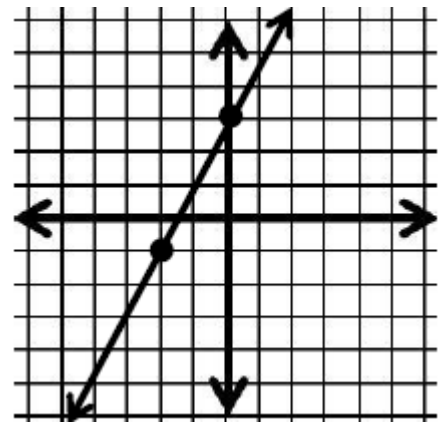
EXAMPLE 1:

Ordered Pairs
(-4, -5)
(-2, -1)
(-1, 1)
(0, 3)

Table

x	y
-4	-5
-2	-1
-1	1
0	3

Graph



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

$$m = \frac{\text{rise}}{\text{run}} = \frac{\quad}{\quad}$$

Description: The y-value changes by _____ when the x-value changes by _____.

The _____ is _____ per _____.

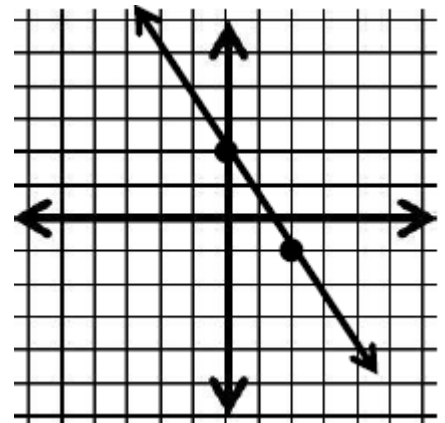
EXAMPLE 2:

Ordered Pairs
(-2, 5)
(0, 2)
(2, -1)
(4, -4)

Table

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

Graph



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

$$m = \frac{\text{fall}}{\text{run}} = \frac{\quad}{\quad}$$

Description: The y-value changes by _____ when the x-value changes by _____.

The _____ is _____ per _____.