# Announcements

- Friday is your Unit 4 Test
- Friday your Unit 3 Corrections are due
- Tuesday is the last day of the quarter
- Today we are starting Unit 5
  - Slope
  - Direct Variation
  - Slope Intercept Form
  - Standard Form
  - Point Slope Form

# Today we will...

define, find, evaluate, and interpret **slope**.

# Slope

10/25/2018

# Four Types of Slope

Positive Slope

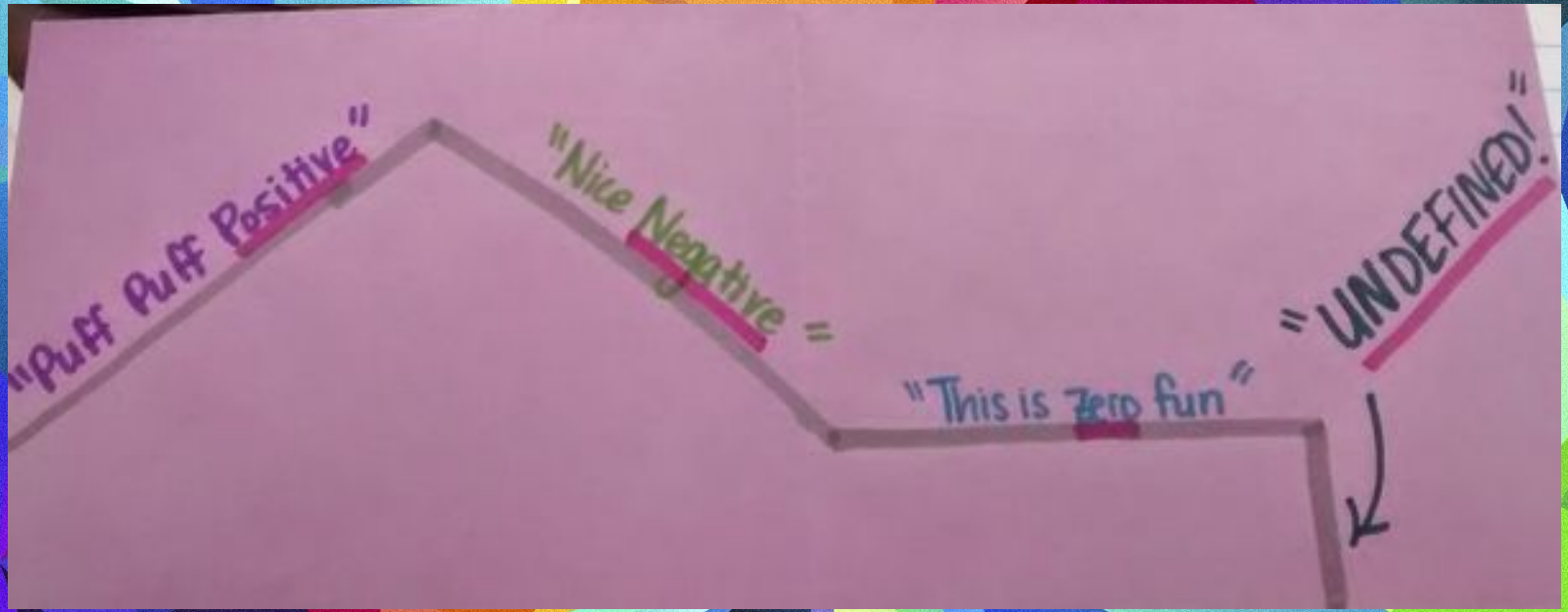
Negative Slope

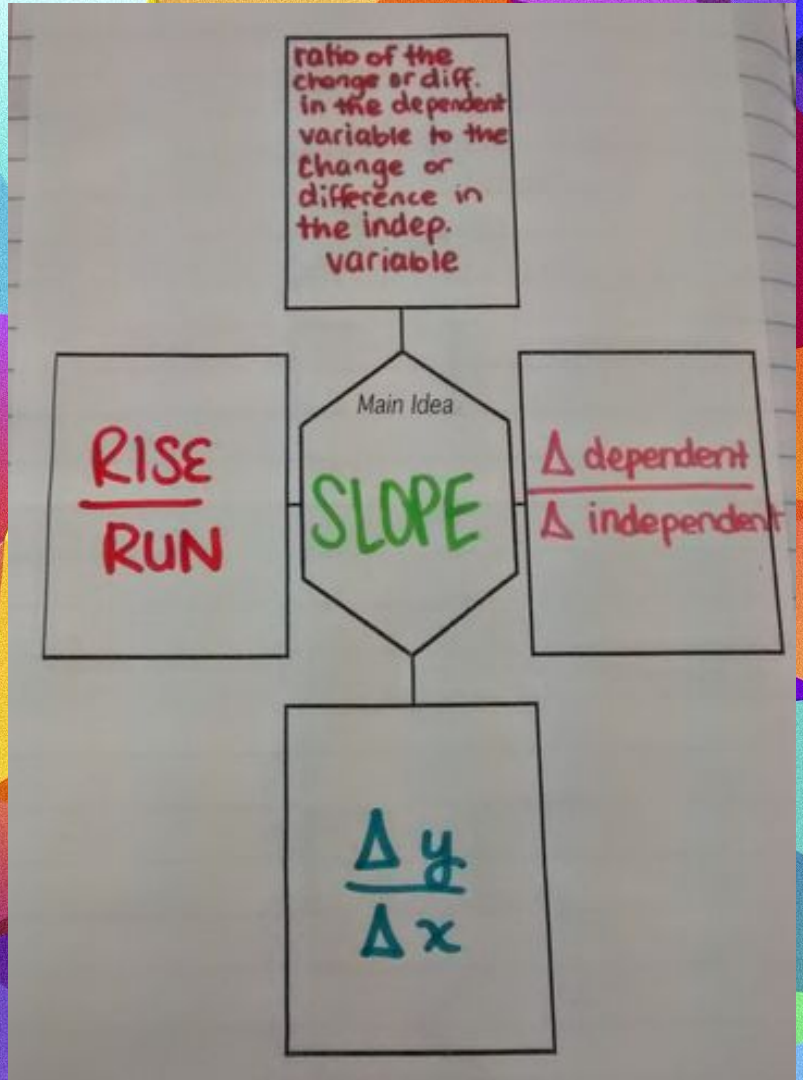
Zero Slope

**Undefined Slope**


Slope Dude will help us understand the 4 types of slope…

https://www.youtube.com/watch?v=avS6C6_kvXM


"Puff Puff Positive"
"Nice Negative"
=
"This is Zero fun"
="UNDEFINED!"


ratio of the change or diff. in the dependent variable to the change or difference in the indep. variable
Main Idea
SLOPE
RISE / RUN
Δ dependent / Δ independent
Δy / Δx


Main Idea
SLOPE

Ratio of the change or difference of the dependent variable to the ratio of the change or difference of the independent variable.

Main Idea

# SLOPE

Ratio of the change or difference of the dependent variable to the ratio of the change or difference of the independent variable.

$$\frac{\text{Rise}}{\text{Run}}$$

Main Idea

**SLOPE**

Ratio of the change or difference of the dependent variable to the ratio of the change or difference of the independent variable.

$$\frac{\text{Rise}}{\text{Run}}$$

Main Idea

**SLOPE**

$$\frac{\Delta y}{\Delta x}$$

Ratio of the change or difference of the dependent variable to the ratio of the change or difference of the independent variable.

$$\frac{\text{Rise}}{\text{Run}}$$

Main Idea

# SLOPE

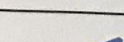
$$\frac{\Delta y}{\Delta x}$$

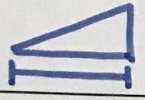
$$\frac{\Delta \text{dependent}}{\Delta \text{independent}}$$

# Finding Slope from a Graph

(m)

$$Slope = \frac{rise}{run}$$

← Height of 

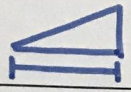
← Width of 

# Finding Slope from a Graph

(m)

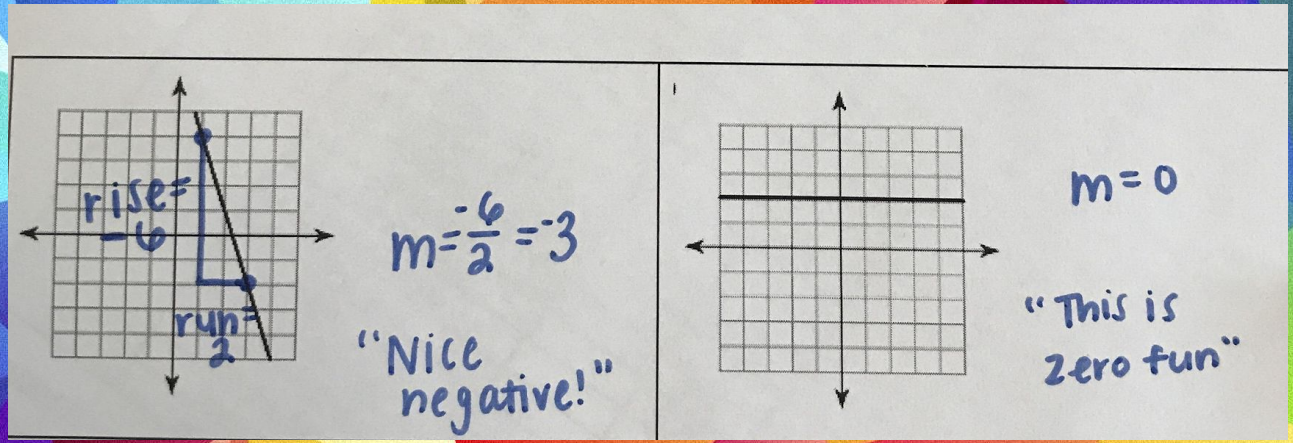
$$Slope = \frac{rise}{run}$$

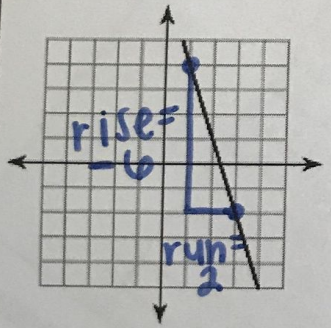
← Height of 

← Width of 

Reminders:

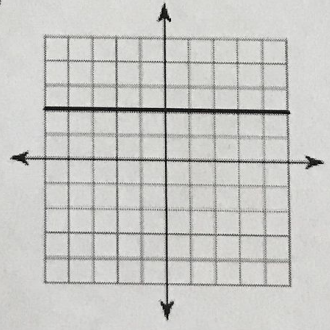
- Count spaces, not lines
- Always reduce or simplify if possible
- Ask yourself WWSDD (what would slope dude say)


rise = −6
run = 2
m = −6/2 = −3
"Nice negative!"
m = 0
"This is zero fun"



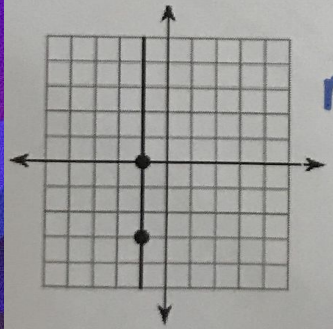

$m = \frac{-6}{2} = -3$

"Nice negative!"

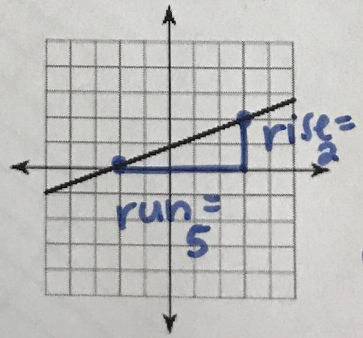


$m = 0$

"This is zero fun"



m is undefined!




$m = \frac{2}{5}$

"Puff puff positive"

# Finding Slope From A Table or Points

The formula for slope is:

$$\text{slope} = \frac{\Delta y}{\Delta x}$$

*use your # line to find $\Delta y$ and $\Delta x$!

## Example 1:

Find the slope of the line that crosses through the points $(5, 2)$ and $(-10, 5)$.

| $x$ | $y$ |
|---|---|
| 5 | 2 |
| -10 | 5 |

$\Delta x = -15$ $\quad \Delta y = +3$

$$\text{slope} = \frac{\Delta y}{\Delta x} = \frac{3}{-15} = \boxed{-\frac{1}{5}}$$

## Example 2:

Find the slope of the line represented by this table.

| x | -3 | 0 | 3 | 6 |
|---|---|---|---|---|
| y | 11 | 9 | 7 | 5 |

| x | y |
|---|---|
| -3 | 11 |
| 0 | 9 |

$\Delta x = +3$

$\Delta y = -2$

$$\text{slope} = \frac{\Delta y}{\Delta x} = \boxed{\frac{-2}{3}}$$

# Practice Problems

pg. 296 # 9 - 25 odd

Homework:

pg. 296 8, 12, 16, 18, 22, 23, 24, 26, 28, 30, 34, 36, 41, 42, 44, 46