

Name _____

Date _____

Math 8R

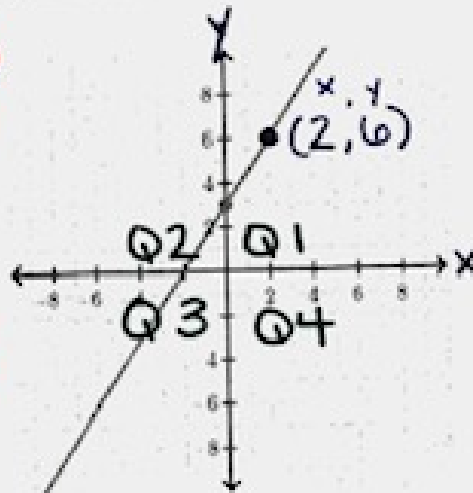
Intro to SLOPE!

Learning Target: *I can find the slope of a line.*

Warm Up: Tell me everything you can about the diagram below-

Straight Line:
LINEAR

Line is going up...
POSITIVE
SLOPE!



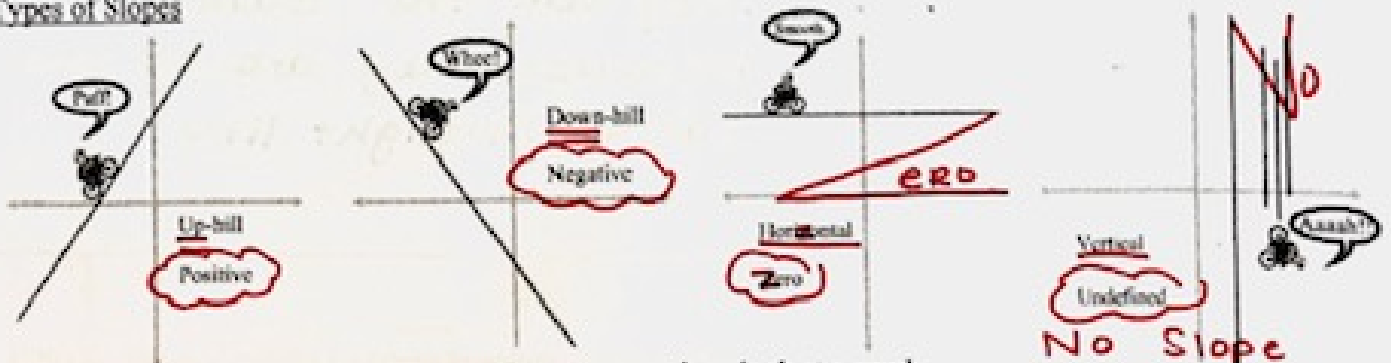
Linear means
"constant rate of change"
(same slope!)

Guided Practice: Slope

- ❖ Slope is the steepness of a line
- ❖ It is also referred to as Rate of change
- ❖ We use the variable m to represent slope

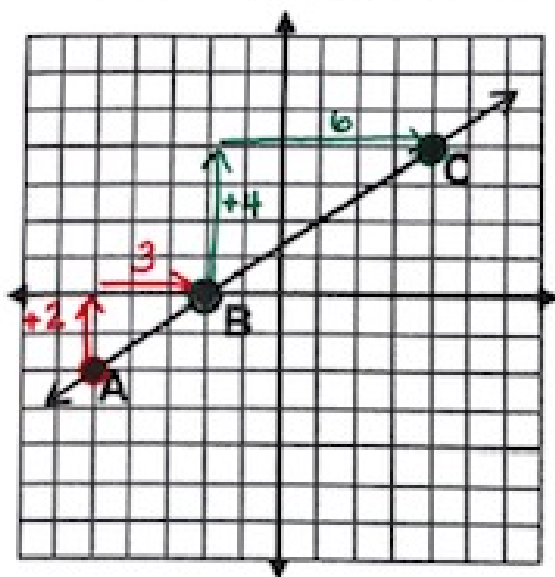
on a graph ← $SLOPE = \frac{\text{rise}}{\text{run}} = \frac{\text{vertical change}}{\text{horizontal change}} = \frac{\text{change in } y}{\text{change in } x}$

Types of Slopes



There are multiple ways to determine the slope, one way is to look at a graph:

Exercise 1- Determine the slope, given the graph of the linear equation below-



To get from **A** to **B** you move 2 units up and 3 units to the right.

$$\text{slope} = \frac{2}{3}$$

To get from **B** to **C** you move 4 units up and 6 units to the right.

$$\text{slope} = \frac{4}{6}$$

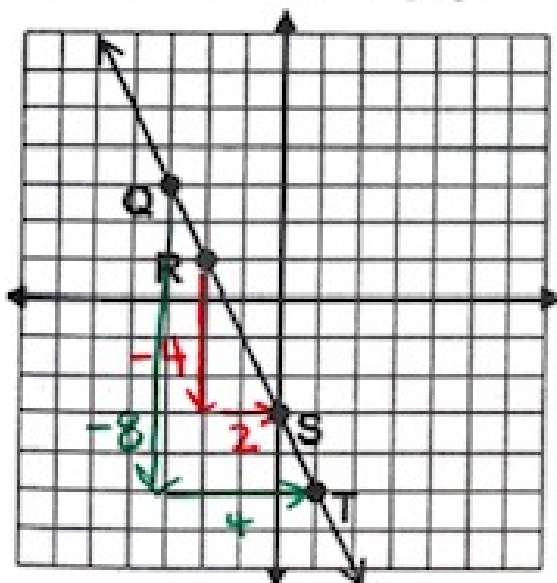
*Simplify!

$$\frac{4}{6} \div 2 = \frac{2}{3}$$

What relationship do you see between the two slopes?

They are the same because it is LINEAR!

Exercise 2- Determine the slope, given the graph of the linear equation below-



To get from **R** to **S**, you move 4 units down and 2 units to the right.

$$\text{slope} = \frac{-4}{2} = -2$$

To get from **Q** to **T**, you move 8 units down and 4 units to the right.

$$\text{slope} = \frac{-8}{4} = -2$$

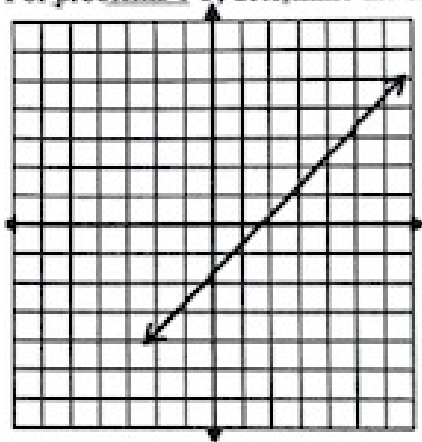
What relationship do you see between the two slopes?

They are the same because they are on the same straight line.

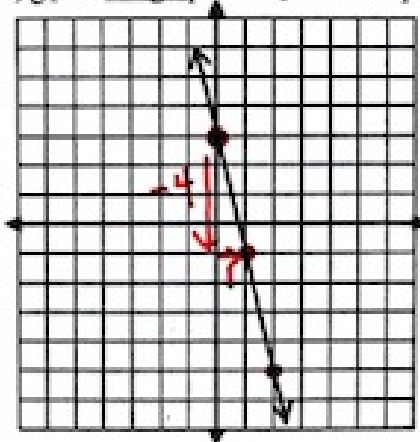
Rate of change - describes how one quantity changes in relation to another. (Another word for SLOPE)

Problem Set:

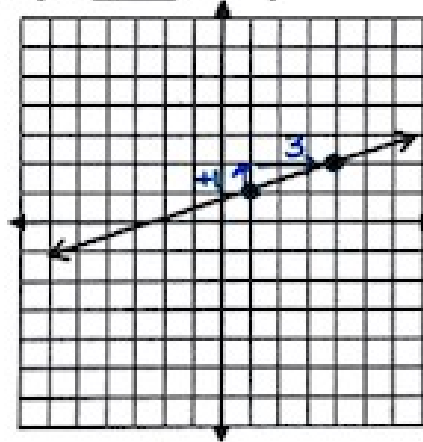
For problems 1-3, determine the slope, given the graph of the linear equation below.



Up/down:
Right: slope =



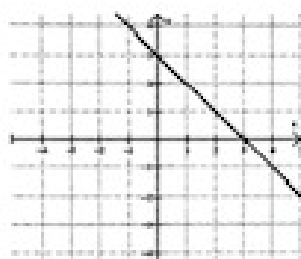
Up/down: -4
Right: 1 slope = **-4**



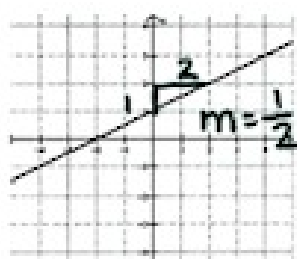
Up/down: 1
Right: 3 slope = **1/3**

For problems 4-6, match the graph with the explanation

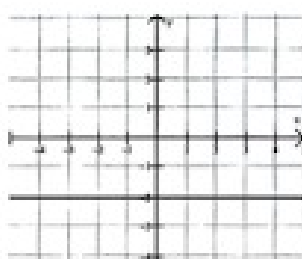
Line A



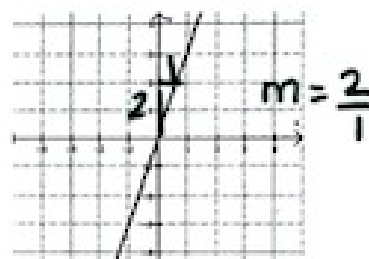
Line B



Line C



Line D



4. Which line(s) have a going Down negative slope?

A

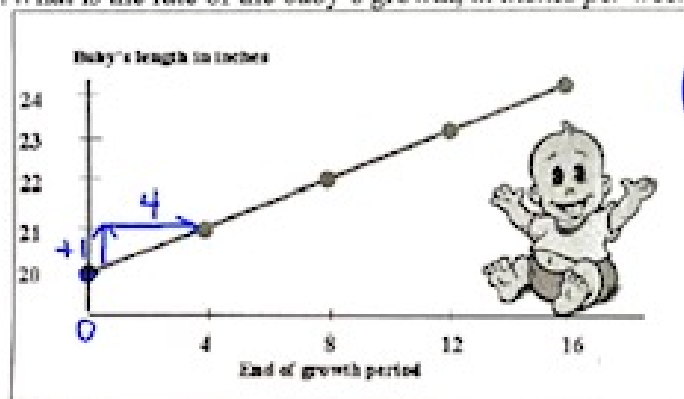
5. Which line has a slope of Horizontal zero?

C

6. Which line has a slope of positive 1/2?

B

7. What is the rate of the baby's growth, in inches per week?



$m = \frac{1 \text{ inch}}{4 \text{ weeks}}$

Challenge: At this same rate, what will the baby's length be in 24 weeks?