Name: _____

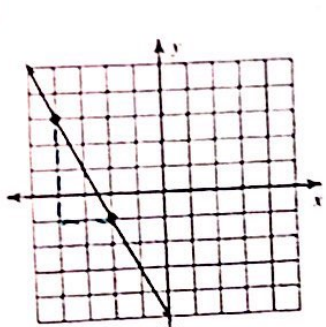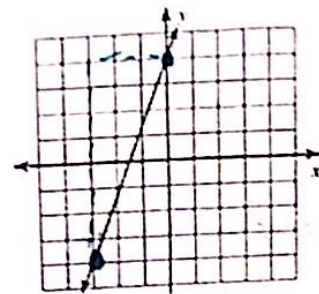## Unit 3A Day 11: Review Rate of Change

Focus Question: Can I find slope from multiple representations?
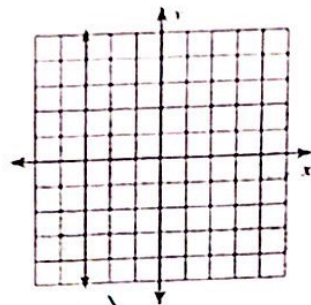
I can find slope from a graph. _____

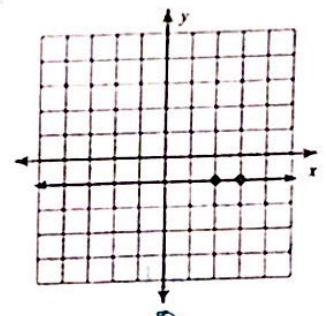$m = \dfrac{-4}{2} = -2$ $m = \dfrac{8}{3}$ $m = \emptyset$ $m = 0$

I can find slope from a table. _____

$-1 \cdot (2)$ $-1 \cdot (-3)$

X	Y
x_1 -2	-3
x_2 -1	-1
0	1
1	3
2	5

y_1 y_2 $+4$

$m = \dfrac{2}{1} = 2$

X	Y
-4	6
0	4
4	2
8	0
12	-2

-2 $+3$

$m = \dfrac{-2}{4}$ or $-\dfrac{1}{2}$

X	Y
-4	4
-1	3
2	2
5	1
8	0

-1 -3

$m = \dfrac{-1}{3}$

X	Y
6	2
3	2
0	2
-3	2
-6	2

$+0$

$m = \dfrac{0}{-3} = 0$

I can find slope given two points. _____

What is the formula for slope?

$\dfrac{y_2 - y_1}{x_2 - x_1}$

(-3, 4) and (5, -2)
$x_1 y_1$ $x_2 y_2$

$\dfrac{-2 - 4}{5 + (-3)} = \dfrac{-6}{8} = \boxed{-\dfrac{3}{4}}$

$m = $

(4, 2) and (6, 8)
$x_1 y_1$ $x_2 y_2$

$\dfrac{8-2}{6-4} = \dfrac{6}{2} = 3$

$m = 3$

(-4, -5) and (13, -5)
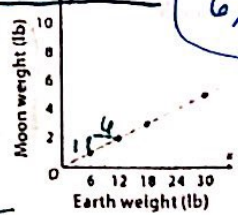$x_1 y_1$ $x_2 y_2$

$\boxed{\dfrac{-5 - (-5)}{}} = 0$

$m = 0$

I can put rate of change in order from least to greatest.

$\boxed{\dfrac{1}{6}, \dfrac{2}{5}, \dfrac{5}{3}}$

Goes through (1, 2) and
$x_1 y_1$
(6, 4)
$x_2 y_2$

$\dfrac{4-2}{6-1} = \dfrac{2}{5}$

Moon weight (lb) vs Earth weight (lb)

$\dfrac{1}{6}$

X	Y
2	6
5	11
8	16
11	21

$+3$ $+5$

$\dfrac{5}{3}$

I can find rate of change from a word problem. _____

Mrs. Burke talked to Pizza Hut about pizza for her class reward party. They said that delivery was $10 and that *each* pizza would cost $4. Find the rate of change.

IV: pizza

DV: $ $4 per pizza

Donald wanted to learn Spanish. He only knew 10 words. He ordered Rosetta Stone and after using the program for 2 weeks he now knows 470 words. Find the rate of change.

470 – 10 = 460

IV: weeks

DV: words

He learned 460 words in 2 weeks or $\frac{460}{2} = 230$

230 words per week

George's parents are trying to decide how many phone lines to put on their family plan. If they put only *two* lines, it will cost $90 a month. If they decide to get one for everyone in the family, 5 lines would cost $210 a month. Find the rate of change.

IV: $

DV: phone lines

$90   + $120 $210 $120 for 3 lines
2 lines   + 3   5 lines   or
                      $40 per line

I can compare rate of change from different representations.

Two schools are selling giant Hershey's bars to raise money for their band trip. Which school is charging more?

School A

Candy Bars Bought	Charge
1	3.50
2	7
3	10.50
4	14
5	17.50

+1   +3.50

$3.50 per candy bar

School A is charging more

School B

$3 per candy bar