Warm Up

9/19

Solve for x:

$7 + 3(2 - 4x) = 4(7 - x) + 1$ Distribute

$7 + 6 - 12x = 28 - 4x + 1$ CLT

$13 - 12x = 29 - 4x$

$-13 \qquad -13$

$-12x = 16 - 4x$

$+4x \qquad +4x$

$-8x = 16$

$\frac{-8x}{-8} = \frac{16}{-8}$

$x = -2$

Name _____

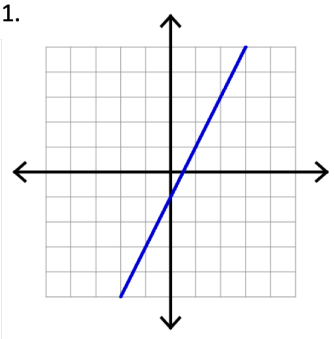
Homework Questions?

Calculating Slope From a Graph or 2 Coordinate Pairs

Find slope using a graph. (Make sure to select points with whole number coordinates.)

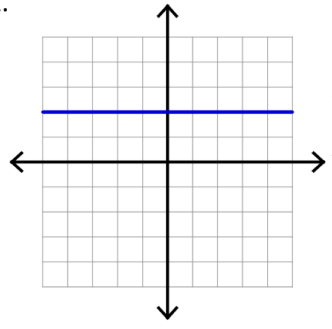
Remember: Slope $= \frac{\Delta y}{\Delta x}$ This should be written for every problem where you have to calculate slope.

1.



$\frac{\Delta y}{\Delta x} = 2$

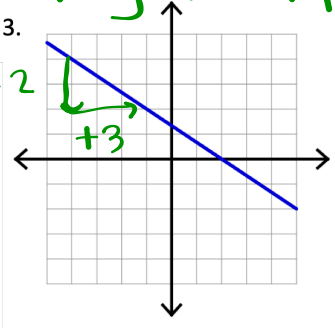
2.



$\frac{\Delta y}{\Delta x} = 0$

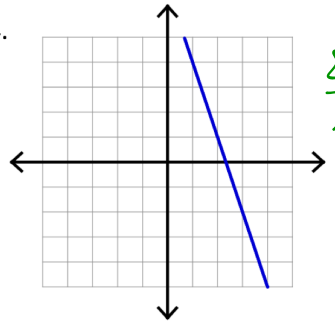
Negative Slope

3.



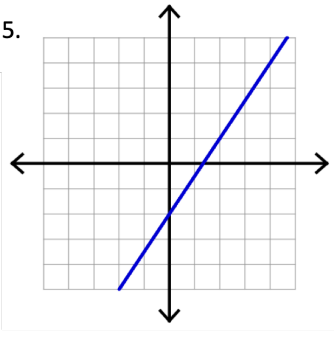
$\frac{\Delta y}{\Delta x} = -\frac{2}{3}$

4.



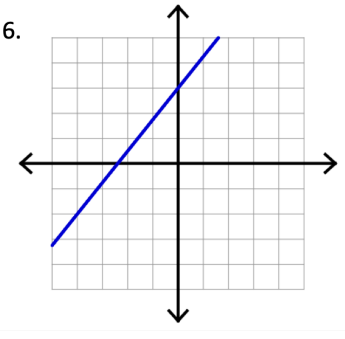
$\frac{\Delta y}{\Delta x} = -3$

5.



$\frac{\Delta y}{\Delta x} = \frac{3}{2}$

6.



$\frac{\Delta y}{\Delta x} = \frac{5}{4}$

Find the slope between two points. Show your thinking!

Remember: Slope $= \frac{\Delta y}{\Delta x}$ This should be written for every problem where you have to calculate slope.

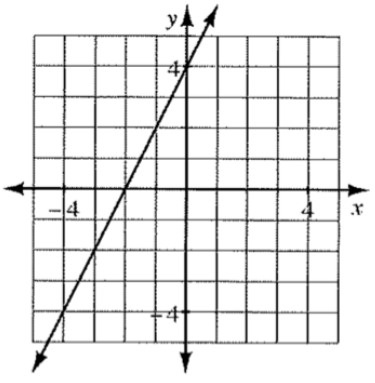
7. (1, −19), (−2, −7) $\frac{\Delta y}{\Delta x} = -\frac{1}{4}$	8. (−4, 7), (−6, −4) $-6, -4 \to +2, +11$ $-4, 7$ $\frac{\Delta y}{\Delta x} = \frac{11}{2}$
9. (20, 8), (9, 16) $\frac{\Delta y}{\Delta x} = -\frac{8}{11} = \frac{8}{-11}$	10. (3, 0), (−11, −15) $\frac{\Delta y}{\Delta x} = \frac{15}{14}$

Match-A-Slope

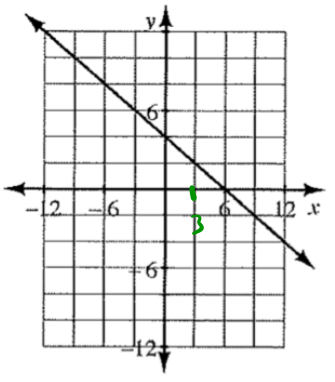
Match the following graphs with their slopes. ***Pay special attention to the scaling on each set of axes***. Show your calculations to find each slope.

a. $slope = \frac{1}{4}$ b. $slope = \frac{1}{2}$ c. $slope = 2$ d. $slope = -\frac{2}{3}$

1.

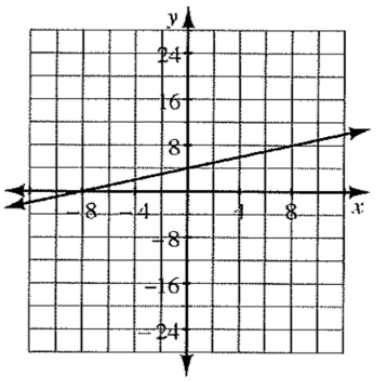


2.

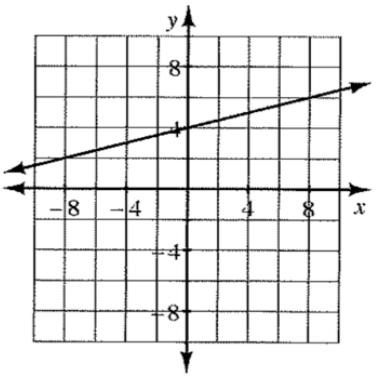


$\frac{\Delta y}{\Delta x} = 2$

3.



4.



Quiz Topics

SWBAT:

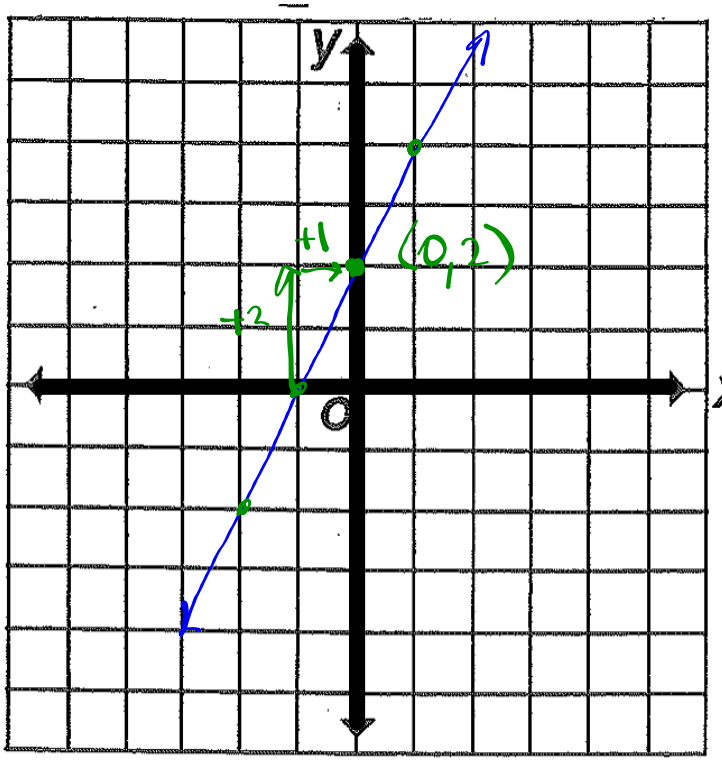
- Describe patterns of change in tables and graphs using proper mathematical language.

increase / decrease
constant change
linear / nonlinear
$\frac{\Delta y}{\Delta x}$ = slope
x-values
y-values

- Determine when data points should be connected on a graph.

- Solve for "x" ***algebraically,*** using proper format.

- Calculate slope given a graph or two points.



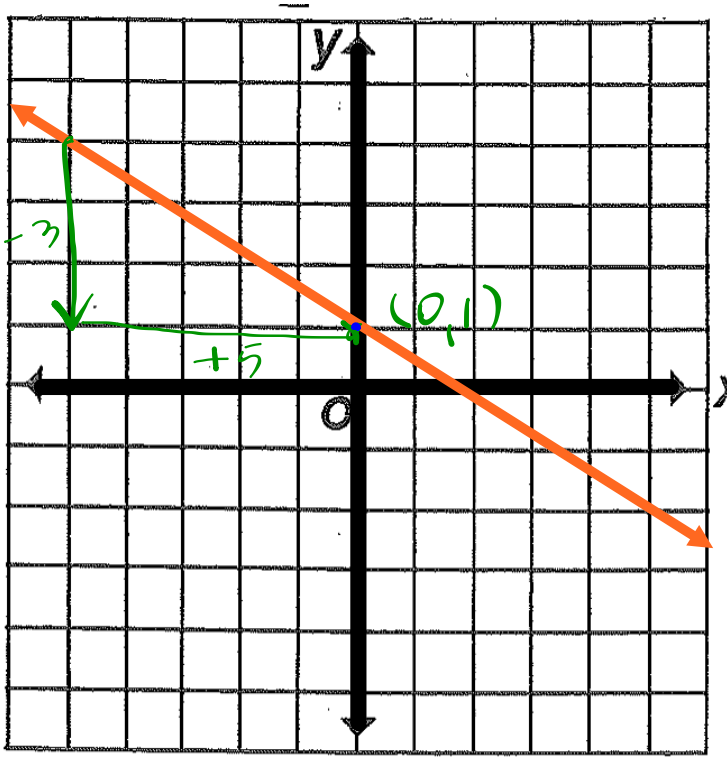
$y = mx + b$

slope, y-int

$\frac{\Delta y}{\Delta x} = 2$

y-int: $(0, 2)$

$y = 2x + 2$



$y = mx + b$

y-int: $(0, 1)$

$\frac{\Delta y}{\Delta x} = \frac{-3}{5}$

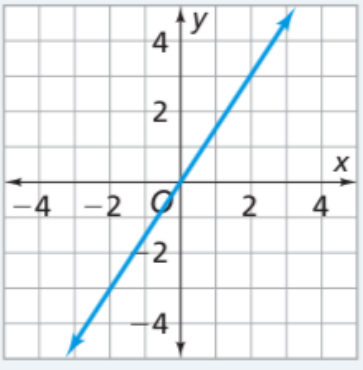
$y = \frac{-3}{5}x + 1$

Problem 2.2

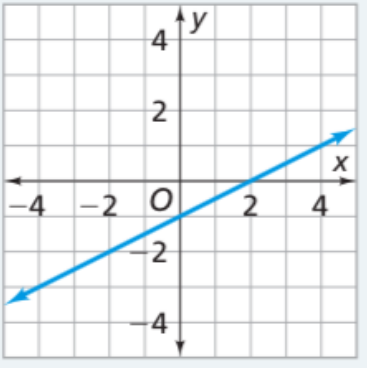
Use the data given in each question to find the equation of the linear function relating y and x.

A For the functions with the graphs below, find the slope and y-intercept. Then write the equations for the lines in the form $y = mx + b$.

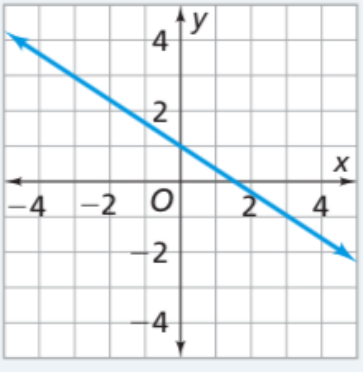
1.



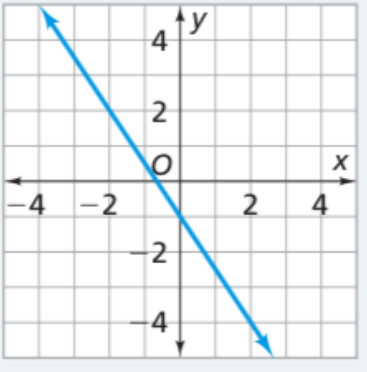
2.



3.



4.



Remember: y-int is the value of y when x = 0

B **1.** Find equations for the linear functions that give these tables. Write them in the form $y = mx + b$.

a.

x	−2	−1	0	1	2
y	−1	1	3	5	7

b.

x	−6	−2	2	6	10
y	−4	−2	0	2	4

2. For each table, find the unit rate of change of y compared to x.

3. Does the line represented by this table have a slope that is greater than or less than the equations you found in part 1(a) and part 1(b)?

x	−1	0	1	2	3
y	4	1	−2	−5	−8

Homework

Finish classwork