

Answer Key

Name _____ Class _____

Ch 4.1 - 4.3 Practice Quiz

4.1

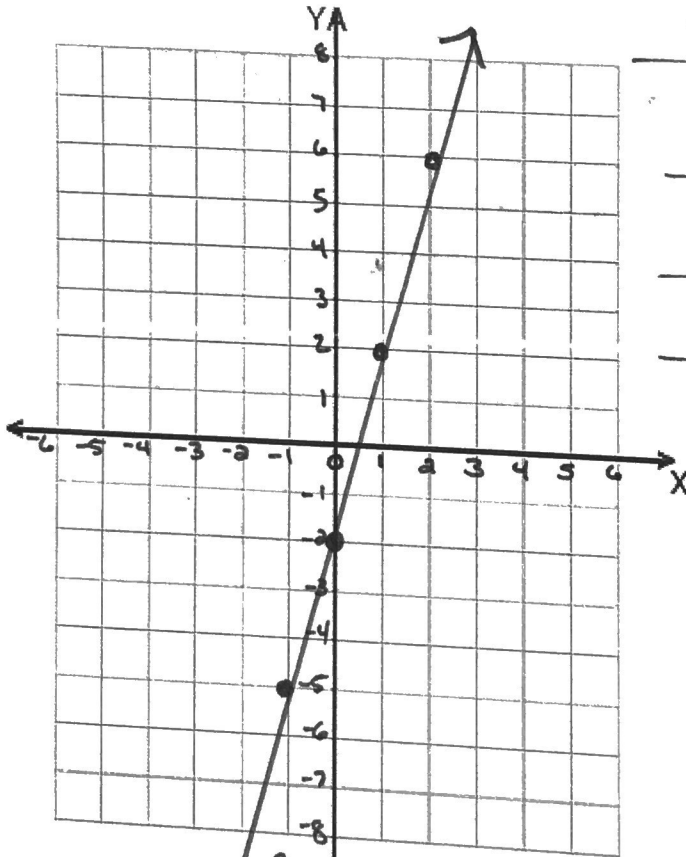
#1 Graph the linear equation.

This isn't a real-life application. I don't have information to label the title or x & y axis.

(Make a table of coordinate points.)

$$y = 4x - 2$$

Title (?)



x	$y = 4x - 2$	y	(x, y)
-2	$y = 4(-2) - 2$	-10	(-2, -10)
-1	$y = 4(-1) - 2$	-6	(-1, -6)
0	$y = 4(0) - 2$	-2	(0, -2)
1	$y = 4(1) - 2$	2	(1, 2)
2	$y = 4(2) - 2$	6	(2, 6)

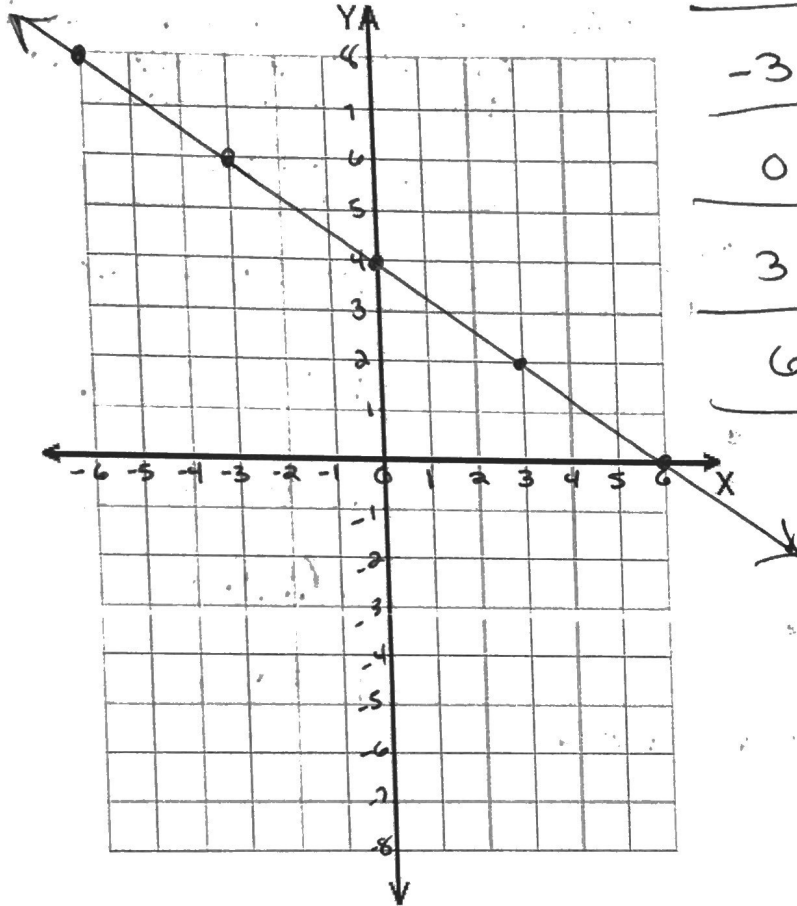
(output info.?)

(input information?)

#2 Graph the linear equation.

(Make a table of coordinate points.)

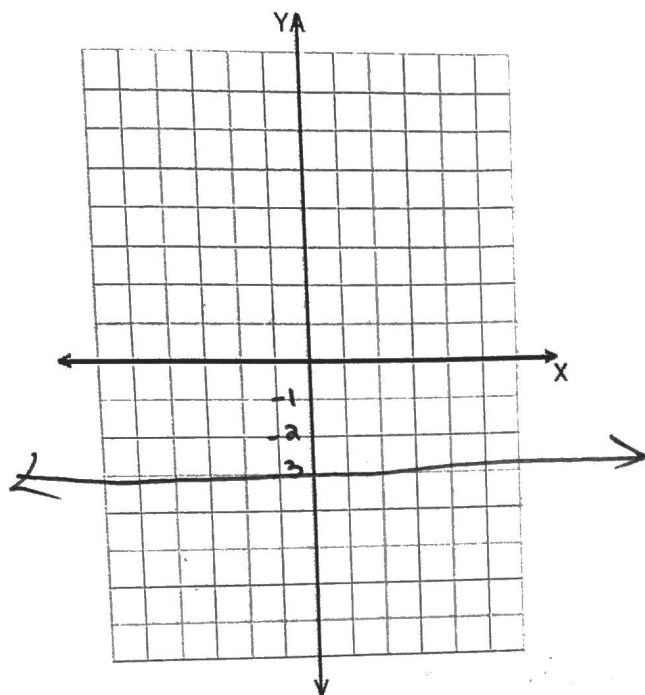
$$y = -\frac{2}{3}x + 4$$



x	$y = -\frac{2}{3}x + 4$	y	(x, y)
-6	$y = -\frac{2}{3}(-6) + 4$	8	(-6, 8)
-3	$y = -\frac{2}{3}(-3) + 4$	6	(-3, 6)
0	$y = -\frac{2}{3}(0) + 4$	4	(0, 4)
3	$y = -\frac{2}{3}(3) + 4$	2	(3, 2)
6	$y = -\frac{2}{3}(6) + 4$	0	(6, 0)

#3 Graph the linear equation.

$$y = -3$$



$$y = -3$$

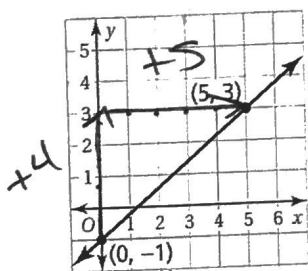
$$(x, -3)$$

$$(x, -3)$$

$$(x, -3)$$

4.2

#4 Find the slope of the line

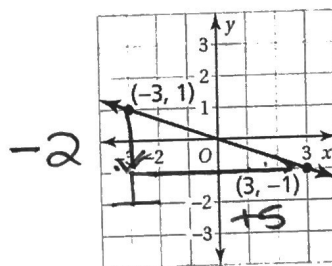


$$m = \frac{4}{5}$$

Describe the slope

Positive

#5 Find the slope of the line

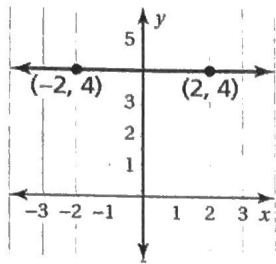


$$m = -\frac{2}{5}$$

Describe the slope

Negative

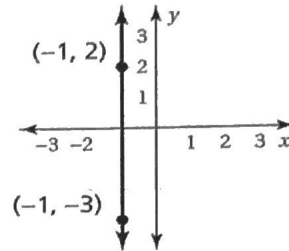
#6 Find the slope of the line



$m = \emptyset$

Zero

#7 Find the slope of the line



$m = \text{undefined}$

#8 Find the slope of the line that passes through the points

$(-2, 3)$ and $(-8, -1)$

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

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-1 - 3}{-8 - (-2)} = \frac{-4}{-6} = \frac{4}{6} = \frac{2}{3}$$

#9 Find the slope of the line that passes through the points.

x	0	2	4	6
y	-1	-4	-7	-10

$\Delta x = +2$
 $\Delta y = -3$

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

#10 Use an equation to find the value of k so that the line that passes through the given points has the given slope.

pt. 1 pt. 2

$(1, 3), (5, k); m = 2$
 x_1, y_1, x_2, y_2 $\frac{2}{1}$

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

$$\frac{2}{1} = \frac{k - 3}{5 - 1}$$

~~$$\frac{2}{1} = \frac{k - 3}{4}$$~~

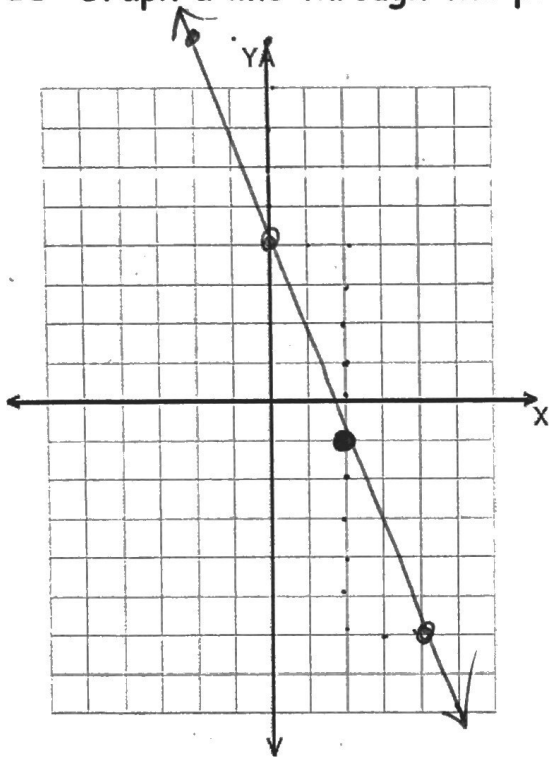
$$\begin{aligned} 4 \cdot 2 &= 1(k - 3) \\ 8 &= k - 3 \\ +3 &\quad +3 \\ \hline 11 &= k \end{aligned}$$

check: $\frac{2}{1} = \frac{11 - 3}{5 - 1}$

$$\frac{2}{1} = \frac{8}{4} = \frac{2}{1} \quad \checkmark$$

ok

#11 Graph a line through the point $(2, -1)$ with a slope of $-5/2$



$$m = \frac{-5}{2} \quad \begin{array}{l} \downarrow 5 \\ \rightarrow 2 \end{array}$$

or

$$m = \frac{5}{-2} \quad \begin{array}{l} \uparrow 5 \\ \leftarrow 2 \end{array}$$

Write an equation for a line that would be parallel to the line above.

EQ Question $y = -\frac{5}{2}x + 6$

4.3

12. The cost y (in dollars) to rent a kayak for x hours is represented by the equation

$$y = 15x$$

Kayak Rentals

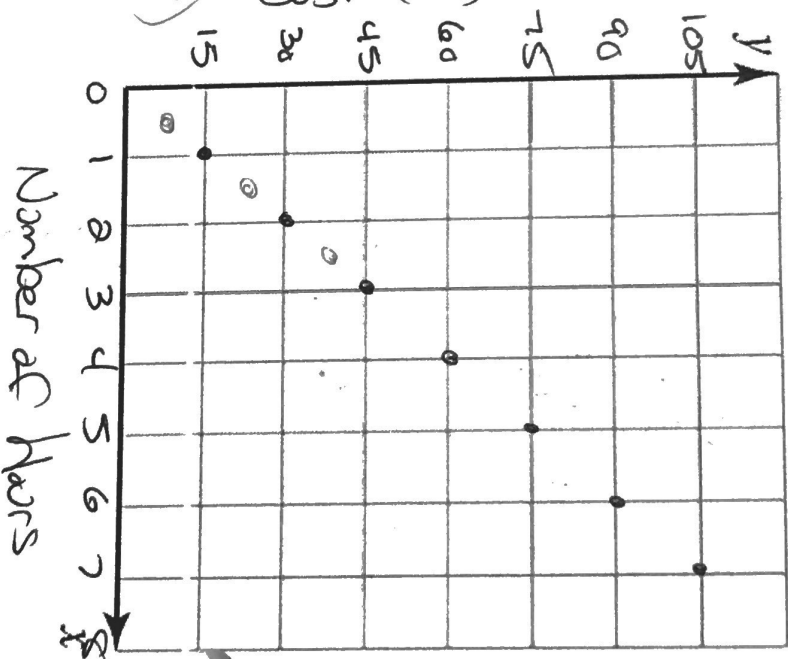
This could be a graph with more points —

Maybe the company rents kayaks for

$\frac{1}{2}$ an hour (\$7.50)

BUT Not all points

(They didn't rent a kayak for 11 minutes?)



- a. Graph the equation. Be sure to label the graph and intervals

- b. interpret the slope.

It costs \$15 to rent a kayak for one hour.

#13 The amount y (in cups) of flour is proportional to the number x of eggs in a recipe. The recipe calls for 8 cups of flour for every 4 eggs.

a. Write an equation that represents the situation.

$$y = mx$$
$$8 = m \frac{4}{4}$$

$$2 = m$$

You need 2 eggs for every cup of flour

$$y = 2x$$

b. Interpret the slope.

You need 2 eggs for each cup of flour.

c. How many eggs are included when the recipe uses 12 cups of flour?

$$y = 2x$$

$$12 = 2x$$

$$x = 6$$

6 eggs

#14 The weight y of an object on Titan, one of Saturn's moons, is proportional to the weight x of the object on Earth. An object that weighs 105 pounds on Earth would weigh 15 pounds on Titan.

a. Write an equation that represents the situation.

$$y = mx$$

$$15 = m(105)$$

Weight of Titan = m (Weight on Earth)

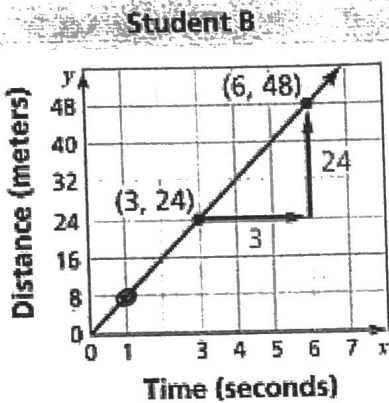
$$y = 0.14x$$

b. How much would a spacecraft that weighs 3500 pounds on Earth weigh on Titan?

490 lbs

#15

At a track event, the distance y (in meters) traveled by Student A in x seconds is represented by the equation $y = 7x$. The graph shows the distance traveled by Student B.



- Which student is faster?
- Graph the equation that represents Student A in the same coordinate plane as Student B. Compare the steepness of the graphs. What does this mean in the context of the problem?

Student A

$$y = 7x$$

x	y
0	0
1	7
2	14
3	21
4	28
5	35
6	42

Student B

$$y = 8x$$

x	y
0	0
1	8
2	16
3	24
4	32
5	40
6	48

Student A

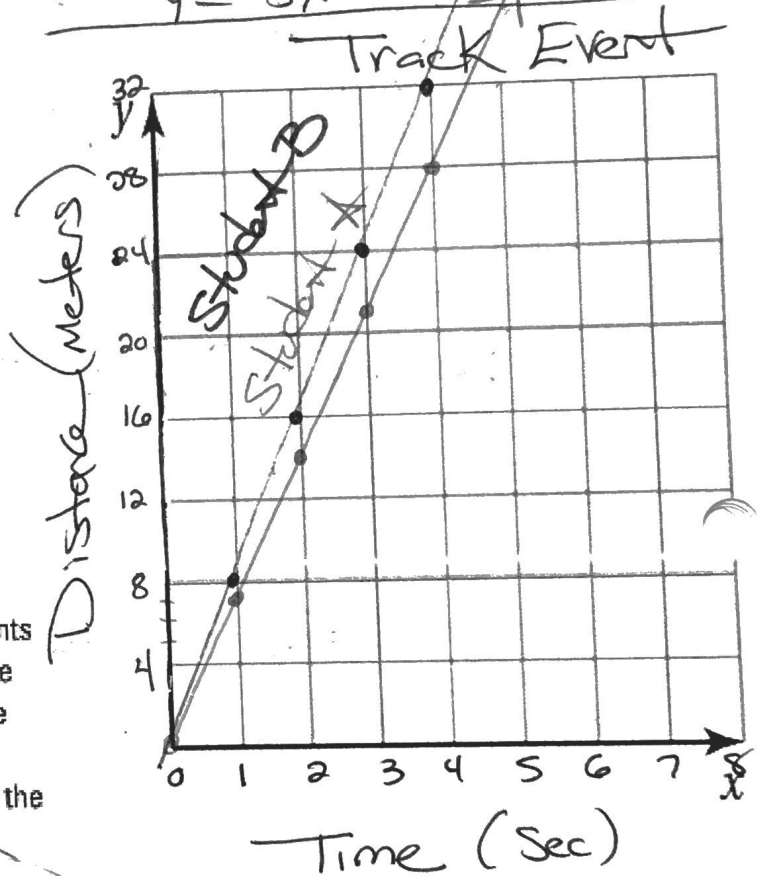
$$y = 7x$$

7 meters per second

Student B

$$y = 8x$$

8 meters per second



Student B's slope is steeper. Student B runs faster because the slope or rate is greater. Student B runs 8 meters/sec while student A runs 7 meters/second.