ACCELERATED: Chapter 9 Quiz Review (Lessons 1-4)

Lesson 1 Homework Practice - *Functions*

Determine whether each relation is a function. Explain.

1. {(4, 5), (0, 9), (1, 0), (7, 0)}

yes, each x-value is paired with one y-value

2. {(5, 2), (−2, 15), (−7, 15), (1, 5), (4, −5), (−7, 2)}

no, -7 in the domain is paired with 15 and 2 in the range

3.

x	-30	35	41	-30	34
y	42	37	-38	37	40

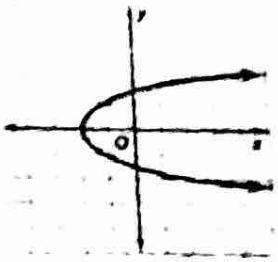
no, -3 in the domain is paired with 4.2 and 3.7 in the range

4.

x	7	14	11	-10	-1
y	-3	-9	4	-3	15

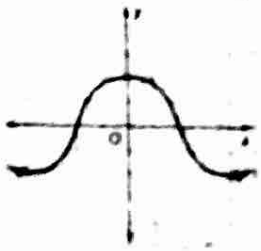
yes, each x-value is paired with one y-value

5.



no, a vertical line passes through more than one point on the graph

6.



yes, any vertical line passes through no more than one point on the graph

Lesson 2 Homework Practice - *Representing Linear Functions*

Find three solutions of each equation. Write the solutions as ordered pairs. (Sample Answers)

1. $y = x - 5$

(-1, -6)
(0, -5)
(1, -4)

2. $y = -7$

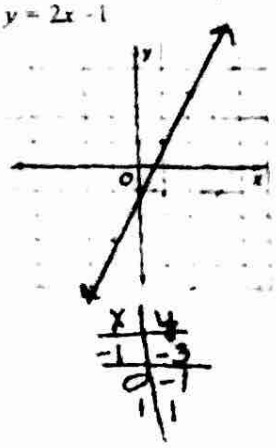
(-1, -7)
(0, -7)
(1, -7)

3. $y = 3x + 1$

(-1, 4)
(0, 1)
(1, -2)

Graph each equation by plotting ordered pairs.

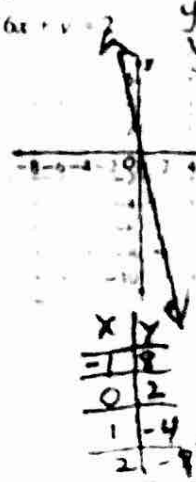
4. $y = 2x - 1$



x	y
-1	-3
0	-1
1	1

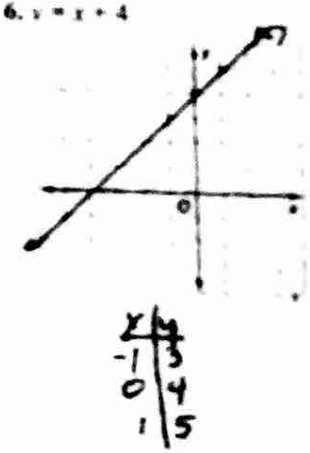
5. $6x + y = 2$

$y = 2 - 6x$
$y = 2 - 6(2)$
$y = 2 - 12$
$y = -10$



x	y
-1	8
0	2
1	-4
2	-10

6. $y = x + 4$



x	y
-1	3
0	4
1	5

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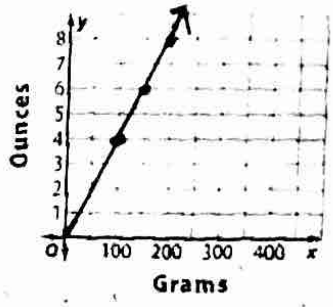
7. Kirsten is making gingerbread cookies using her grandmother's recipe and needs to convert grams to ounces. The equation $y = 0.04x$ describes the approximate number of ounces y in x grams.

a. Find three solutions of this equation. (100, 4) (200, 8) (150, 6)

b. Draw the graph that contains these points.



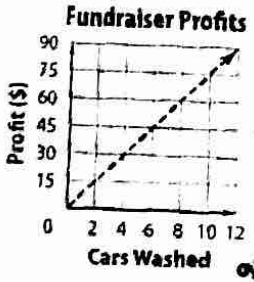
c. Do negative values of x make sense in this case? Explain.

no, a recipe can't have a negative amount of an ingredient

Lesson 3 Homework Practice - *Constant Rate of Change and Slope*

Find the constant rate of change for each linear function and interpret its meaning.

1.



$\frac{y}{x}$

$\frac{45}{6} = \$7.50$ per car

or $\frac{30}{4} = \$7.50$ per car

2.

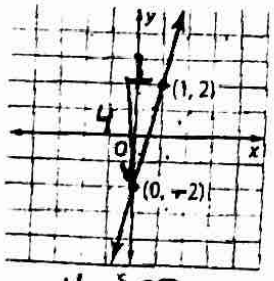
Time (seconds)	Distance (yards)
x	y
1.2	6
2.4	8
3.6	10
4.8	12

$\frac{y}{x} = \frac{6}{1.2} = 1.67$

1.67 yards is traveled each second

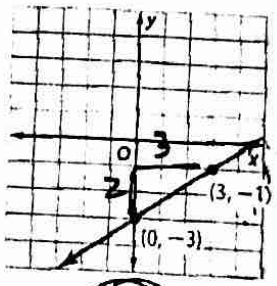
Find the slope of each line.

3.



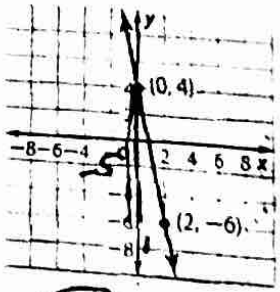
$m = \frac{4}{1} = 4$

4.



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

5.



$m = \frac{-5}{1}$

Find the slope of the line that passes through each pair of points. Show all work.

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

6. $A(-10, 6)$, $B(-5, 8)$

$m = \frac{8-6}{-5-10} = \frac{2}{5}$

7. $C(7, -3)$, $D(11, -4)$

$m = \frac{-4-3}{11-7} = \frac{-4+3}{4} = \frac{-1}{4}$

8. $E(5, 2)$, $F(12, -3)$

$m = \frac{-3-2}{12-5} = \frac{-5}{7}$

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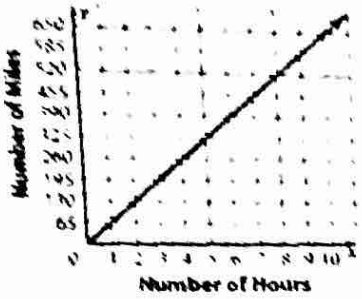
Lesson 4 Homework Practice - *Direct Variation*

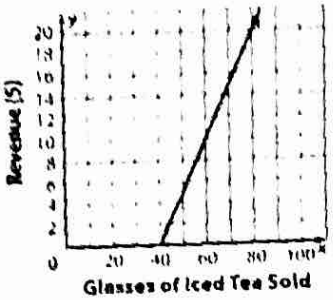
Determine if the relationship between the two quantities is a direct variation.

1.



yes, straight line through the origin

2.



no, does not pass through the origin

Determine whether the linear relationship is a direct variation. If so, state the constant of variation.

3.

x	3	6	9	12
y	120	90	60	30

$\frac{y}{x}$

$\frac{120}{3}$ $\frac{90}{6}$ $\frac{60}{9}$ $\frac{30}{12}$

40 15 6.7 2.5

NO

4.

x	2	4	6	8
y	−5	−10	−15	−20

$\frac{y}{x} = -\frac{5}{2}$

$-\frac{5}{2}$ $-\frac{10}{4}$ $-\frac{15}{6}$ $-\frac{20}{8}$

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

5. The cost of paper varies directly with the number of reams bought. Suppose 2 reams cost $5.10.

a. Write an equation that could be used to find the cost of x reams of paper. $y = 2.55x$

b. Find the cost of 15 reams of paper. $38.25

6. Recall that the length a spring stretches varies directly with the amount of weight attached to it. A certain spring stretches 5 cm when a 10-gram weight is attached.

a. Write a direct variation equation relating the weight x and the amount of stretch y. $y = 0.5x$

b. Estimate the stretch of the spring when it has a 42-gram weight attached. 21 cm