

STAPL

Name _____

Gillespie

Course 3: Ch3 Test

Proportional Relationships and Slope

Directions: When working each of the following questions, be sure to show all work.

- 1) Determine the constant rate of change between x and y in the table.

- a) \$3.80 per bottle
- b) \$3.80 per two bottles
- c) \$1.40 per bottle
- d) \$2.20 per bottle

# of bottles	2	4	6
cost (\$)	4.40	7.20	10.00

- 2) Determine the constant rate of change between x and y in the table.

- a) \$10 per hour
- b) \$12 per hour
- c) \$8 per hour
- d) \$8 per two hours

time (hours)	charge (\$)
1	10
2	22
3	34
4	46

- 3) Determine the constant rate of change between x and y in the table.

- a) -9 gallons per hour
- b) -3 gallons per hour
- c) 3 gallons per hour
- d) 9 gallons per hour

time (hours)	H_2O (gallons)
3	116
6	107
9	98
12	89

4) Find the slope of the line that passes through $(4, 2)$ and $(1, 3)$.

a) $\frac{5}{5}$

b) $-\frac{1}{3}$

c) $\frac{3}{5}$

d) 1

5) Find the slope of the line that passes through $(-4, -2)$ and $(-2, -4)$.

a) -3

b) -1

c) 1

d) 3

6) Find the slope of the line that passes through $(-2, -3)$ and $(4, -6)$.

a) $-\frac{3}{4}$

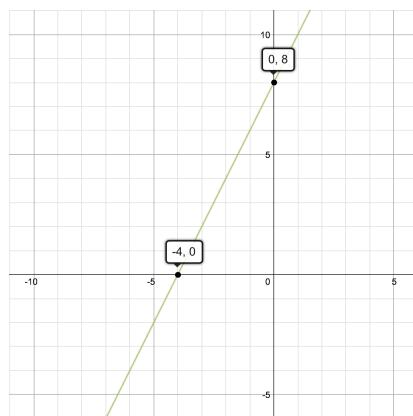
b) $-\frac{1}{2}$

c) $\frac{3}{4}$

d) $-\frac{9}{6}$

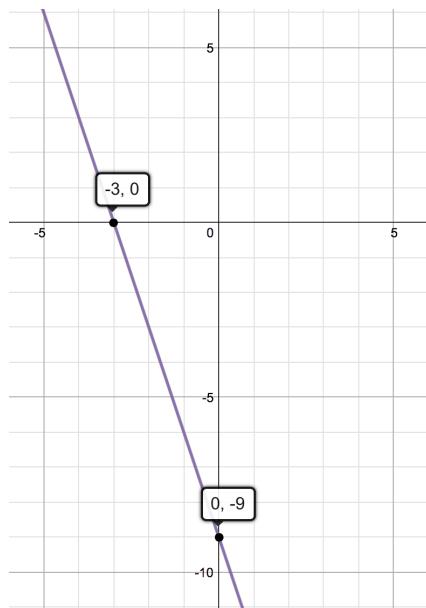
- 7) Find the equation for the linear function.
 (hint: $y = mx + b$)

- a) $y = \frac{1}{2}x - 4$
- b) $y = -\frac{1}{2}x - 4$
- c) $y = \frac{1}{2}x + 8$
- d) $y = 2x + 8$



- 8) Find the equation for the linear function.
 (hint: $y = mx + b$)

- a) $y = -\frac{1}{3}x - 9$
- b) $y = -\frac{1}{3}x - 3$
- c) $y = -3x - 9$
- d) $y = 3x - 9$



- 9) What are the slope and y -intercept for the graph of $y + 3x = -6$?
 (hint: $y = mx + b$)

- a) $m = -3; y - \text{int} = -6$
- b) $m = 3; y - \text{int} = 3$
- c) $m = \frac{1}{3}; y - \text{int} = -3$
- d) $m = -\frac{1}{3}; y - \text{int} = 6$

10) What is the slope, or grade, of a road that rises 7 feet for every horizontal change of 35 feet?

hint: slope = $\frac{\text{rise}}{\text{run}}$

a) $m = \frac{1}{5}$

b) $m = \frac{1}{7}$

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

d) $m = -\frac{7}{35}$

11) What are the x - and y -intercepts for the graph of $5x - 10y = 20$?

a) $x - \text{int} = 4$; $y - \text{int} = -2$

b) $x - \text{int} = 4$; $y - \text{int} = 10$

c) $x - \text{int} = 5$; $y - \text{int} = 10$

d) $x - \text{int} = -4$; $y - \text{int} = -2$

12) What is the equation of the line that passes through $(0, 2)$ and $(1, -3)$?

(hint: $y = mx + b$)

a) $y = \frac{1}{5}x + 2$

b) $y = -5x - 2$

c) $y = -5x + 2$

d) $y = 5x + (-2)$

- 13)** What is the equation in slope-intercept form for the line that passes through the points $(5, 5)$ and $(4, -5)$?
(hint: $y = mx + b$)

a) $y = \frac{1}{2}x + \frac{1}{10}$

b) $y = -2x - 4$

c) $y = 10x - 45$

d) $y = 10x + 55$

- 14)** At Store A, balloons are sold individually. The cost “ y ” is equivalent to the price of individual balloons times “ x ” balloons purchased. Find the equation that represents the data in this table.

(hint: $y = kx$)

a) $y = 6x$

# of balloons (x)	6	7	8	9
\$ cost (y)	15	17.5	20	22.5

b) $y = 1.25x$

c) $y = 1.5x$

d) $y = 2.5x$

- 15)** The table below shows the relationship between the cost of mulch at a local garden store and the number of square feet bought. Write an equation that represents the relationship of cost, y , to the number of square feet bought, x .

(hint: $y = kx$)

a) $y = 4.25x$

b) $y = 8.5x$

c) $y = 8.5x + 1$

d) $y = 9.75x$

# of square feet (x)	cost, \$ (y)
3	12.75
4	17
6	25.5
8	34