

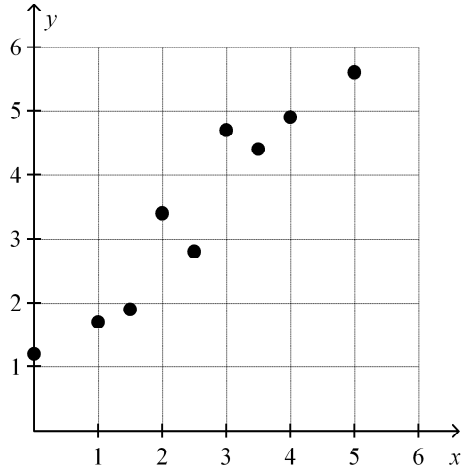
Algebra I Exam Review Term 2

Multiple Choice

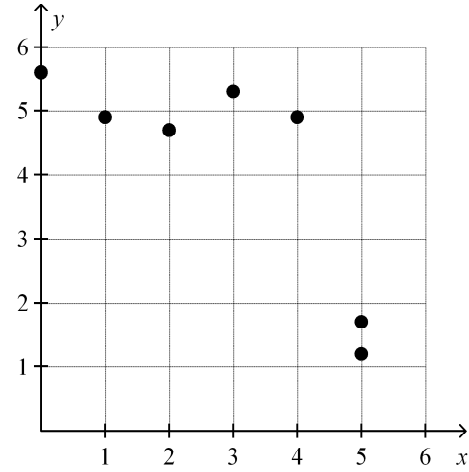
Identify the choice that best completes the statement or answers the question.

_____ 1. Which of the scatter plots shows a positive correlation?

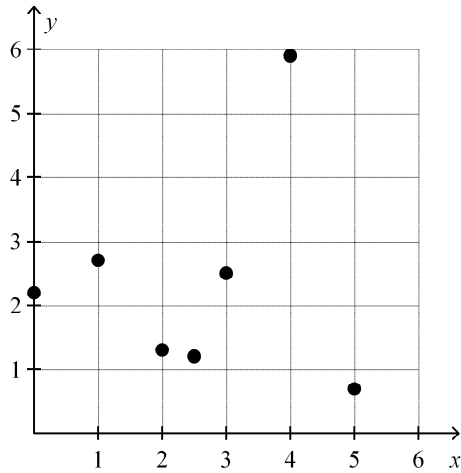
a.



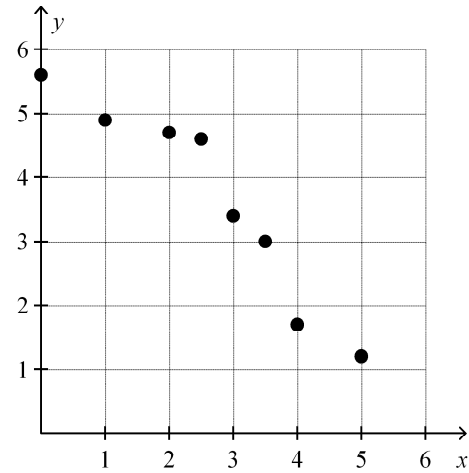
c.



b.

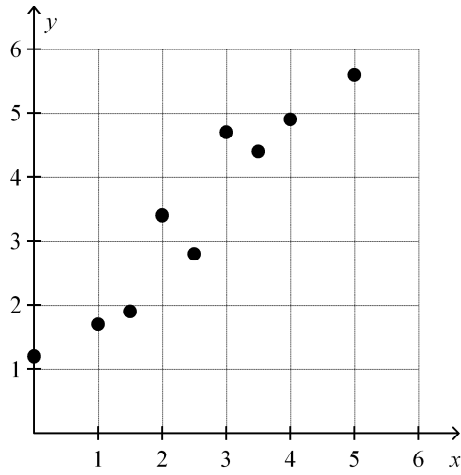


d.

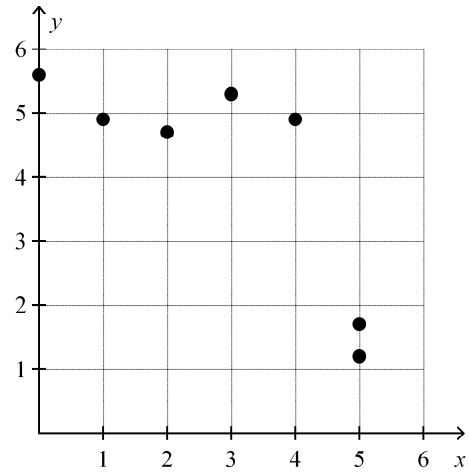


2. Which of the scatter plots shows a negative correlation?

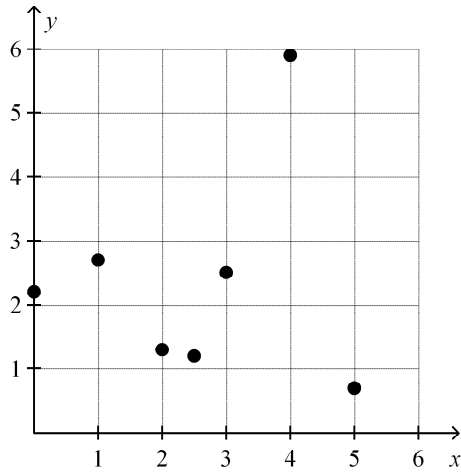
a.



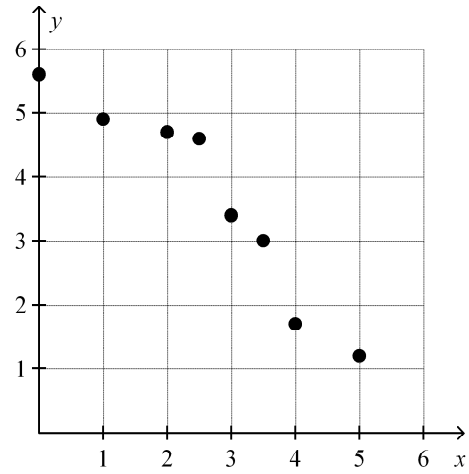
c.



b.

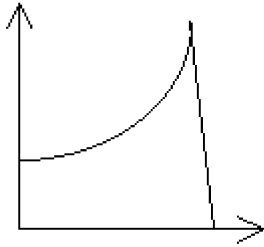


d.

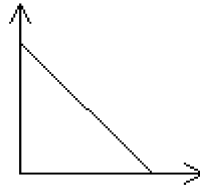


___ 3. Which graph is the most appropriate to describe a quantity decreasing at a steady rate?

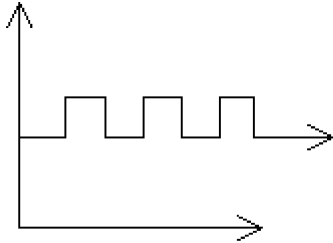
a.



c.



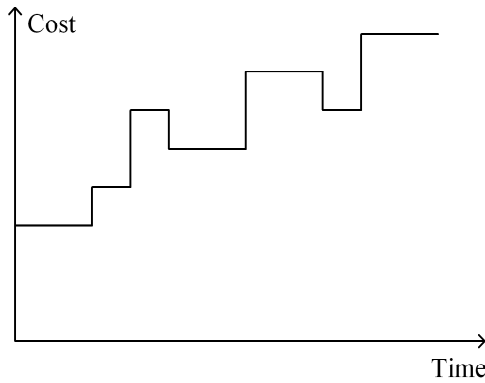
b.



d.



___ 4. The graph below shows how the cost of gasoline changes over one month. According to the graph, the cost of gasoline _____ decreases.



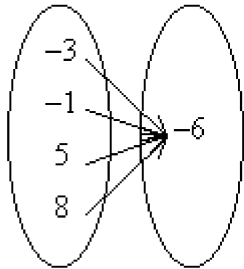
a. always

b. sometimes

c. never

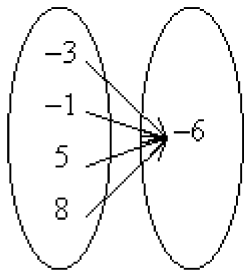
5. Identify the mapping diagram that represents the relation and determine whether the relation is a function.
 $\{(-3, -6), (-1, -6), (5, -6), (8, -6)\}$

a.



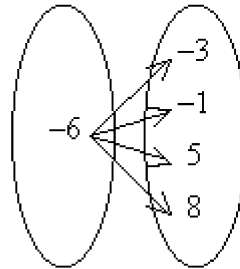
The relation is not a function.

b.



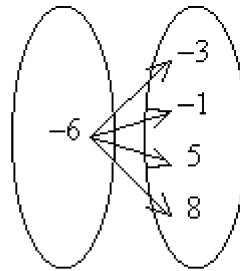
The relation is a function.

c.



The relation is a function.

d.



The relation is not a function.

6. Evaluate $f(x) = -2x - 5$ for $x = 3$.

- a. -11 b. 1 c. -6 d. 11

7. Evaluate $f(x) = -x^2 + 1$ for $x = -3$.

- a. -9 b. -4 c. -8 d. 4

8. A taxi company charges passengers \$2.00 for a ride, no matter how long the ride is, and an additional \$0.20 for each mile traveled. The rule $c = 0.20m + 2.00$ describes the relationship between the number of miles m and the total cost of the ride c .

a. What is the charge for a 1-mile ride?

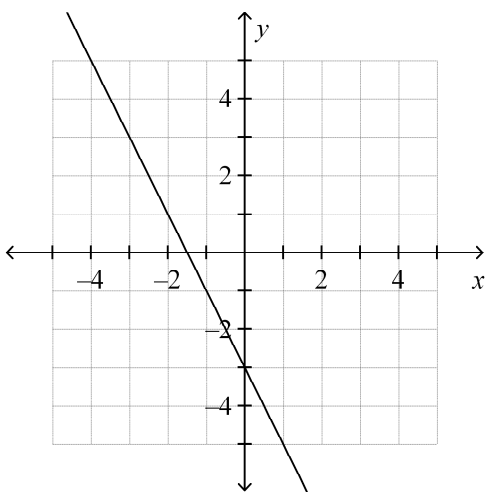
b. What is the charge for a 2.7-mile ride?

- a. \$2.20; \$2.54 b. \$2.00; \$2.20 c. \$0.20; \$5.60 d. \$0.20; \$0.54

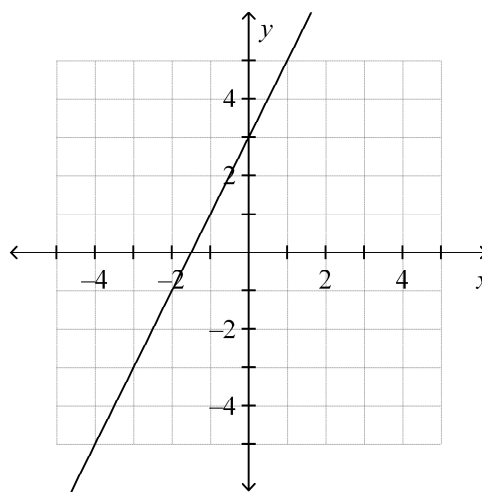
Graph the function.

9. $y = -2x + 3$

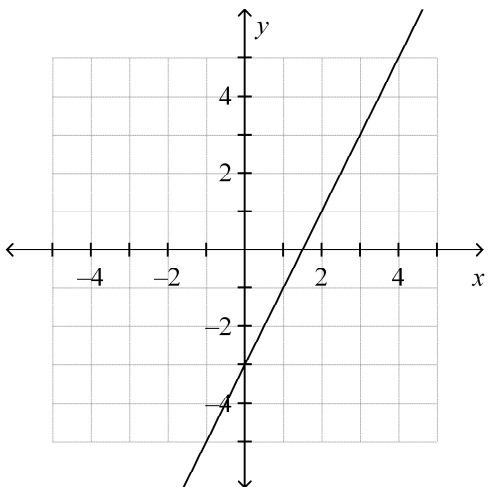
a.



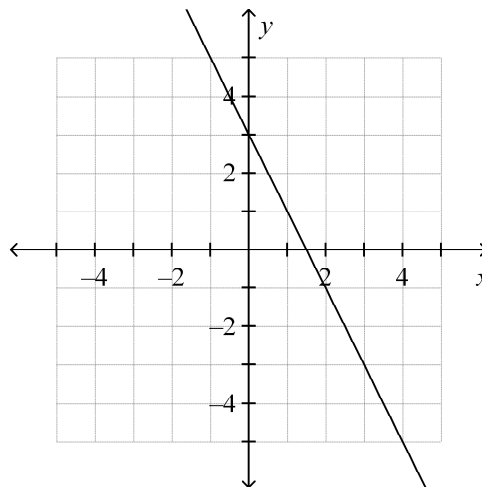
c.



b.



d.



Write a function rule for the table.

10.

x	$f(x)$
2	-8
3	-12
4	-16
5	-20

a. $f(x) = -4x$

b. $f(x) = 4x$

c. $f(x) = x - 4$

d. $f(x) = x + 4$

- _____ 11. Crystal earns \$5.50 per hour mowing lawns.
- a. Write a rule to describe how the amount of money m earned is a function of the number of hours h spent mowing lawns.
- b. How much does Crystal earn if she works 3 hours and 45 minutes?
- a. $m(t) = 3h + 45$; \$61.50 c. $m(t) = 5.50h$; \$18.98
- b. $m(t) = \frac{h}{5.50}$; \$0.68 d. $m(t) = 5.50h$; \$20.63

The rate of change is constant in each table. Find the rate of change. Explain what the rate of change means for the situation.

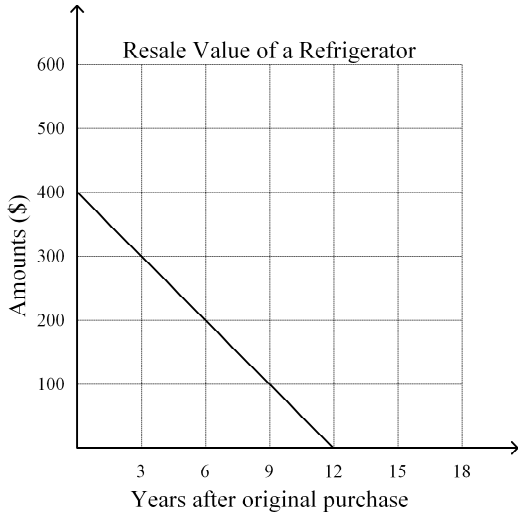
- _____ 12.

Time (days)	Cost (\$)
3	75
4	100
5	125
6	150

- a. $\frac{25}{1}$ dollars per day; the cost is \$25 for each day.
- b. $\frac{1}{25}$ dollars per day; the cost is \$25 for each day.
- c. $\frac{75}{1}$ dollars per day; the cost is \$75 for each day.
- d. $\frac{1}{150}$ dollars per day; the costs \$1 for 150 days

The rate of change is constant in the graph. Find the rate of change. Explain what the rate of change means for the situation.

_____ 13.



- a. -100 ; value drops \$100 every year.
- b. $-\frac{100}{3}$; value drops \$100 every 3 years.
- c. -3 ; value drops \$3 every year.
- d. -1 ; value drops \$1 every year.

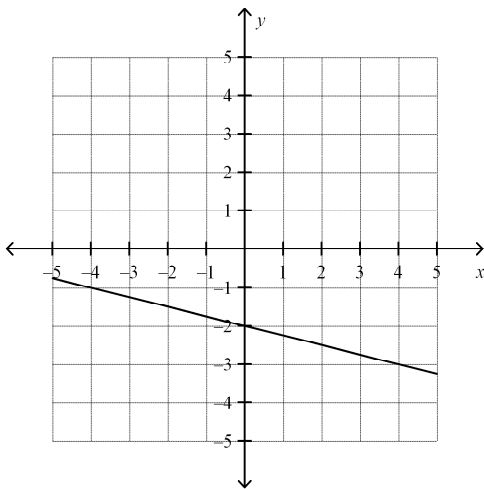
Find the rate of change for the situation.

_____ 14.

- You run 7 miles in one hour and 21 miles in three hours.
- a. 3 miles per hour
 - b. 3 hours
 - c. 7 miles
 - d. 7 miles per hour

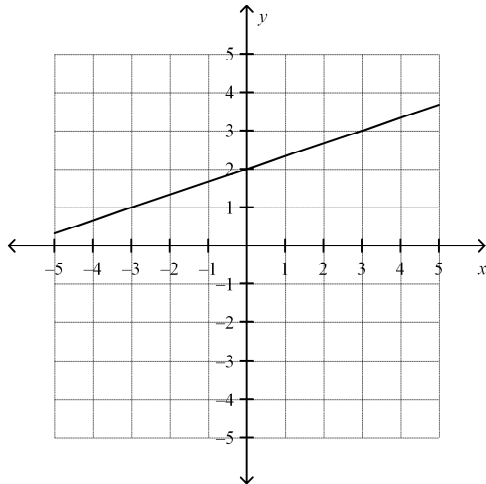
Find the slope of the line.

_____ 15.



- a. $-\frac{1}{4}$
- b. $\frac{1}{4}$
- c. -4
- d. 4

____ 16.



- a. $-\frac{1}{3}$ b. -3 c. 3 d. $\frac{1}{3}$

Find the slope of the line that passes through the pair of points.

____ 17. $(1, 7), (10, 1)$

- a. $\frac{3}{2}$ b. $-\frac{2}{3}$ c. $-\frac{3}{2}$ d. $\frac{2}{3}$

____ 18. $(1, 8), (9, -1)$

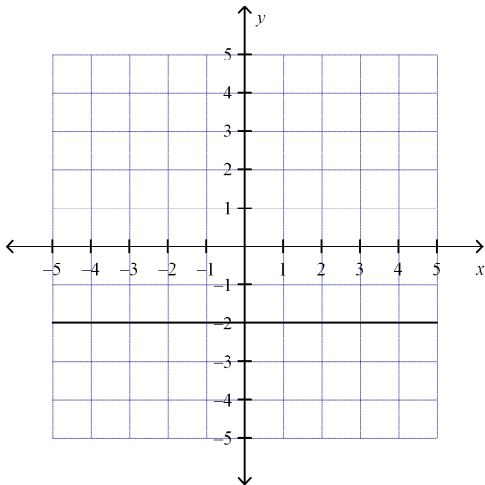
- a. $\frac{8}{9}$ b. $-\frac{8}{9}$ c. $-\frac{9}{8}$ d. $\frac{9}{8}$

____ 19. A student finds the slope of the line between $(14, 1)$ and $(18, 17)$. She writes $\frac{1-17}{18-14}$. What mistake did she make?

- a. She should have added the values, not subtracted them.
b. She used y -values where she should have used x -values.
c. She mixed up the x - and y -values.
d. She did not keep the order of the points the same in numerator and the denominator.

State whether the slope is 0 or undefined.

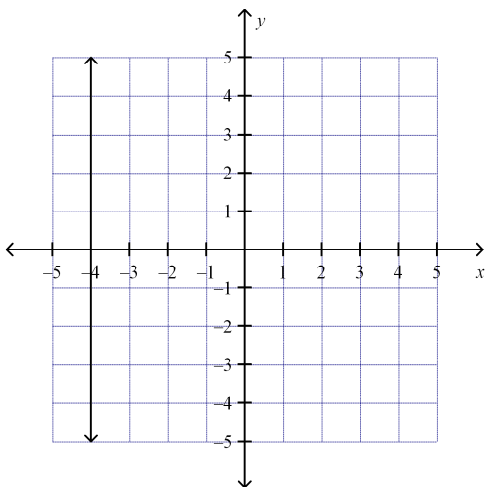
_____ 20.



a. undefined

b. 0

_____ 21.



a. 0

b. undefined

Find the slope and y-intercept of the line.

_____ 22. $y = \frac{4}{3}x - 3$

a. $3; \frac{4}{3}$

b. $-3; \frac{4}{3}$

c. $\frac{3}{4}; 3$

d. $\frac{4}{3}; -3$

_____ 23. $14x + 4y = 24$

a. $-\frac{2}{7}; 6$

c. $-\frac{7}{2}; \frac{1}{6}$

b. $-\frac{7}{2}; 6$

d. $\frac{7}{2}; -6$

Write an equation of a line with the given slope and y -intercept.

_____ 24. $m = 1, b = 4$

a. $y = 4x + 1$

b. $y = x - 4$

c. $y = -1x + 4$

d. $y = x + 4$

_____ 25. $m = \frac{1}{4}, b = -\frac{3}{4}$

a. $y = 4x - \frac{3}{4}$

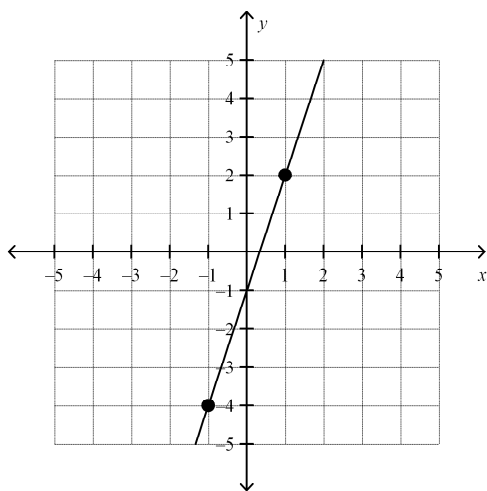
b. $y = \frac{1}{4}x - \frac{3}{4}$

c. $y = -\frac{3}{4}x + \frac{1}{4}$

d. $y = \frac{1}{4}x + \frac{3}{4}$

Write the slope-intercept form of the equation for the line.

_____ 26.



a. $y = 3x - 1$

b. $y = -3x - 1$

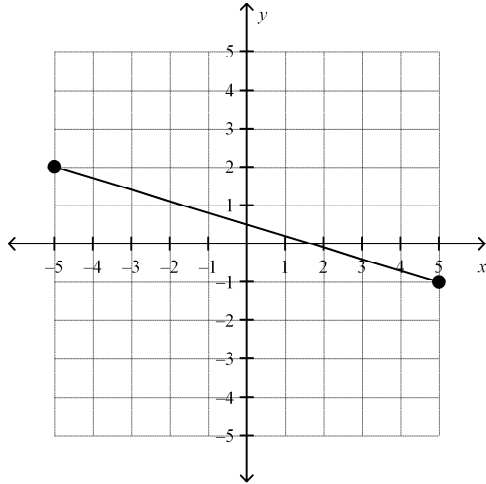
c. $y = \frac{1}{3}x + 1$

d. $y = \frac{1}{3}x - 1$

Name: _____

ID: A

____ 27.



a. $y = -\frac{10}{3}x + \frac{1}{2}$

b. $y = \frac{3}{10}x + \frac{1}{2}$

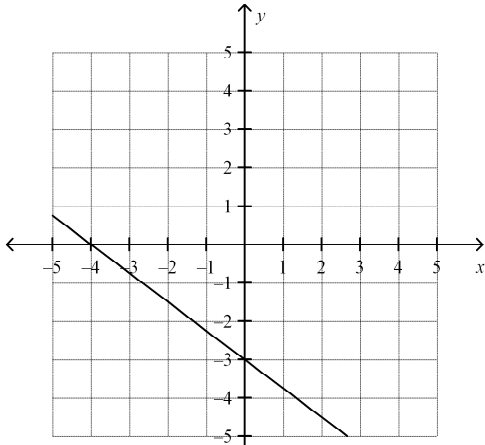
c. $y = -\frac{3}{10}x + \frac{1}{2}$

d. $y = \frac{1}{2}x + \frac{3}{10}$

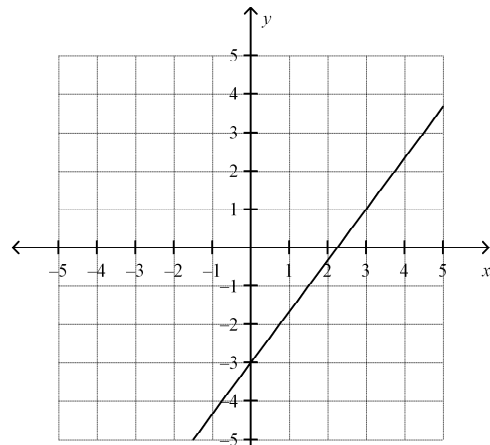
28. Use the slope and y -intercept to graph the equation.

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

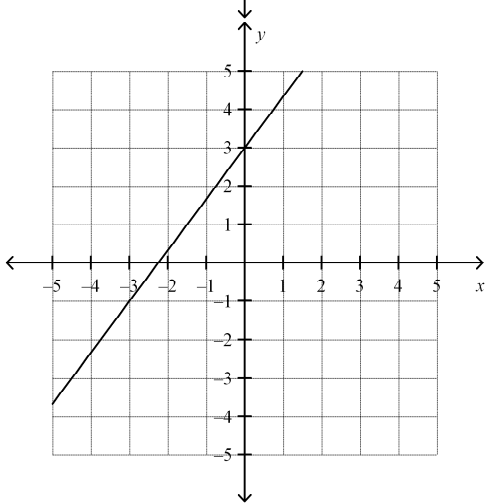
a.



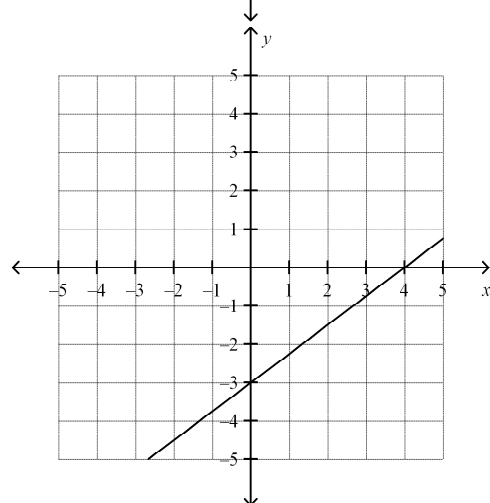
c.



b.



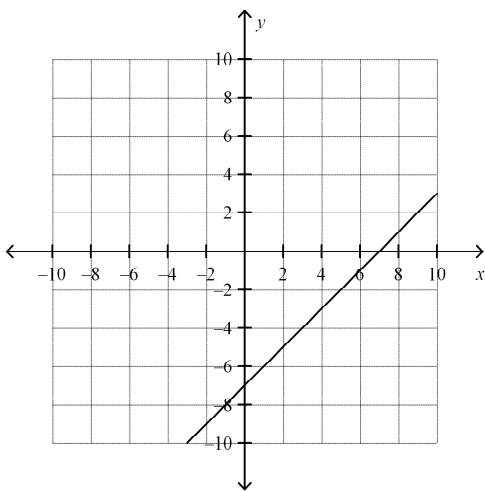
d.



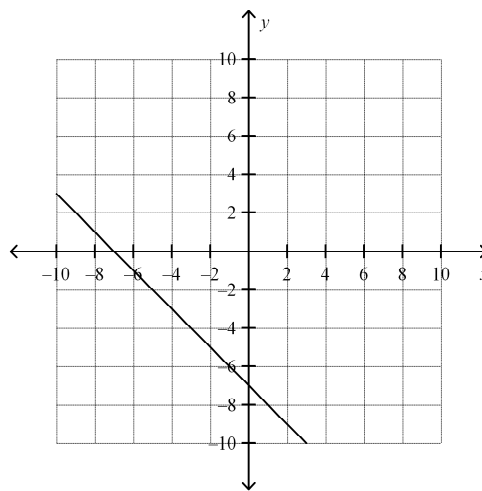
Match the equation with its graph.

_____ 29. $-7x + 7y = -49$

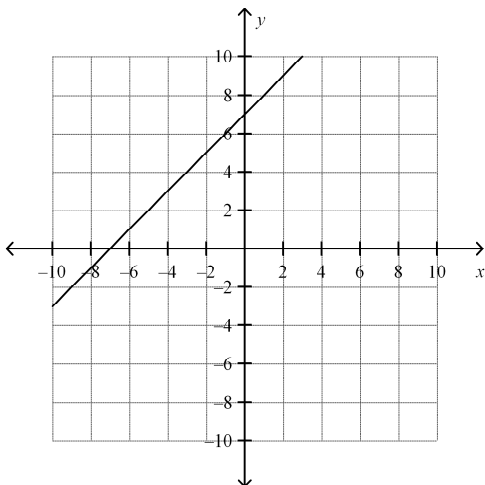
a.



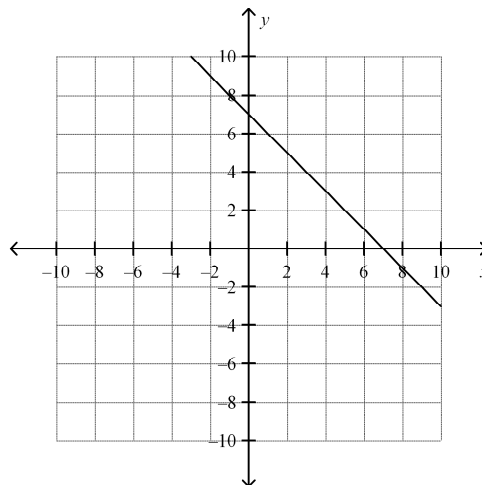
c.



b.



d.



_____ 30. Write an equation of a line that has the same slope as $2x - 5y = 12$ and the same y-intercept as $4y + 24 = 5x$.

a. $y = \frac{2}{5}x - 6$

c. $y = \frac{5}{2}x - 6$

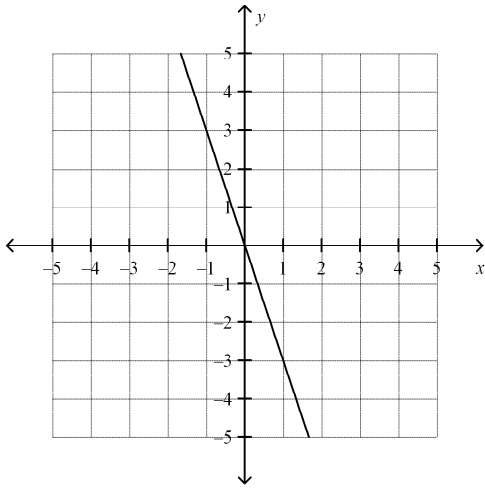
b. $y = 6x - \frac{2}{5}$

d. $y = \frac{1}{6}x - \frac{5}{2}$

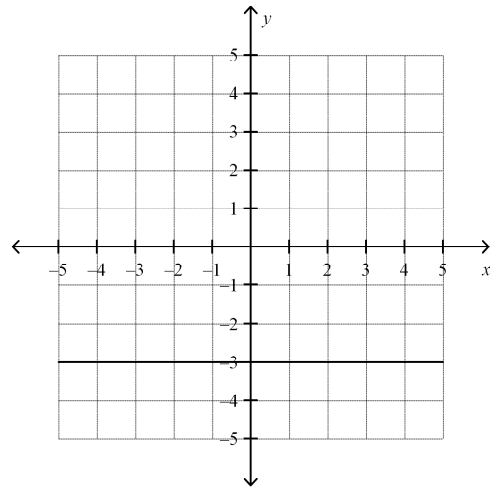
Graph the equation.

31. $y = -3$

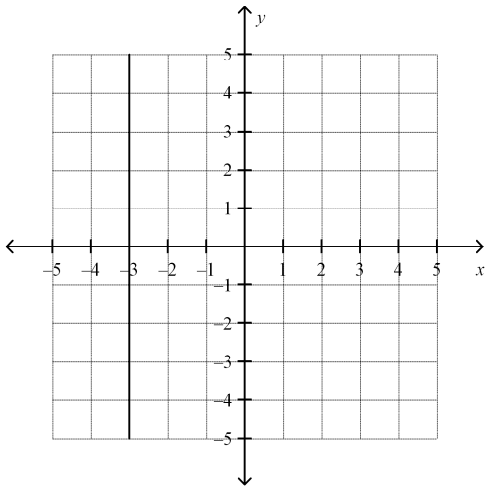
a.



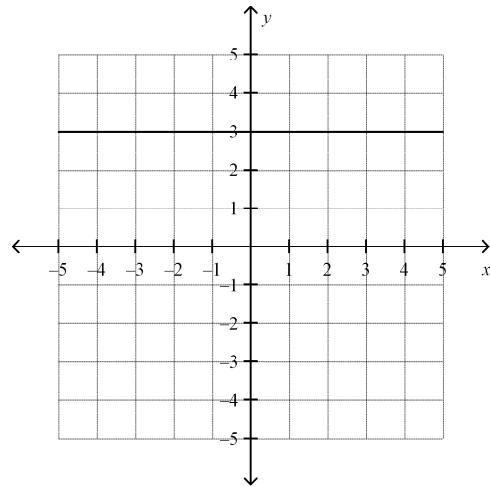
c.



b.



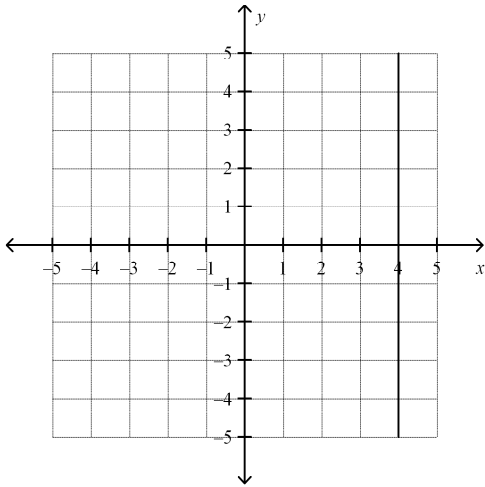
d.



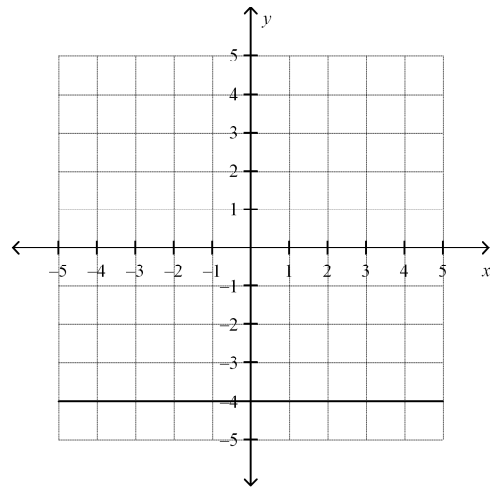
Name: _____

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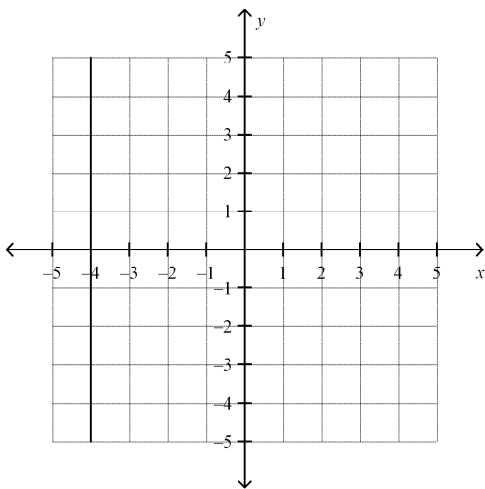
32. $x = -4$
a.



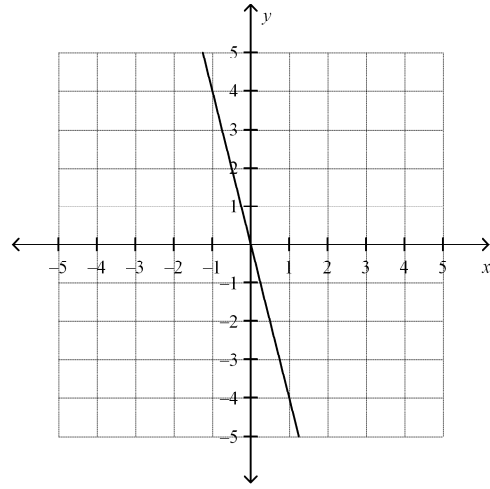
c.



b.



d.



Is the relationship shown by the data linear? If so, model the data with an equation.

_____ 33.

x	y
-9	-2
-5	-7
-1	-12
3	-17

- a. The relationship is linear; $y + 2 = \frac{4}{5}(x + 9)$.
- b. The relationship is linear; $y + 9 = -\frac{4}{5}(x + 2)$.
- c. The relationship is not linear.
- d. The relationship is linear; $y + 2 = -\frac{5}{4}(x + 9)$.

Are the graphs of the lines in the pair parallel? Explain.

_____ 34. $y = \frac{1}{6}x + 8$

$$-2x + 12y = -11$$

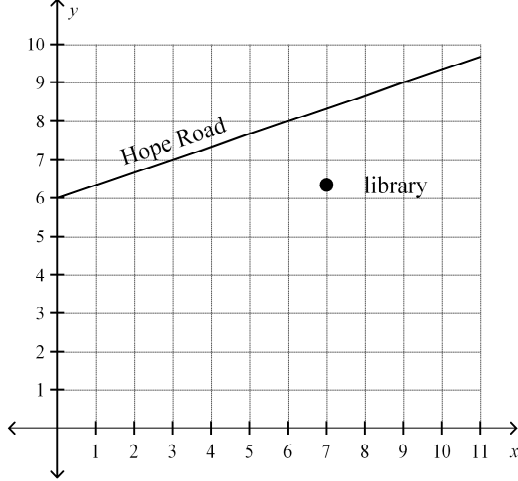
- a. Yes, since the slope are the same and the y -intercepts are the same.
- b. No, since the y -intercepts are different.
- c. Yes, since the slope are the same and the y -intercepts are different.
- d. No, since the slopes are different.

_____ 35. $y = 5x + 6$

$$-18x + 3y = -54$$

- a. No, since the slopes are different.
- b. Yes, since the slopes are the same and the y -intercepts are different.
- c. No, since the y -intercepts are different.
- d. Yes, since the slope are the same and the y -intercepts are the same.

- _____ 36. The map shows Hope Road and the construction site for the new library. Find the equation of a “street” that passes through the building site and is parallel to Hope Road.



- a. $y = 3x + 4$ c. $y = -\frac{1}{3}x + 4$
 b. $y = \frac{1}{3}x - 4$ d. $y = \frac{1}{3}x + 4$

Write an equation for the line that is parallel to the given line and that passes through the given point.

- _____ 37. $y = -5x + 3$; $(-6, 3)$
 a. $y = -5x + 27$ c. $y = 5x - 9$
 b. $y = -5x - 27$ d. $y = -5x + 9$

Tell whether the lines for each pair of equations are *parallel*, *perpendicular*, or *neither*.

- _____ 38. $7x - 4y = 4$
 $x - 4y = 3$
 a. perpendicular b. parallel c. neither

- _____ 39. The cost of playing pool increases with the amount of time using the table. Identify the independent and dependent quantity in the situation.

- a. time at table; cost c. number of games; cost
 b. cost; time at table d. cost; number of players

- _____ 40. The french club is holding a car wash fundraiser. They are going to charge \$10 per car, and expect between 50 and 75 cars. Identify the independent and dependent quantity in the situation, and find reasonable domain and range values.

- a. number of cars; money raised; 50 to 75 cars; \$500 to \$750 c. number of cars; money raised; \$500 to \$750; 50 to 75 cars
 b. money raised; number of cars; \$500 to \$750; 50 to 75 cars d. money raised; number of cars; 50 to 75 cars; \$500 to \$750

**Algebra I Exam Review Term 2
Answer Section**

MULTIPLE CHOICE

1. A
2. D
3. C
4. B
5. B
6. A
7. C
8. A
9. D
10. A
11. D
12. A
13. B
14. D
15. A
16. D
17. B
18. C
19. D
20. B
21. B
22. D
23. B
24. D
25. B
26. A
27. C
28. D
29. A
30. A
31. C
32. B
33. D
34. C
35. A
36. D
37. B
38. C
39. A

- 40. A
- 41. D
- 42. D

SHORT ANSWER

- 43. $\{7, 6, 5, 3\}$
- 44. The relation is a function.