

**Practice
7-2**

Representing a Function

1. The value of y is one more than x .

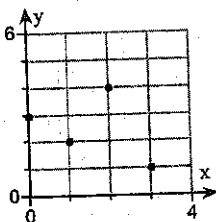
a) Represent this relationship by completing the table.

x	y	Ordered Pair (x,y)
0	1	(0, 1)
1	_____	_____
2	_____	_____
3	_____	_____

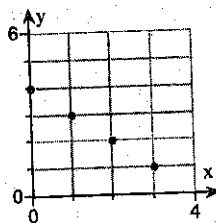
b) Represent the relationship using an equation. Simplify your answer. Write an expression using x as the variable.

c) Which graph correctly shows the relationship?

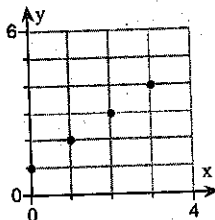
A.



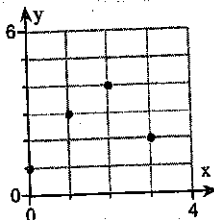
C.



B.



D.



2. You can make 7 gal of liquid fertilizer by mixing 8 tsp of powdered fertilizer with water.

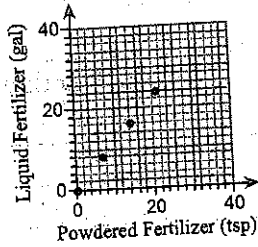
a) Represent the relationship between the teaspoons of powder used and the gallons of fertilizer by completing the table.

x	y	Ordered Pair (x,y)
0	_____	_____
8	7	(8,7)
16	_____	_____
24	_____	_____

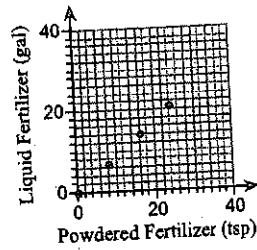
b) Represent the relationship using an equation. Simplify your answer. Write an expression using x as the variable.

c) Which graph correctly shows the relationship?

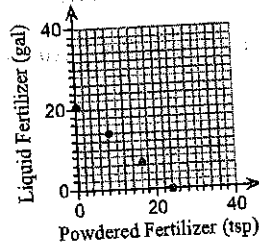
A.



C.

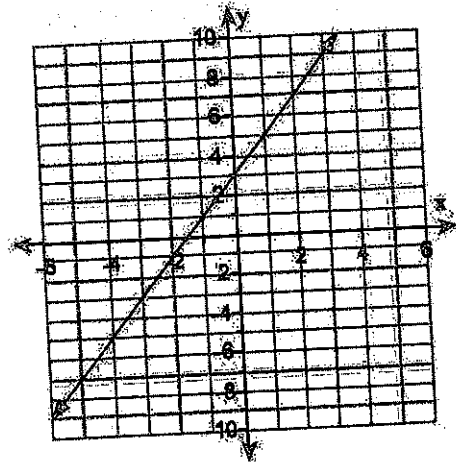


B.



3. Use the graph to complete the table of values for the function.

x	y
-2	_____
_____	3
1	_____
_____	9

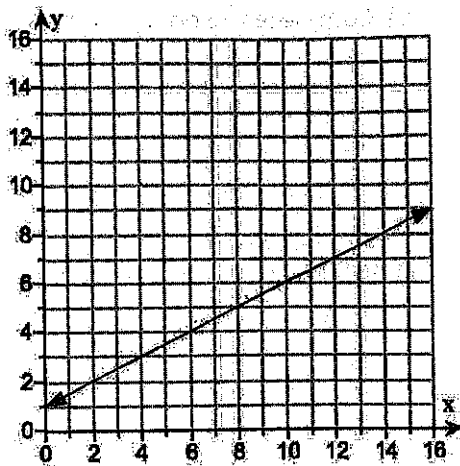


4. Complete the table of values for the function $y = 4x$.

x	y
-5	_____
-3	_____
0	_____
3	_____
5	_____

5. a) **Writing** Complete the table of values that matches the graph.

x	y
_____	1
4	_____
8	_____
_____	7



b) Describe a situation you could model using this graph and table of values. Interpret the meaning of the point (80,38) in your situation.

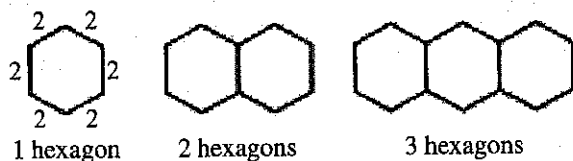
6. a) **Reasoning** Without completing the table, which equation could match this table?

- A. $y = 2x + 3$
- B. $y = 3x + 2$
- C. $y = x + 3$
- D. $y = 2x - 3$

x	y
-8	_____
-4	_____
0	3
4	11
8	_____

b) Complete the table.

7. **Error Analysis** Using the diagram below, your friend says that the relationship between the number of hexagons, x , and the perimeter, y , of the figure they form is given by the formula $y = 12x$. The figures are not drawn to scale.



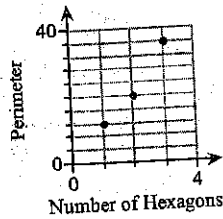
a) Represent the relationship by completing the table.

Number of Hexagons, x	Perimeter, y	Ordered Pair (x,y)
1	_____	_____
2	_____	_____
3	_____	_____

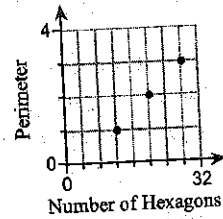
b) Complete the equation that represents the relationship.

c) Which graph represents the relationship correctly?

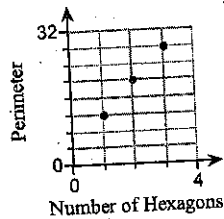
A.



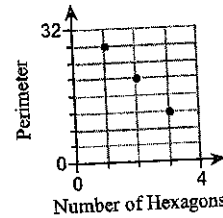
C.



B.



D.



d) What mistake did your friend most likely make?

- A. Your friend multiplied the perimeter of one hexagon by the number of hexagons.
- B. Your friend made a mistake when finding the perimeter of the figure.
- C. Your friend switched the values of x and y .

8. Exercise Walking one mile, you burn about 97 calories.

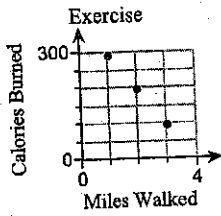
a) Represent the relationship by completing the table.

Miles Walked, x	Calories Burned, y	Ordered Pair (x,y)
1	_____	_____
2	_____	_____
3	_____	_____

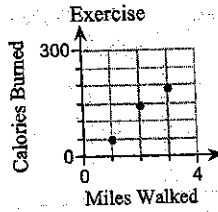
b) Represent the relationship using an equation. Write an expression using x as the variable.

c) Which graph represents the relationship correctly?

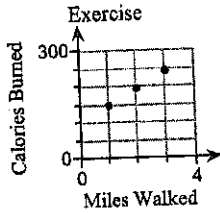
A.



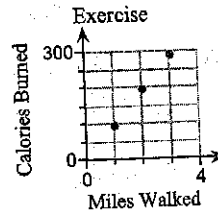
C.



B.



D.



d) How many calories would you burn if you walked 3.7 miles?

9. **Estimation** While exploring a planet, a robot descends at a rate of 267 feet every 3.3 hours from a hill peak 1,620 feet above sea level.

a) Estimate the robot's rate of descent by rounding to the nearest 10 feet and the nearest whole hour.

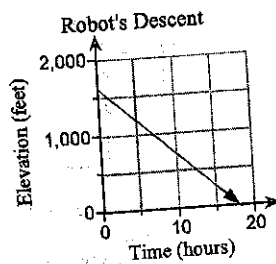
b) In the table below, represent the robot's elevation, y , after x hours.

Hours, x	Elevation, y (feet)	Ordered Pair (x,y)
3	_____	_____
4	_____	_____
10	_____	_____

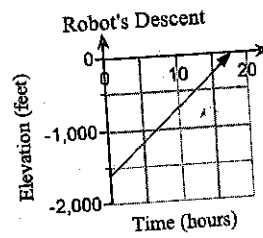
c) Represent the relationship using an equation. Simplify your answer. Write an expression using x as the variable.

d) Which graph represents the relationship correctly?

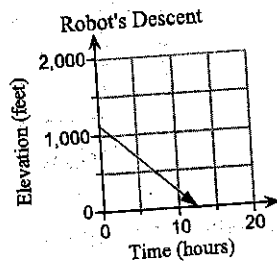
A.



C.



B.



e) How many hours will it take the robot to reach the base of the hill?

10. **Mental Math** Use the function $y = \frac{3}{2}x + 3$ to complete the table of values for the equation.

x	y
_____	9
_____	6
_____	0
_____	-3

11. **Challenge** The value of y is eight more than one-half x .

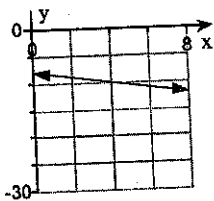
a) Represent the relationship by completing the table.

x	y	Ordered Pair (x,y)
0	8	(0,8)
2	_____	_____
4	_____	_____
6	_____	_____

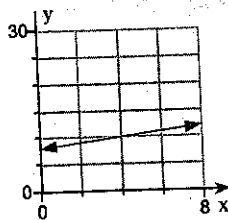
b) Represent the relationship using an equation. Simplify your answer.

c) Which graph represents the relationship correctly?

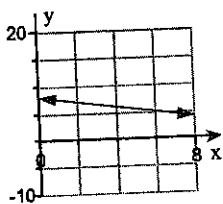
A.



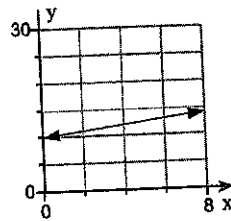
C.



B.

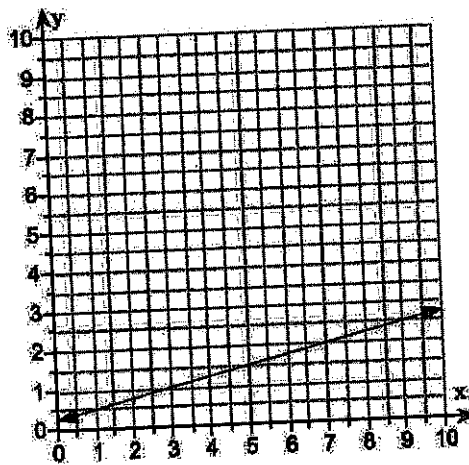


D.



12. a) **Challenge** Complete the table of values from the graph.

x	y
1	_____
_____	1.25
_____	1.75
7	_____



b) Find the value of y when $x = 20$.

c) Find three more pairs of values. Then write a situation you could model using this graph.