Student: _____	**Instructor:** Pearson School	**Assignment:** Topic 4 Test
Date: _____	**Course:** digits - grade 6	
Time: _____	**Book:** digits - grade 6	

1. A pet shop has 1,490 animals for sale. The animals are either mammals or fish. Identify the unknown and related quantities.

Which two unknown quantities in this situation are related?

- ☐ A. The number of mammals
- ☐ B. The number of fish
- ☐ C. The number of pet owners
- ☐ D. The number of animals for sale

2. An athlete plans to exercise for 60 minutes. He will only swim and stretch. Write three equations to represent this situation.

Let x be the number of minutes the athlete spends swimming. Let y be the number of minutes stretching. Which three equations below represent this situation?

- ☐ A. $x + y = 60$
- ☐ B. $x - y = 60$
- ☐ C. $60 + x = y$
- ☐ D. $60 + y = x$
- ☐ E. $60 - x = y$
- ☐ F. $60 - y = x$

3. The number of people ahead of you in line and the amount of time you have to wait in the line are related. Identify the dependent variable in this relationship.

What is the dependent variable?

- ○ A. The number of people ahead of you in line
- ○ B. The number of people behind you in line
- ○ C. The amount of time you have to wait in the line
- ○ D. The reason you are waiting in line

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4. The table shows the relationship between the number of correct answers and the total points. What is the relationship suggested by the table?

Correct Answers	Total Points
4	8
5	10
6	12
7	14

Choose the correct rule below for the table.

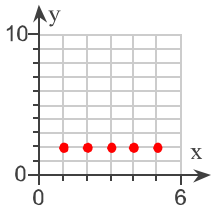
- A. Double the number of correct answers to find the total points.
- B. Triple the number of correct answers to find the total points.
- C. Square the number of correct answers to find the total points.
- D. Subtract 2 from each correct answer to find the total points.

5. Use the table to graph the relationship between x and y.

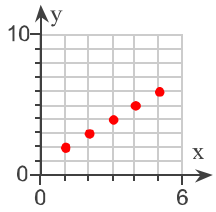
x	y
1	2
2	3
3	4
4	5
5	6

Which graph to the right shows the relationship between x and y?

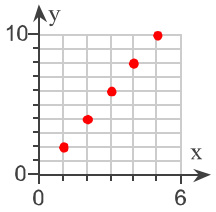
A.



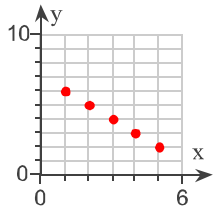
B.



C.

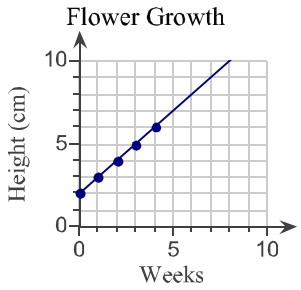


D.



6. The graph shows the relationship between the number of weeks since a flower was planted and its height. Which points fall on the graph?

(1,6) (4,6) (6,1) (1,3)



Which points fall on the graph? Select all that apply.

- ☐ A. (4,6)
- ☐ B. (6,1)
- ☐ C. (1,6)
- ☐ D. (1,3)

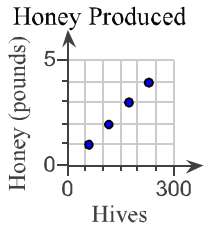
7. **Think About the Process** Honey bees produce 56 pounds of honey for each beehive in a certain region. Describe how to graph points for the relationship shown in the table. Then draw a graph.

Honey Produced	
Hives	**Honey (pounds)**
1	56
2	112
3	168
4	224

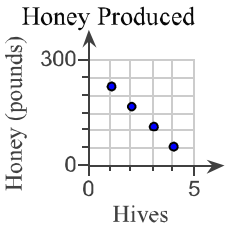
To graph the points, move [ ] the number of units in the Hives column. Move [ ] the number of units in the Honey (pounds) column.

Which graph shows the relationship between the number of hives and the amount of honey?

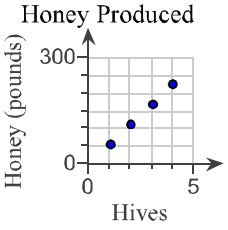
○ A.



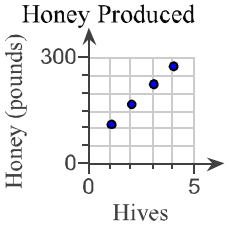
○ B.



○ C.



○ D.



8. Suppose each side of a pentagon has length x. Let y be the perimeter of the pentagon. Use the table to relate the independent variable x to the dependent variable y. First describe the relationship in words. Then write an equation.

x	0	3	4	5
y	0	15	20	25

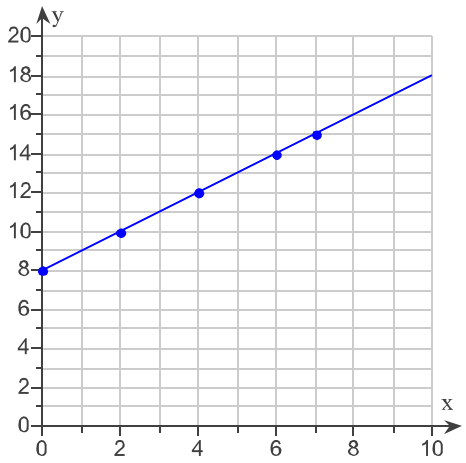
Describe the relationship in words.

The value of x ☐ ☐ equals the value of y.

Write an equation.

☐ = y

9. Use the graph to make a table of values for x and y. Then write an equation that represents the relationship between x and y.



Complete the table.

x	0	2	4	6	7
y	☐	☐	☐	☐	☐

Write an equation that represents the relationship between x and y.

☐ = y

10. **Flower Growth** Early last summer, Jasmine planted a flower. Let y be the flower's height (in centimeters) x days after she planted it. Use the table to relate the independent variable x to the dependent variable y. First describe the relationship in words. Then write an equation. Use the equation to find the flower's height after 7 days.

x	1	3	4	6
y	12	14	15	17

Describe the relationship in words.

The value of x [ ] [ ] equals the value of y.

Write an equation.

[ ] = y

What was the flower's height after 7 days?

[ ] centimeters

11. Suppose you open a bank account and deposit $10. Then, every month you deposit $40. Write an equation that relates the total number of dollars deposited, T, and the month, m.

Which equation below relates the total number of dollars deposited, T, and the month, m?

A. $T = 10 + 40m$

B. $T = 10 + 40$

C. $T = 50m$

D. $T = 10m + 40$

12. In a large city, the number of people with the flu, k, increases every day. On the first day, 2 people have the flu. Each day after the first, there are 2 times as many people who have the flu than there were the previous day. Write an equation that relates the number of people who have the flu, k, and the day, d.

Which equation relates the number of people who have the flu, k, and the day, d?

- A. $k = 2^d$
- B. $k = 2d$
- C. $k = 2 + 2^d$
- D. $k = 2 + d$

13. Two cell phone companies start up at the same time. Each wants to model, or represent with an equation, the number of people, T, who have signed up for its services after m months. Company A models its number of people using $T = 45 + 70m$. Company B models its number of people using $T = 2^m$. If the models are accurate, which company had more customers after 11 months?

Which company had more customers after 11 months?

- Company B
- Company A