9 Practice Test

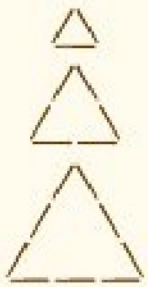
For #1 to #5, select the best answer.

1. You can describe $2x - 1$ as a(n)

A constant **B** equation

C expression **D** variable

2. The table shows the toothpicks in the base of a triangle in relation to its perimeter.



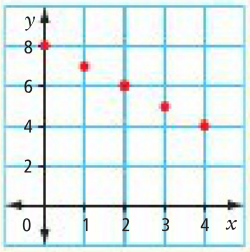
Toothpicks in Base (b)	Toothpicks in Perimeter
1	3
2	6
3	9

Which expression represents the number of toothpicks in the perimeter of any triangle in this pattern?

A $b + 3$ **B** $3b$

C $\frac{b}{3}$ **D** $b - 3$

3. Which table of values represents the linear relation shown?



A

x	0	1	2	3	4
y	8	6	6	5	4

B

x	0	1	2	3	4
y	8	7	6	4	2

C

x	0	1	2	3	4
y	8	7	6	5	4

D

x	0	1	2	3	4
y	8	6	4	3	2

4. Which table of values represents the linear equation $y = 3x - 2$?

A

x	y
1	1
2	4
3	8

B

x	y
0	2
2	8
4	1

C

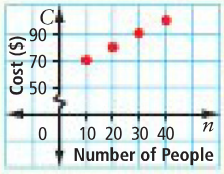
x	y
2	4
3	7
4	10

D

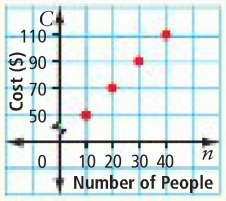
x	y
3	9
5	15
7	21

5. Which graph represents "a banquet room rents for $50 plus $2 per person"?

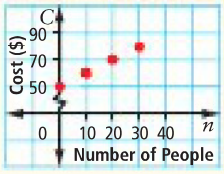
A



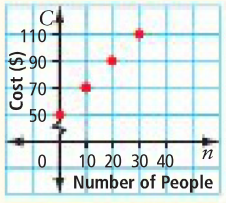
B



C



D



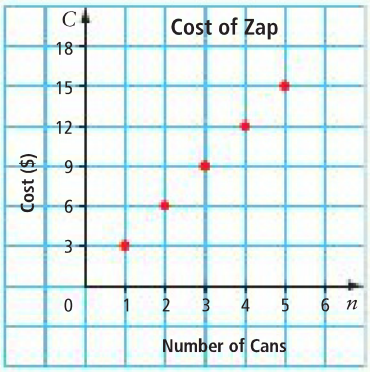
Complete the statements in #6 and #7.

6. If the equation is $s = -4t + 2$, the value for s in $(-1, s)$ is ■.

7. To describe the graph in #3, you can say that when the x-coordinate increases by 1, the y-coordinate ■ by ■.

Short Answer

8. The graph shows the cost of a new drink called Zap.



a) What is the price per can of Zap?

b) Describe three patterns on the graph.

c) If you placed a point at (0, 0), what would each coordinate represent?

9. The pattern can be represented by the formula $b = 4f$, where b is the number of black dots and f is the figure number.

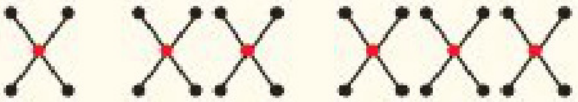


Figure 1 Figure 2 Figure 3

a) Make a table of values for the number of black dots in Figures 1 to 5.

b) Use the formula to determine the number of black dots in Figure 60.

Extended Response

10. The formula for the pattern below is $s = 2f + 1$, where s is the number of small squares and f is the figure number.

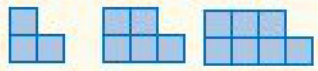


Figure 1 Figure 2 Figure 3

a) Make a table of values for the first five figures in the pattern.

b) Draw a graph to show the relationship.

c) Is the relationship linear? Explain.

WRAP IT UP!

You are going on an adventure tour. Your adventure could be hang-gliding, hiking, canoeing, white-water rafting, dog sledding, whale watching, cycling, or any other adventure that interests you. What is your adventure? Where does it take place?

Use travel brochures, the Internet, or other sources to locate information on your adventure. Then, find or create data for a linear relation that has to do with your adventure. Use integers only. Refer to the Math Links in this chapter for ideas.

a) Write one or two paragraphs giving information on your adventure.

b) Arrange the data for your linear relation in a table of values.

c) Graph the ordered pairs listed in your table values.

d) Is it reasonable to have points between the ones on your graph? Explain why or why not.