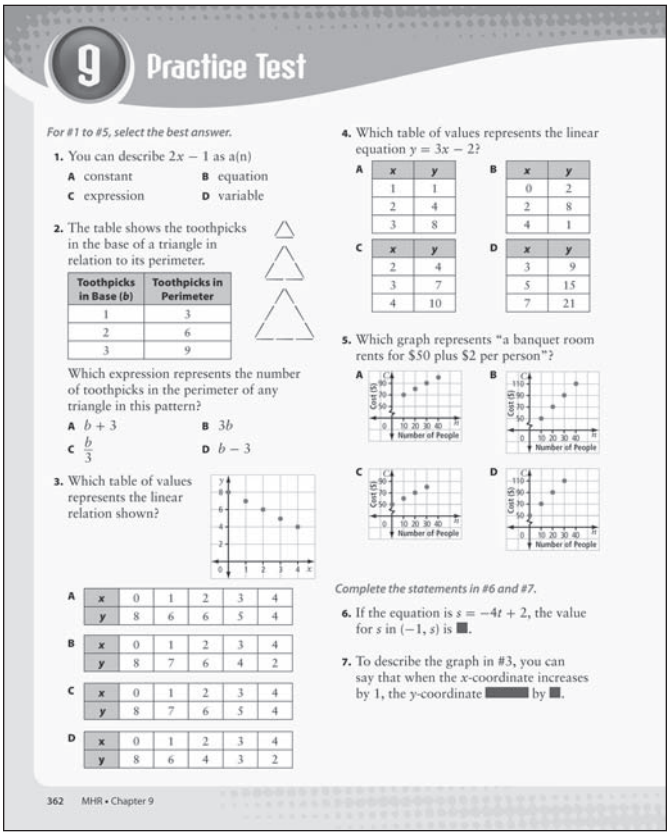
9 Practice Test



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"?

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 ■.

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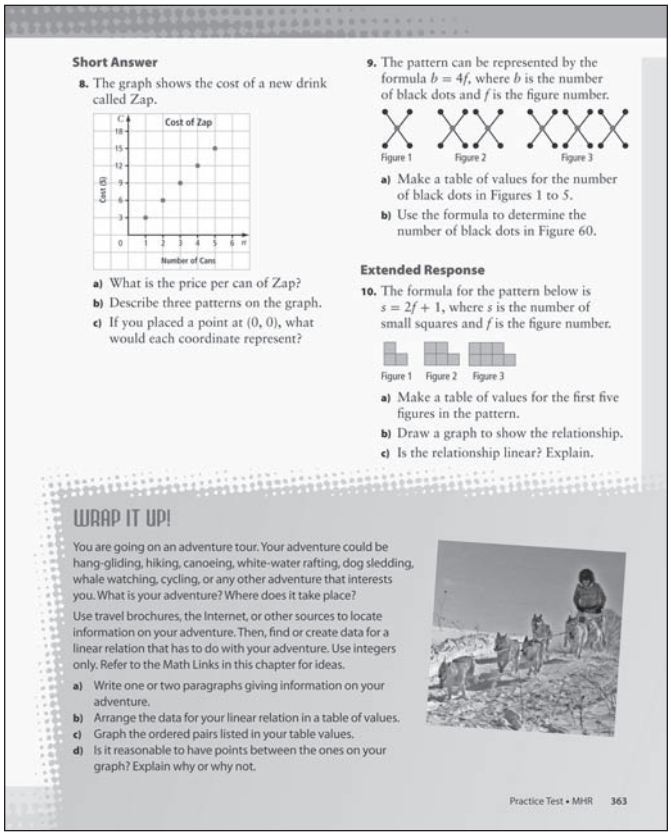

Short Answer

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

Cost of 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.

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***MathLinks 8*, pages 362–363**

Suggested Timing
40–50 minutes

Materials
- grid paper
- ruler

Blackline Masters
Master 8 Centimetre Grid Paper
Master 9 0.5 Centimetre Grid Paper
BLM 9–10 Chapter 9 Test

Planning Notes

Have students start the practice test by writing the question numbers in their notebooks. Have them indicate the questions with which they need a little help, a lot of help, or no help. Have students first complete the questions they know they can do, followed by those they know something about. Finally, have students do their best on the questions that they are struggling with.

This practice test can be assigned as an in-class or take-home assignment. Provide students with the number of questions they can comfortably do in one class. These are the minimum questions that will meet the related curriculum outcomes: #2, #4, #6, #8–#10. This practice test is not long and it should take most students less than one class to complete the entire test.

Provide students with **Master 8 Centimetre Grid Paper** or **Master 9 0.5 Centimetre Grid Paper** to draw the graph in #10.

Study Guide

Question(s)	Section(s)	Refer to	The student can …
1	9.2	Explore the Math	✓ describe the relationship between the variables of a graph
2, 4	9.3	Examples 1, 2	✓ create a table of values by substituting into a linear equation
3	9.1	Examples 1, 2	✓ create a table of values using the points on a graph
5	9.3	Example 1	✓ construct a graph from a linear equation using integers
6	9.3	Example 2	✓ determine the missing value in an ordered pair for a given equation
7, 8	9.1	Examples 1, 2	✓ describe patterns on the graph of a linear equation
8	9.1 9.2	Example 1 Examples 1, 2	✓ determine the missing value in an ordered pair for a given equation ✓ describe the relationship between the variables of a graph
9, 10	9.3	Example 1	✓ create a table of values by substituting into a linear equation
10	9.2 9.3	Example 2 Examples 1, 2	✓ decide if a table of values represents a linear relation ✓ graph points from a table of values ✓ construct a graph from a linear equation using integers

Answers

Chapter 9 Practice Test

1. D **2.** B **3.** C **4.** C **5.** D **6.** 6 **7.** decreases; 1

8. a) $3.00

b) Answers may vary. Example: The points appear to lie in a straight line. The values for both variables in the table have a constant difference. For every additional can, the cost increases by $3.00.

c) The first coordinate represents zero cans. The second coordinate represents a cost of $0.

9. a)

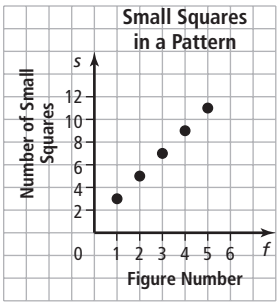
Figure Number	Number of Black Dots
1	4
2	8
3	12
4	16
5	20

b) 240 black dots

10. a)

Figure Number	Number of Small Squares
1	3
2	5
3	7
4	9
5	11

b)



c) Yes. The relationship is linear. Answers may vary. Example: The points on the graph appear to lie along a straight line. In the table of values, consecutive values of f always increase by 1, and consecutive values of s always increase by 2.

Assessment	Supporting Learning
Assessment *as* Learning	
Chapter 9 Self-Assessment Have students review their earlier responses in the What I Need to Work On section of their chapter Foldable.	• Have students use their responses on the practice test and work they completed earlier in the chapter to identify areas in which they may need to reinforce their understanding of skills or concepts. Before the chapter test, coach them in the areas in which they are having difficulties.
Assessment *of* Learning	
Chapter 9 Test After students complete the practice test, you may wish to use **BLM 9–10 Chapter 9 Test** as a summative assessment.	• Consider allowing students to use their chapter Foldable. • Consider using the Math Games on page 364 or the Challenge in Real Life on page 365 to assess the knowledge and skills of students who have difficulty with tests.