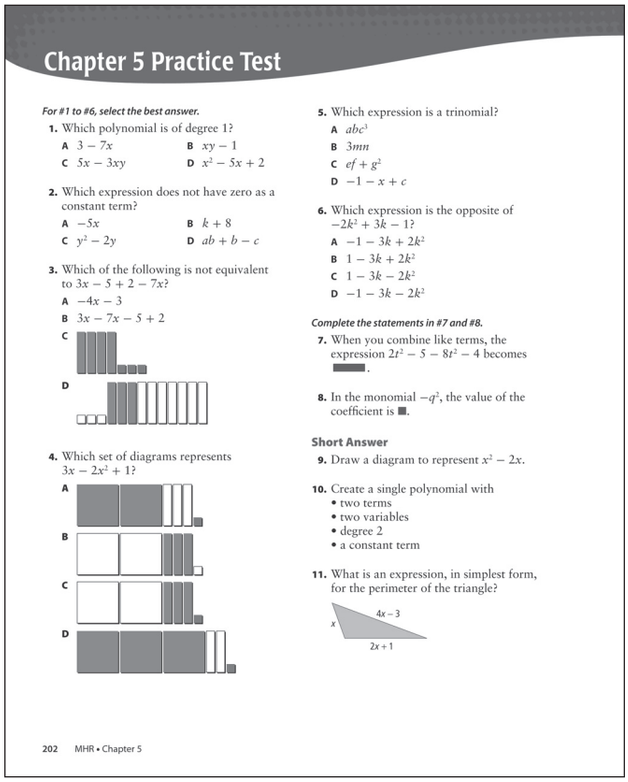
Practice Test 5



Chapter 5 Practice Test

For #1 to #6, select the best answer.

1. Which polynomial is of degree 1?

A $3 - 7x$ **B** $xy - 1$

C $5x - 3xy$ **D** $x^2 - 5x + 2$

2. Which expression does not have zero as a constant term?

A $-5x$ **B** $k + 8$

C $y^2 - 2y$ **D** $ab + b - c$

3. Which of the following is not equivalent to $3x - 5 + 2 - 7x$?

A $-4x - 3$

B $3x - 7x - 5 + 2$

C

D

4. Which set of diagrams represents $3x - 2x^2 + 1$?

A

B

C

D

5. Which expression is a trinomial?

A abc^3

B $3mn$

C $ef + g^2$

D $-1 - x + c$

6. Which expression is the opposite of $-2k^2 + 3k - 1$?

A $-1 - 3k + 2k^2$

B $1 - 3k + 2k^2$

C $1 - 3k - 2k^2$

D $-1 - 3k - 2k^2$

Complete the statements in #7 and #8.

7. When you combine like terms, the expression $2t^2 - 5 - 8t^2 - 4$ becomes ■.

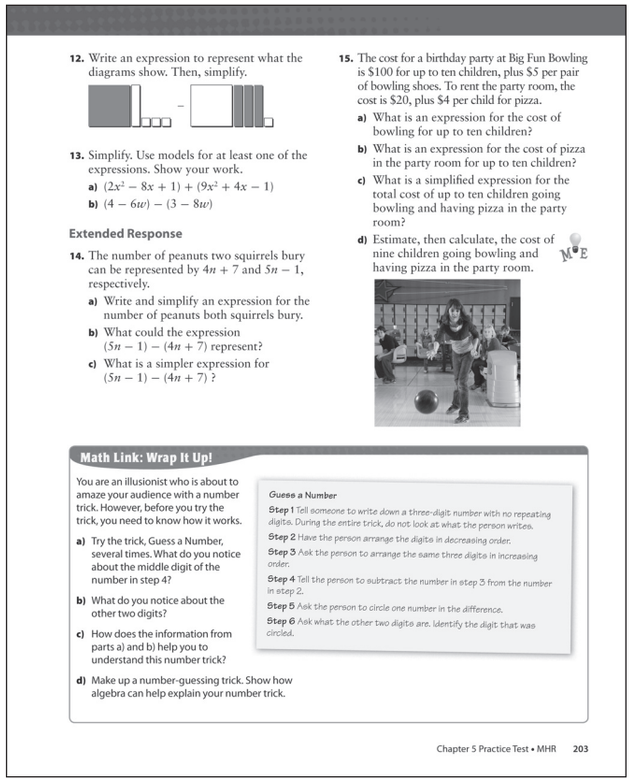
8. In the monomial $-q^2$, the value of the coefficient is ■.

Short Answer

9. Draw a diagram to represent $x^2 - 2x$.

10. Create a single polynomial with
- two terms
- two variables
- degree 2
- a constant term

11. What is an expression, in simplest form, for the perimeter of the triangle?



12. Write an expression to represent what the diagrams show. Then, simplify.

13. Simplify. Use models for at least one of the expressions. Show your work.

a) $(2x^2 - 8x + 1) + (9x^2 + 4x - 1)$

b) $(4 - 6w) - (3 - 8w)$

Extended Response

14. The number of peanuts two squirrels bury can be represented by $4n + 7$ and $5n - 1$, respectively.

a) Write and simplify an expression for the number of peanuts both squirrels bury.

b) What could the expression $(5n - 1) - (4n + 7)$ represent?

c) What is a simpler expression for $(5n - 1) - (4n + 7)$?

15. The cost for a birthday party at Big Fun Bowling is $100 for up to ten children, plus $5 per pair of bowling shoes. To rent the party room, the cost is $20, plus $4 per child for pizza.

a) What is an expression for the cost of bowling for up to ten children?

b) What is an expression for the cost of pizza in the party room for up to ten children?

c) What is a simplified expression for the total cost of up to ten children going bowling and having pizza in the party room?

d) Estimate, then calculate, the cost of nine children going bowling and having pizza in the party room.

Math Link: Wrap It Up!

You are an illusionist who is about to amaze your audience with a number trick. However, before you try the trick, you need to know how it works.

a) Try the trick, Guess a Number, several times. What do you notice about the middle digit of the number in step 4?

b) What do you notice about the other two digits?

c) How does the information from parts a) and b) help you to understand this number trick?

d) Make up a number-guessing trick. Show how algebra can help explain your number trick.

Guess a Number

Step 1 Tell someone to write down a three-digit number with no repeating digits. During the entire trick, do not look at what the person writes.

Step 2 Have the person arrange the digits in decreasing order.

Step 3 Ask the person to arrange the same three digits in increasing order.

Step 4 Tell the person to subtract the number in step 3 from the number in step 2.

Step 5 Ask the person to circle one number in the difference.

Step 6 Ask what the other two digits are. Identify the digit that was circled.

***MathLinks 9*, pages 202–203**

Suggested Timing

40–50 minutes

Materials

- concrete materials, such as algebra tiles

Blackline Masters

Master 6 Square Dot Paper
Master 7 Isometric Dot Paper
Master 8 Centimetre Grid Paper
Master 9 0.5 Centimetre Grid Paper
Master 11 Algebra Tiles (Positive Tiles)
Master 12 Algebra Tiles (Negative Tiles)
BLM 5–11 Chapter 5 Test

Planning Notes

Suggest to students that they start the practice test by writing the question numbers in their notebook. Have them indicate which questions they need a little help with, a lot of help with, or no help with. Have students first complete the questions they know they can do. Then, have them complete the questions 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: #1, 2, 4–9, and 11–14.

You may want to consider rewording #15 to reflect the activities and reduced costs of having a party at home.

Study Guide

Question(s)	Section(s)	Refer to	The student can …
1, 2, 5, 8	5.1	Examples 1, 2	✓ use mathematical terminology to describe polynomials
3, 4, 9	5.1	Example 3	✓ create a model for a given polynomial expression
3, 7	5.2	Example 3	✓ combine like terms in algebraic expressions
6	5.3	Example 2	✓ subtract polynomial expressions
8	5.2	Example 1	✓ use mathematical terminology to describe polynomials
11, 13, 14, 15	5.3	Example 1	✓ add polynomial expressions
11, 14, 15	5.3	Example 1	✓ solve problems using the addition and subtraction of polynomials
12, 13, 14	5.3	Example 3	✓ subtract polynomial expressions

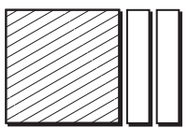
Answers

Chapter 5 Practice Test

1. A **2.** B **3.** C **4.** C **5.** D **6.** B **7.** $-6t^2 - 9$

8. -1

9.



10. Example: $6ab - 11$

11. $7x - 2$

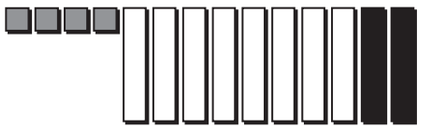
12. $(x^2 - x - 3) - (-x^2 + 3x - 1) = 2x^2 - 4x - 2$

13. a) $(2x^2 + 9x^2) + (-8x + 4x) + (1 - 1) = 11x^2 - 4x$

b) Using models:

$4 - 6w$

Remove three unit tiles and eight negative w-tiles. There are not enough negative w-tiles, so two zero models must be added.



After removing the eight negative w-tiles, $1 + 2w$ remain.

14. a) $(4n + 7) + (5n - 1) = 9n + 6$

b) Example: It represents the difference in the number of peanuts each squirrel buried.

c) $n - 8$

15. a) $100 + 5n$, where n represents the number of children

b) $20 + 4n$

c) $120 + 9n$

d) \$201

Assessment	Supporting Learning
Assessment *as* Learning	
Chapter 5 Self-Assessment Have students review their earlier responses in the What I Need to Work On section of their 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 5 Test After students complete the practice test, you may wish to use **BLM 5–11 Chapter 5 Test** as a summative assessment.	• Consider allowing students to use their Foldable. • You may wish to provide students with **Master 6 Square Dot Paper, Master 7 Isometric Dot Paper**, **Master 8 Centimetre Grid Paper,** or **Master 9 0.5 Centimetre Grid Paper** for drawing their diagrams in #9. • Encourage students to model #13 using actual algebra tiles. If algebra tiles are not available, provide students with **Master 11 Algebra Tiles (Positive Tiles)** and **Master 12 Algebra Tiles (Negative Tiles)**. Ensure that all students understand the relationship between the algebra-tile model and the symbolic approach. • Since the Wrap It Up! and Challenges provide additional reinforcement of chapter content, you may wish to have students complete these activities before doing the Chapter 5 Practice Test and **BLM 5–11 Chapter 5 Test**. • Consider using one of the Challenges on pages 204–205 to assess the knowledge and skills of students who have difficulty with tests.