Chapter 5 Practice Test

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

1. Which polynomial is of degree 1?

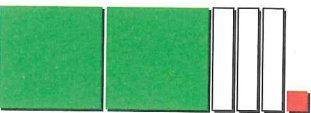- **A** $3 - 7x$
- **B** $xy - 1$
- **C** $5x - 3xy$
- **D** $x^2 - 5x + 2$

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?
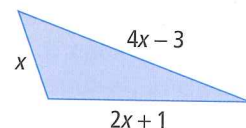
12. Write an expression to represent what the diagrams show. Then, simplify.
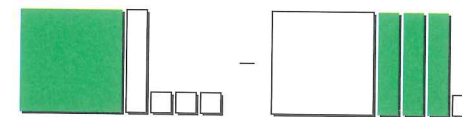
**13.** Simplify. Use models for at least one of the expressions. Show your work.

- **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.
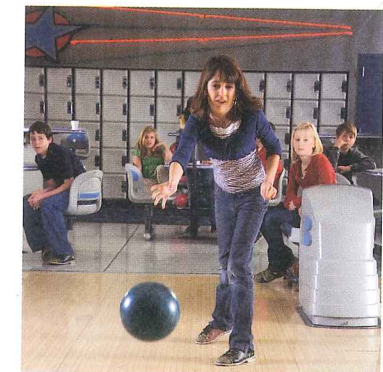
Math Link: Wrap It Up!

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.