5.1 The Language of Mathematics

***MathLinks 9,* pages 174–182**

Key Ideas Review

Choose from the following terms to complete the statements in #1 to 3.

binomial	exponents	highest	monomial	polynomial
symbols	trinomial	variables		

1. Algebra uses _____, often letters, to represent unknown numbers

   or quantities. These unknown values are called _____.

2. A _____ is made up of terms. Some of these expressions have
   special names, depending on the number of terms they have.

   • A _____ has one term.

   • A _____ has two terms.

   • A _____ has three terms.

3. Each algebraic term has a degree, which you can find by adding the

   _____ of the variables in the term. A polynomial has the

   same degree as its _____–degree term.

Check Your Understanding

4. For each expression, identify the number of terms and state whether it is a monomial, binomial, trinomial, or polynomial.

   a) $2x - 5$

   b) 10

   c) $3z^2 - 6z + 7$

   d) $b^2 - ab - 4d + e^2$

5. For each expression, state the number of terms and the expression's degree.

   a) $ef + gh$

   b) $g^2 - 3g$

   c) 10

   d) $3s^2t - 2$

6. Refer to the following polynomials to answer the questions below.

$4c^2 - 3c + 2$ $4ab$

$2f - 4$ -12

$5p^2 - r$ $g + h + j$

Which of the above polynomials

a) are trinomials?

b) have a degree of 2?

c) have a degree of 0?

d) are monomials?

e) have a coefficient of 4?

7. Write the expression represented by each set of algebra tiles. Shaded tiles are positive and white tiles are negative.

a)

b)

c)

8. Sketch a model that represents the polynomial.

a) $x^2 + 3x - 2$

b) $-x^2 - 2x + 1$

9. Write an algebraic expression for each of the following:

a) the sum of 7 and x^2

b) the difference of $3x$ and 9

c) the product of x and 4

10. Use the given variables to write each statement as an algebraic expression.

a) If n is a number, the product of the number and 5

b) If w is the width of a rectangle and its length is 5 cm more than its width, the area of rectangle

c) If x is the number of kilometres, the cost of renting a car, in dollars, if the charge is $40 plus $0.80 per kilometre