**1-1 Study Guide and Intervention**

***Variables and Expressions***

**Write Verbal Expressions** An **algebraic expression** consists of one or more numbers and variables along with one or more arithmetic operations. In algebra, **variables** are symbols used to represent unspecified numbers or values. Any letter may be used as a variable.

**Example: Write a verbal expression for each algebraic expression.**

**a. 6**$n^{2}$

 the product of 6 and *n* squared

**b.** $n^{3}$ **– 12*m***

the difference of *n* cubed and twelve times *m*

**Exercises**

**Write a verbal expression for each algebraic expression.**

 **1.** *w* – 1 **2.** $\frac{1}{3}a^{3}$

 **3.** 81 + 2*x* **4.** 12*d*

 **5.** $8^{4}$ **6.** $6^{2}$

 **7.** 2$n^{2}$ + 4 **8.** $a^{3}.b^{3}$

 **9.** 2$x^{3}$ **–** 3 **10.** $\frac{6k^{3}}{5}$

 **11.** $\frac{1}{4}b^{2}$ **12.** 7$n^{5}$

 **13.** 3*x* + 4 **14.** $\frac{2}{3}k^{5}$

 **15.** 3$b^{2}$ + 2$a^{3}$ **16.** 4($n^{2}$ + 1)

**1-1 Study Guide and Intervention** *(continued)*

***Variables and Expressions***

**Write Algrebraic Expressions** Translating verbal expressions into algebraic expressions is an important algebraic skill.

**Example: Write an algebraic expression for each verbal expression.**

**a. four more than a number *n***

 The words *more than* imply addition.

 four more than a number *n*

4 + *n*

 The algebraic expression is 4 + *n*.

**b. the difference of a number squared and 8**

 The expression *difference of* implies subtraction.

 the difference of a number squared and 8

 $n^{2}$ – 8

 The algebraic expression is $n^{2}$ – 8.

**Exercises**

**Write an algebraic expression for each verbal expression.**

 **1.** a number decreased by 8

 **2.** a number divided by 8

 **3.** a number squared

 **4.** four times a number

 **5.** a number divided by 6

 **6.** a number multiplied by 37

 **7.** the sum of 9 and a number

 **8.** 3 less than 5 times a number

 **9.** twice the sum of 15 and a number

**10.** one-half the square of *b*

**11.** 7 more than the product of 6 and a number

**12.** 30 increased by 3 times the square of a number