

**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.**  $6n^2$

the product of 6 and  $n$  squared

**b.**  $n^3 - 12m$

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.  $81 + 2x$

4.  $12d$

5.  $8^4$

6.  $6^2$

7.  $2n^2 + 4$

8.  $a^3 - b^3$

9.  $2x^3 - 3$

10.  $\frac{6k^3}{5}$

11.  $\frac{1}{4}b^2$

12.  $7n^5$

13.  $3x + 4$

14.  $\frac{2}{3}k^5$

15.  $3b^2 + 2a^3$

16.  $4(n^2 + 1)$

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

**Write Algebraic 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