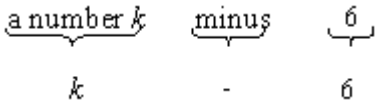
Lesson 1-1

Example 1 Write Algebraic Expressions

Write an algebraic expression for each verbal expression.

a. a number *k* minus six

The word *minus* suggests subtraction.



Thus, the algebraic expression is $k - 6$.

b. the sum of two times a number *b* and four

Sum implies addition, and *times* implies multiplication. So the expression can be written as $2b+4$.

c. one eighth of a number *m* plus five

The word *of* implies multiplication, and *plus* implies addition. So the expression can be written as $\frac{1}{8}m+5$.

Example 2 Write Algebraic Expressions with Powers

Write each expression algebraically.

a. the sum of *n* squared and four

$n^2 + 4$

b. the quotient of nine and *x* cubed

$\frac{9}{x^3}$

Example 3 Evaluate Powers

Evaluate each expression.

a. 3^4

$3^4 = 3 \cdot 3 \cdot 3 \cdot 3$ Use 3 as a factor 4 times.

$= 81$ Multiply.

b. 5^3

$5^3 = 5 \cdot 5 \cdot 5$ Use 5 as a factor 3 times.

$= 125$ Multiply.

Example 4 Write Verbal Expressions

Write a verbal expression for each algebraic expression.

a. $j^5 - 7$

the difference of *j* to the fifth power and 7

b. $6r^2 + st$

the sum of 6 times *r* squared and *s* times *t*

c. $3y^3$

the product of 3 and *y* cubed