

Warm-Up:

Multiply without a calculator.

1) 17×8

$$\begin{array}{r} 17 \\ \times 8 \\ \hline 136 \end{array}$$

2) 23×23

$$\begin{array}{r} 23 \\ \times 23 \\ \hline 69 \\ 460 \\ \hline 529 \end{array}$$

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Section 1-1: Variables and Expressions

In Algebra, letters are used in place of numbers that are unknown. These letters are called variables.

Whenever a number and variable are together with an arithmetic operation, it is an algebraic expression.

Which of these are algebraic expressions?

$3x$

$y - 6$

$|w$

When two quantities are being multiplied together, the result is a product. The quantities that are being multiplied are the factors.

$a(b)$

Any expression with an exponent is a power.

The large number is the base, and the superscript is the exponent.

$$y^a$$

← exponent

← base

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Examples:

Write an algebraic expression for each verbal expression.

1) 5 less than a number

$$11 - 5$$
$$y - 5$$

2) 9 plus the product of 2 and the number d

$$9 + 2d$$
$$9 + 2(d)$$
$$9 + 2 \cdot d$$
$$~~9 + 2 \times d~~$$

3) two-thirds of the original volume v

$$\frac{2}{3} \cdot v$$

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Examples:

Write an algebraic expression for each verbal expression.

4) the product of one-half and a to the seventh power

$$\frac{1}{2} \cdot a^7$$

5) x more than twelve

$$12 + x$$

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Finding the value of an expression is to **evaluate**.

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Examples:

Evaluate.

$$6) 3^4 = 3 \cdot 3 \cdot 3 \cdot 3$$

\vee \vee
 9 9

 81

$$7) 7^3 = 7 \cdot 7 \cdot 7$$

 49 · 7

 343

$$\begin{array}{r} 6 \\ 49 \\ 7 \\ \hline 343 \end{array}$$

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Homework: pg. 8-9 #14-22 even, 23-28 all,
34, 36, 42, 46, 48

Book Covers by Sept. 2nd

Section 1-1 Vocab

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