

Lesson 1

Variables and Algebraic Expressions

Lesson

In algebra, we use letters called variables to represent unknown numbers. An algebraic expression is a combination of numbers, variables, and operations (like +, -, *, /). For example, $3x + 5$ means "three times some number, plus five."

To evaluate an expression, substitute the given value for the variable and compute.

Example: Evaluate $2x + 7$ when $x = 4$

Step 1: Replace x with 4

$$2(4) + 7$$

Step 2: Multiply first

$$8 + 7$$

Step 3: Add

$$= 15$$

Practice Problems

1) Evaluate $3x + 2$ when $x = 5$.

2) Evaluate $4y - 9$ when $y = 6$.

3) Evaluate $x/2 + 10$ when $x = 8$.

4) Evaluate $5a - 2a + 7$ when $a = 3$.

5) Evaluate $2(n + 4)$ when $n = 6$.

6) Write an algebraic expression: "seven more than twice a number."

7) Write an algebraic expression: "a number decreased by four, then tripled."
