

# Algebra Readiness Guide

## Key Definitions

**Variable:**

A letter or symbol that represents an unknown number (e.g.,  $x$ ,  $y$ ,  $a$ ).

**Equation:**

A mathematical statement showing two expressions are equal (e.g.,  $2x + 3 = 11$ ).

**Coefficient:**

The number multiplying a variable (e.g., in  $5x$ , 5 is the coefficient).

**Constant:**

A fixed number that doesn't change (e.g., in  $3x + 7$ , 7 is the constant).

## Examples

**Example 1: Solving for  $x$**

Problem:  $x + 5 = 12$

Solution: Subtract 5 from both sides

$$x + 5 - 5 = 12 - 5$$

$$x = 7$$

**Example 2: Using variables**

Problem: If a number is multiplied by 3 and then 4 is added, the result is 19.

Solution: Let  $x$  be the number

$$3x + 4 = 19$$

$$3x = 15$$

$$x = 5$$

## Practice Tips

1. Master basic arithmetic first (addition, subtraction, multiplication, division).
2. Practice with integers (positive and negative numbers).
3. Learn order of operations (PEMDAS).
4. Work with fractions and decimals confidently.
5. Practice solving simple equations before moving to complex ones.
6. Use workbooks that provide step-by-step examples.

7. Review mistakes to understand where you went wrong.
8. Build confidence with easier problems before tackling challenges.

For algebra workbook recommendations, visit: [math-workbooks-affiliate.com](http://math-workbooks-affiliate.com)