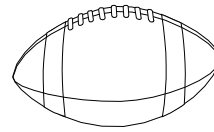


# The Game of Algebra



Rule #1: Substitution → If  $a = b$ , then \_\_\_\_\_.

Equipment: Algebraic term = the \_\_\_\_\_ of a \_\_\_\_\_ and \_\_\_\_\_.

Coefficient = The \_\_\_\_\_ part of an algebraic term.

Rule #2: Distributive Law →  $a(b + c) =$  \_\_\_\_\_, and  $a(b - c) =$  \_\_\_\_\_.

Rule #3: Balance Rule → \_\_\_\_\_

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## 5 Steps to Solve Basic Equations

### (1) Simplify both sides:

- Use the Distributive Law.
- Combine like terms.

### (2) Collect the variables:

- Use the Balance Rule.
- Subtract the term with the smallest coefficient.

Subtracting a negative term is the same as adding its opposite (adding a positive term).

### (3) Collect the constants:

- Use the Balance Rule.
- Subtract the constant on the same side as the variable.

Subtracting a negative number is the same as adding its opposite (adding a positive).

### (4) Divide:

- Use the Balance Rule.
- Divide by the coefficient of the variable.

To divide by a fraction, multiply by its reciprocal (the flipped-over fraction).

### (5) If the variable is squared:

- Use the Balance Rule.
- Take the square root of both sides.

Don't forget the negative root.

## Is your answer correct? Test it!

Substitute your answer for the variable in the original equation. Does it make the equation true?