

Lesson 5

The Distributive Property and Combining Like Terms

Lesson

The Distributive Property lets us remove parentheses:

$$a(b + c) = ab + ac$$

Like terms are terms with the same variable raised to the same power. We simplify expressions by combining like terms:

$$3x + 5x = 8x \quad (\text{add the coefficients})$$

$$7y - 2y = 5y$$

Example: Simplify $3(2x + 4) - 5x$

Step 1: Distribute the 3

$$6x + 12 - 5x$$

Step 2: Combine like terms (6x and -5x)

$$x + 12$$

Practice Problems

1) Simplify: $4(x + 3) + 2x$

2) Simplify: $5(2y - 1) + 3y$

3) Simplify: $2(3a + 4) - (a + 5)$

4) Simplify: $-3(x - 6) + 2x$

5) Solve: $2(x + 3) = 16$

6) Solve: $4(2n - 1) + 3 = 19$

7) Solve: $3(y + 5) - 2y = 20$
