

Distributive Property Worksheets

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Part 1: Building a Foundation

What is the basic formula for the distributive property?

Hint: Think about how multiplication distributes over addition.

- A) $a + b = b + a$
- B) $a(b + c) = ab + ac$
- C) $a(b - c) = ab - bc$
- D) $a(b + c) = a + b + c$

What is the basic formula for the distributive property?

Hint: Choose the formula that correctly represents the distributive property.

- A) $a + b = b + a$
- B) $a(b + c) = ab + ac$
- C) $a(b - c) = ab - bc$
- D) $a(b + c) = a + b + c$

Which of the following statements correctly apply the distributive property?

Hint: Look for expressions that show multiplication distributing over addition or subtraction.

- A) $5(2 + 3) = 5 \cdot 2 + 5 \cdot 3$
- B) $4(x - 1) = 4x - 4$
- C) $3(2 + 4) = 3 \cdot 2 + 4$
- D) $6(a + b) = 6a + 6b$

Which of the following statements correctly apply the distributive property?

Hint: Select all statements that correctly use the distributive property.

- A) $5(2 + 3) = 5 \cdot 2 + 5 \cdot 3$

- B) $4(x - 1) = 4x - 4$
- C) $3(2 + 4) = 3 \cdot 2 + 4$
- D) $6(a + b) = 6a + 6b$

Explain in your own words why the distributive property is useful in algebra.

Hint: Consider how it helps in simplifying expressions.

Explain in your own words why the distributive property is useful in algebra.

Hint: Consider how this property helps in simplifying expressions.

List two common mistakes students make when using the distributive property.

Hint: Think about errors in applying the property or in arithmetic.

1. Mistake 1

2. Mistake 2

Part 2: Understanding and Application

Which expression represents the use of the distributive property to simplify $2(x + 3)$?

Hint: Think about how to apply multiplication to both terms inside the parentheses.

- A) $2x + 3$
- B) $2x + 6$
- C) $2 + 3x$
- D) $2x + 3x$

Which expression represents the use of the distributive property to simplify $2(x + 3)$?

Hint: Look for the expression that correctly applies the distributive property.

- A) $2x + 3$
- B) $2x + 6$
- C) $2 + 3x$
- D) $2x + 3x$

Identify the correct applications of the distributive property in the following expressions:

Hint: Select all expressions that correctly apply the distributive property.

- A) $7(y + 2) = 7y + 14$
- B) $8(a - 3) = 8a - 24$
- C) $9(4 + z) = 36 + 9z$
- D) $5(3 + 2) = 5 \cdot 3 + 5 \cdot 2$

Identify the correct applications of the distributive property in the following expressions:

Hint: Look for expressions that correctly apply the distributive property.

- A) $7(y + 2) = 7y + 14$
- B) $8(a - 3) = 8a - 24$
- C) $9(4 + z) = 36 + 9z$
- D) $5(3 + 2) = 5 \cdot 3 + 5 \cdot 2$

Solve the equation using the distributive property: $5(x + 2) = 30$. Show your work.

Hint: Use the distributive property to expand and solve for x .

Solve the equation using the distributive property: $5(x + 2) = 30$. Show your work.

Hint: Remember to distribute 5 to both terms inside the parentheses.

Apply the distributive property to simplify the following expressions:

Hint: Select all expressions that correctly apply the distributive property.

- A) $2(3 + y) = 6 + 2y$
- B) $4(5 - x) = 20 - 4x$
- C) $6(2 + 3) = 12 + 18$
- D) $7(z + 1) = 7z + 7$

Apply the distributive property to simplify the following expressions:

Hint: Look for the correct simplifications based on distribution.

- A) $2(3 + y) = 6 + 2y$
- B) $4(5 - x) = 20 - 4x$
- C) $6(2 + 3) = 12 + 18$
- D) $7(z + 1) = 7z + 7$

Part 3: Analysis, Evaluation, and Creation

Break down the process of using the distributive property to simplify the expression $4(2x + 3y - 5)$.

Hint: Explain each step in the simplification process.

Break down the process of using the distributive property to simplify the expression $4(2x + 3y - 5)$.

Hint: Consider how to distribute 4 to each term inside the parentheses.

Evaluate the following expressions and determine which are correctly simplified:

Hint: Look for the expressions that follow the distributive property correctly.

- A) $10(1 + x) = 10 + 10x$
- B) $5(3 - y) = 15 - 5y$
- C) $2(4 + z) = 8 + 2z$
- D) $6(a + 2) = 6a + 12$

Evaluate the following expressions and determine which are correctly simplified:

Hint: Select all expressions that are simplified correctly.

- A) $10(1 + x) = 10 + 10x$
- B) $5(3 - y) = 15 - 5y$
- C) $2(4 + z) = 8 + 2z$
- D) $6(a + 2) = 6a + 12$

Create a complex expression involving the distributive property and demonstrate how to simplify it step-by-step.

Hint: Provide a detailed explanation of your simplification process.

Create a complex expression involving the distributive property and demonstrate how to simplify it step-by-step.

Hint: Think of a multi-term expression that requires distribution.

Propose two different real-world problems where the distributive property could be applied to find a solution. Describe each scenario briefly.

Hint: Think of situations involving grouping or combining quantities.

1. Problem 1

2. Problem 2