Distributive Property Worksheets Answer Key PDF

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Part 1: Building a Foundation

What is the basic formula for the distributative property?

undefined. A) a + b = b + a

undefined. B) a(b + c) = ab + ac ✓

undefined. C) a(b - c) = ab - bc

undefined. D) a(b + c) = a + b + c

The correct formula for the distributative property is a(b + c) = ab + ac.

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The correct formula for the distributative property is a(b + c) = ab + ac.

Which of the following statements correctly apply the distributative property?

undefined. A) 5(2 + 3) = 5*2 + 5*3 ✓

undefined. B) 4(x - 1) = 4x - 4 ✓

undefined. C) 3(2 + 4) = 3*2 + 4

undefined. D) 6(a + b) = 6a + 6 b ✓

The correct statements are those that properly apply the distributative property.

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undefined. B) 4(x - 1) = 4x - 4 ✓

undefined. C) 3(2 + 4) = 3*2 + 4

undefined. D) 6(a + b) = 6a + 6 b ✓

Look for statements that correctly apply the distributative property.

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

The distributative property is useful because it allows for the simplification of expressions and solving equations more easily.

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The distributative property is useful because it allows for the simplification of expressions and solving equations more easily.

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

1. Mistake 1

Forgetting to distribute to all terms.

2. Mistake 2

Incorrect arithmetic when simplifying.

Common mistakes include forgetting to distribute to all terms and incorrect arithmetic.

Part 2: Understanding and Application

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

undefined. A) 2x + 3

undefined. B) 2x + 6 ✓

undefined. C) 2 + 3x

undefined. D) 2x + 3x

The correct expression is 2x + 6.

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undefined. B) 2x + 6 ✓
undefined. C) 2 + 3x
undefined. D) 2x + 3x

The correct expression is 2x + 6.

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

undefined. A) 7(y + 2) = 7y + 14 ✓
undefined. B) 8(a - 3) = 8a - 24 ✓
undefined. C) 9(4 + z) = 36 + 9z
undefined. D) 5(3 + 2) = 5*3 + 5*2 ✓

Look for expressions that correctly apply the distributative property.

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undefined. A) 7(y + 2) = 7y + 14 ✓
undefined. B) 8(a - 3) = 8a - 24 ✓
undefined. C) 9(4 + z) = 36 + 9z
undefined. D) 5(3 + 2) = 5*3 + 5*2 ✓

The correct applications will show proper distribution of multiplication over addition or subtraction.

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

To solve, distribute 5 to both x and 2, then isolate x.

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

To solve, distribute to get 5x + 10 = 30, then isolate x.

Apply the distributative property to simplify the following expressions:

undefined. A) 2(3 + y) = 6 + 2y ✓

undefined. B) 4(5 - x) = 20 - 4x ✓
undefined. C) 6(2 + 3) = 12 + 18
undefined. D) 7(z + 1) = 7z + 7 ✓

Look for expressions that correctly apply the distributative property.

Apply the distributative property to simplify the following expressions:

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

The correct simplifications will show proper application of the distributative property.

Part 3: Analysis, Evaluation, and Creation

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

Break down the expression by distributing 4 to each term inside the parentheses.

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

The process involves distributing 4 to each term: 4*2x + 4*3y - 4*5.

Evaluate the following expressions and determine which are correctly simplified:

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

The correctly simplified expressions will show proper application of the distributative property.

Evaluate the following expressions and determine which are correctly simplified:

undefined. A) 10(1 + x) = 10 + 10x ✓

undefined. B) 5(3 - y) = 15 - 5y ✓

undefined. C) 2(4 + z) = 8 + 2z ✓

undefined. D) 6(a + 2) = 6a + 12 ✓

Look for expressions that correctly apply the distributative property.

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

Create an expression and show each step of the simplification process.

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

A complex expression could be something like 3(2x + 4) + 5(3 - x). Simplifying involves distributing and combining like terms.

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

1. Problem 1

Calculating the total cost of multiple items with different prices.

2. Problem 2

Distributing supplies among different groups.

Real-world problems could involve calculating costs or distributing items among groups.