Name_____ Date_____

Distributive Property

Solving Equations Using The Distributive Property

The distributive property allows us to remove the parentheses by distributing the value outside the parentheses with each term located inside the parentheses. The distributive property is a way to write an expression in expanded form.

Example: $3(6 + 9)$ → $3(6 + 9)$ → $3 \times 6 + 3 \times 9$ → $18 + 27 = 45$

There are two terms inside the parentheses. | Multiply the 3 by each term inside the parentheses. | Rewrite | Solve

Whenever a number is being multiplied by each term inside a set of parentheses it should be recognized as the distributive property. The distributive property is necessary to solve some algebraic equations or to simplify some algebraic expressions.

Example: Solve $5(x - 8) = 10$ a) $5(x - 8) = 10$ b) $5x - 40 = 10$ (+40 +40) c) $\frac{5x}{5} = \frac{50}{5}$ d) $x = 10$

Directions: Find the value of x for each of the following equations.

1) $6(x + 3) = 48$ 2) $4(5 - x) = 8$ 3) $7(x + 2) + 3 = 73$ 4) $8(x - 3) = 96$

5) $9(x + 3) = 27$ 6) $12(x + 20) = 372$ 7) $4(x - 5) = 44$ 8) $3(x - 20) = 15$

9) $5(x + 9) - 4 = 51$ 10) $8(x + 100) - 3 = 837$ 11) $2(x - 5 + 2) = 6$ 12) $20(x + 1) = 200$

13) $12(x - 4) = 144$ 14) $9(x + 9) = 90$ 15) $7(2 + x) = 35$ 16) $8(11 - x) = 16$

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Rewrite

Solve

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Example: Solve $5(x - 8) = 10$ a) $5(x - 8) = 10$ b) $5x - 40 = 10$ (*+40 +40*) c) $\frac{5x}{5} = \frac{50}{5}$ d) $x = 10$

Directions: Find the value of x for each of the following equations.

1) $6(x + 3) = 48$ *x = 5*

2) $4(5 - x) = 8$ *x = 3*

3) $7(x + 2) + 3 = 73$ *x = 8*

4) $8(x - 3) = 96$ *x = 15*

5) $9(x + 3) = 27$ *x = 0*

6) $12(x + 20) = 372$ *x = 11*

7) $4(x - 5) = 44$ *x = 16*

8) $3(x - 20) = 15$ *x = 25*

9) $5(x + 9) - 4 = 51$ *x = 2*

10) $8(x + 100) - 3 = 837$ *x = 5*

11) $2(x - 5 + 2) = 6$ *x = 6*

12) $20(x + 1) = 200$ *x = 9*

13) $12(x - 4) = 144$ *x = 16*

14) $9(x + 9) = 90$ *x = 1*

15) $7(2 + x) = 35$ *x = 3*

16) $8(11 - x) = 16$ *x = 9*