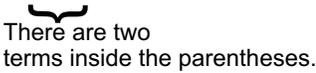
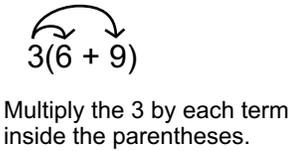


# Distributive Property

## 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: $3(6 + 9)$	$3(6 + 9)$	$3 \times 6 + 3 \times 9$	$18 + 27 = 45$
		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)  $5x - 40 = 10$     c)  $\frac{5x}{5} = \frac{50}{5}$     d)  $x = 10$

+40 +40

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)  $8(11 - x) = 16$

# Solving Multi-Step Equations

## Distributive With Parentheses - Negative Coefficients

Name: \_\_\_\_\_ Date: \_\_\_\_\_



Solve the equations.

(1)  $-64 = 7x + 2(-7x + 3)$

(2)  $3x + 5(-x + 10) = 34$

(3)  $-4x - 4(-5x - 8) = -48$

(4)  $6x + 5(3x - 5) = 101$

(5)  $29 = -7x - 6(-2x - 9)$

(6)  $6x - 2(-4x + 3) = -132$

(7)  $-116 = 6x - 2(-7x + 8)$

(8)  $3x - 6(4x - 12) = -96$

(9)  $12 = -3x - 2(-x - 9)$

(10)  $92 = 7x + 4(-5x - 3)$

# Solving Multi-Step Equations

## Distributive With Parentheses - Negative Coefficients

Name: \_\_\_\_\_ Date: \_\_\_\_\_



Solve the equations.

(1)  $-2x - 2(-3x - 8) = -28$

(2)  $-7x + 3(4x - 5) = 15$

(3)  $-3x + 2(6x - 5) = -82$

(4)  $4x + 3(2x - 4) = 98$

(5)  $-6x + 3(3x + 4) = -9$

(6)  $4x - 2(-3x - 2) = 64$

(7)  $-21 = -3x - 4(x - 7)$

(8)  $-5x + 3(-5x + 9) = -73$

(9)  $3x - 4(3x - 2) = 53$

(10)  $6 = 3x - 6(x - 4)$

# Solving Multi-Step Equations

## Distributive With Parentheses - Negative Coefficients

Name: \_\_\_\_\_ Date: \_\_\_\_\_



Solve the equations.

(1)  $-4x - 2(-7x - 18) = -64$

(2)  $-7x - 5(3x + 14) = 194$

(3)  $5x - 7(-3x + 6) = 88$

(4)  $3x + 2(-4x + 15) = -15$

(5)  $4x - 6(-5x + 3) = 186$

(6)  $-3x - 7(3x - 14) = -22$

(7)  $5x + 6(-2x - 16) = -152$

(8)  $2x + 2(-4x - 4) = -44$

(9)  $4x - 7(x + 9) = -42$

(10)  $-6x + 4(-x - 10) = -90$