

Name \_\_\_\_\_

**SOLVING EQUATIONS—THE DISTRIBUTIVE PROPERTY #3--KEY**

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**Directions:** Solve for  $x$  in each equation below. Begin by using the distributive property to simplify the equation. Then, combine all of your like terms. Finally, use inverse operations to get the variable all by itself.

Examples:  $3(2x + 10) + 4 = 52$  (*distribute 3 to each term*)       $5(2x + 3) - 5 = 40$  (*distribute 5 to each term*)  
 $6x + 30 + 4 = 52$  (*add 30+4*)       $10x + 15 - 5 = 40$  (*subtract 15-5*)  
 $6x + 34 = 52$  (*subtract 34 from both sides*)       $10x + 10 = 40$  (*subtract 10 from both sides*)  
 $6x = 18$  (*divide both sides by 6*)       $10x = 30$  (*divide both sides by 10*)  
 $x = 3$        $x = 3$

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1)  $8(2x - 4) + 8 = 32$

2)  $3(4x + 3) + 4 = 31$

3)  $2(x - 10) + 1 = 60$

4)  $4(3x + 4) + 10 = 68$

$x = \underline{3.5}$

$x = \underline{1.5}$

$x = \underline{39.5}$

$x = \underline{3.5}$

5)  $5(2x - 3) - 5 = 45$

6)  $7(4x - 1) - 2 = 47$

7)  $2(10x - 10) - 2 = 60$

8)  $4(3x - 1) - 5 = 75$

$x = \underline{6.5}$

$x = \underline{2}$

$x = \underline{4.1}$

$x = \underline{7}$

9)  $5(2x - 10) + 2 = 30$

10)  $2(12x + 1) + 2 = 22$

11)  $15(x - 3) + 2 = 62$

12)  $2(20x - 2) - 2 = 36$

$x = \underline{7.8}$

$x = \underline{0.75}$

$x = \underline{7}$

$x = \underline{1.05}$