Name _____

1-3 Reteach to Build Understanding

Solving Equations with Variables on Both Sides

Each of these equations has a different type of solution.

$6x - 12 = 3x - 12$	$6x - 12 = 6x - 12$	$6x - 18 = 6x - 12$
$6x + 3x = 12 - 12$	$6x - 6x = 12 - 12$	$6x - 6x = 18 - 12$
$x = 0$	$0 = 0$	$0 \neq 6$
One solution, $x = 0$.	Infinitely many solutions.	No solution.
Only one value of x makes the equation true.	Any value of x makes the equation true.	No value of x will make the equation true.

1. Simplify each equation so there is one expression on each side of the equation.

a. $2m = 8 - 6m$ $8m = 8$

b. $3x = 9 + 9x$ _____

c. $4 \cdot 3t = 12 - 2t$ _____

d. $4y = 3(3y - 4)$ _____

For each equation in Items 2–4, fill in the blank to form an identity.

2. $-5x + 9 = 9$ ____ **3.** ____ $+ 14n = 14n + 16$ **4.** ____ $- 18 = -5 - k - 13$

For Items 5–7, fill in the blank to form an equation that has no solution.

5. ____ $+ 12 - 3d = 5d + 6$ **6.** ____$(m - 2) = -2(-2m + 6)$ **7.** ____ $+ 2y - 8 = 3(y - 11)$

8. Replace the answer you chose for Item 7 so that $y = 5$.

9. Describe and correct the error Isabel made when solving $26(3 - b) = -13(b - 1)$. Place an X next to the incorrect statement and describe what was actually done.

a. Use the Distributive Property to get $78 - 26b = -13b + 13$.

b. Subtract $13b$ from each side to get $78 - 13b = 13$.

c. Subtract 78 from each side to get $-13b = -65$.

d. Divide each side by -13 to get $b = 5$.