

8-4**Practice**

7AF1.1, 7AF4.1

Solving Equations with Variables on Each Side**Example 1** Solve $3x - 9 = 6x$. Check your solution.

$$3x - 9 = 6x$$

Write the equation.

$$3x - 3x - 9 = 6x - 3x$$

Subtract $3x$ from each side.

$$-9 = 3x$$

Simplify.

$$-3 = x$$

Mentally divide each side by 3.

To check your solution, replace x with -3 in the original equation.**Check** $3x - 9 = 6x$

Write the equation.

$$3(-3) - 9 \stackrel{?}{=} 6(-3)$$

Replace x with -3 .

$$-18 = -18 \checkmark$$

The sentence is true.

The solution is -3 .**Example 2** Solve $4a - 7 = 5 - 2a$.

$$4a - 7 = 5 - 2a$$

Write the equation.

$$4a + 2a - 7 = 5 - 2a + 2a$$

Add $2a$ to each side.

$$6a - 7 = 5$$

Simplify.

$$6a - 7 + 7 = 5 + 7$$

Add 7 to each side.

$$6a = 12$$

Simplify.

$$a = 2$$

Mentally divide each side by 6.

The solution is 2.

Check this solution.

Solve each equation. Check your solution.

1. $9m + 14 = 2m$

2. $13x = 32 + 5x$

3. $8d - 25 = 3d$

4. $t - 27 = 4t$

5. $7p - 5 = 6p + 8$

6. $11z - 5 = -9z + 7$

7. $12 - 5h = h + 6$

8. $4 - 7f = f - 12$

9. $-6y + 17 = 3y - 10$

10. $3x - 32 = -7x + 28$

11. $3.2a - 16 = 4a$

12. $16.8 - v = 6v$