

LESSON
7-1

Equations with the Variable on Both Sides

Practice and Problem Solving: A/B

Use algebra tiles to model and solve each equation.

1. $x + 3 = -x - 5$

2. $1 - 2x = -x - 3$

3. $x - 2 = -3x + 2$

Fill in the boxes to solve each equation.

$$\begin{array}{r}
 4a - 3 = 2a + 7 \\
 -2a \quad -[\quad] \\
 \hline
 2a - 3 = 7 \\
 +[\quad] + 3 \\
 \hline
 2a = [\quad] \\
 \frac{2a}{[\quad]} = \frac{10}{[\quad]} \\
 a = [\quad]
 \end{array}$$

$$\begin{array}{r}
 7x - 1 = 2x + 5 \\
 -[\quad] \quad -2x \\
 \hline
 5x - 1 = [\quad] \\
 +[\quad] + 1 \\
 \hline
 5x = [\quad] \\
 \frac{5x}{[\quad]} = \frac{6}{[\quad]} \\
 x = [\quad]
 \end{array}$$

$$\begin{array}{r}
 -3r + 9 = -4r + 5 \\
 +[\quad] \quad +4r \\
 \hline
 r + 9 = 5 \\
 -[\quad] - 9 \\
 \hline
 r = [\quad]
 \end{array}$$

Solve.

7. $3y + 1 = 4y - 6$

8. $2 + 6x = 1 - x$

9. $5y + 4 = 4y + 5$

Write an equation to represent each relationship. Then solve the equation.

10. Ten less than 3 times a number is the same as the number plus 4.

11. Six times a number plus 4 is the same as the number minus 11.

12. Fifteen more than twice the hours Carla worked last week is the same as three times the hours she worked this week decreased by 15. She worked the same number of hours each week. How many hours did she work each week?
