Solving Two-Step Equations

Practice and Problem Solving: A/B

Solve each equation. Cross out each number in the box that matches a solution.

−18	−8	−6	−4	−3	−2	2	3	4	6	8	18

1. $5x + 8 = 23$

2. $-2p - 4 = 2$

3. $6a - 11 = 13$

4. $4n + 12 = 4$

5. $9g + 2 = 20$

6. $\dfrac{k}{6} + 8 = 5$

7. $\dfrac{s}{3} - 4 = 2$

8. $\dfrac{c}{2} + 5 = 1$

9. $9 + \dfrac{a}{6} = 8$

Solve. Check each answer.

10. $3v - 12 = 15$

11. $8 + 5x = -2$

12. $\dfrac{d}{4} - 9 = -3$

Write an equation to represent the problem. Then solve the equation.

13. Two years of local Internet service costs $685, including the installation fee of $85. What is the monthly fee?

14. The sum of two consecutive numbers is 73. What are the numbers?

LESSON 6-4 Solving Two-Step Equations
Reading Strategies: Analyze Information

An equation such as $-3x + 7 = -5$ is called a *two-step equation* because:

It takes two steps to form *the expression* $-3x + 7$.

It also takes two steps to solve *the equation* $-3x + 7 = -5$.

To form the expression $-3x + 7$ from x: Step 1. Multiply x by -3.
Step 2. Add 7.

To solve the equation $-3x + 7 = -5$:   Step A. Subtract 7 from both sides.
Step B. Divide both sides by -3.

Look at the two pairs of steps. To find Step A and Step B, reverse the order of Step 1 and Step 2 and use inverse operations.

Before you solve each the equation, list each pair of steps.

1. to form $-2x - 3$ from x: _____

   to solve $-2x - 3 = -25$: _____

   The solution to the equation $-2x - 3 = -25$ is: _____

2. to form $\dfrac{x + 1}{3}$ from x: _____

   to solve $\dfrac{x + 1}{3} = -5$: _____

   The solution to the equation $\dfrac{x + 1}{3} = -5$ is: _____

3. to form $5 - 4x$ from x: _____

   to solve $5 - 4x = 17$: _____

   The solution to the equation $5 - 4x = 17$ is: _____

4. to form $\dfrac{1}{3}(x - 7)$ from x: _____

   to solve $\dfrac{1}{3}(x - 7) = 1$: _____

   The solution to the equation $\dfrac{1}{3}(x - 7) = 1$ is: _____