Lesson 2-2: Solve Equations with Variables on Both Sides

1. Sample answer: In order to solve for the variable, you use inverse operations to combine all of the variable terms on one side of the equation and all of the constant terms on the other side of the equation.

2. Sample answer: To get the variable by itself, you need to “undo” each operation using its inverse. The properties of equality allow you to do the same thing to both sides of the equation.

3. Sample answer: Solving for x will tell you how many hours they each need to work in order to earn the same amount.

4. $6,250

5. 105 minutes

6. x = $2\frac{1}{2}$ or $\frac{5}{2}$

7. b = 6

8. - 2x
   2x
   4; 2x
   2

9. 2
   - $13\frac{1}{3}$; 2
   $\frac{2}{3}$
   $\frac{3}{2}$; $\frac{3}{2}$
   - 20

10. $\frac{4}{5}$ hour

11. a. g = 2
    b. Sample answer: Substitute the value for g into the original equation. If the check does not work, it means something is wrong. You have to recheck your work.

12. x = 4

13. 7 months;
    200m-125m+43,425 = 45,000-150m

14. 4 months

15. 2.85 hours or 2 hours, 51 minutes

16. a. B
    b. 20