

**Solve It!**

Write your solution in the white space in your text. Page 110.

**Getting Ready!**

What whole-dollar amount of per-day sales would make it more worthwhile to work at Store B? Justify your reasoning.

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Search has yielded two jobs:

**Store A**  Check to apply  
\$35 per day plus 10% commission on all sales

**Store B**  Check to apply  
\$10 per day plus 18% commission on all sales

You can use the substitution method to solve a system of equations when it is easy to isolate one of the variables. After isolating the variable, substitute for that variable in the other equation. Then solve for the other variable.

**A Practice** Solve each system by substitution. Check your answers.

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1. 
$$\begin{cases} x + 12y = 68 \\ x = 8y - 12 \end{cases}$$

2. 
$$\begin{cases} r + s = -12 \\ 4r - 6s = 12 \end{cases}$$

**Think**

Which variable should you solve for first when solving by substitution?

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**Problem 2** Using Substitution to Solve a Problem

**Got It?** An online music company offers 15 downloads for \$19.75 and 40 downloads for \$43.50. Each price includes the same one-time registration fee. What is the cost of each download and the registration fee?

**Think**

How can you write a system of equations to represent the situation?

**A Practice**

3. **Money** A student has some \$1 bills and \$5 bills in his wallet. He has a total of 15 bills that are worth \$47. How many of each type of bill does he have?

**Think**

How can you write a system of equations to represent the situation?

4. **Transportation** A youth group with 26 members is going skiing. Each of the five chaperones will drive a van or sedan. The vans can seat seven people, and the sedans can seat five people. Assuming there are no empty seats, how many of each type of vehicle could transport all 31 people to the ski area in one trip?

You can use the Addition Property of Equality to solve a system of equations. If you add a pair of additive inverses or subtract identical terms, you can eliminate a variable.

**A Practice** Solve each system by elimination.

$$5. \begin{cases} 3x + 2y = 6 \\ 3x + 3 = y \end{cases}$$

$$6. \begin{cases} 2r + s = 3 \\ 4r - s = 9 \end{cases}$$

**Problem 4 Solving an Equivalent System** Page 113**A Practice** Solve each system by elimination.

$$7. \begin{cases} 5x - 2y = -19 \\ 2x + 3y = 0 \end{cases}$$

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8. 
$$\begin{cases} 3m + 4n = -13 \\ 5m + 6n = -19 \end{cases}$$

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10. 
$$\begin{cases} 2x - 3y = 6 \\ 6x - 9y = 9 \end{cases}$$

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