

Write a system of equations and then solve.

- 1. Beth has saved \$4500. She would like to earn \$250 per year by investing her money. She received advice about two different investments: a low-risk investment that pays 5% annual interest and a high-risk investment that pays 9% annual interest. How much should Beth invest in each type of investment to earn her annual goal?**

- 2. A candy manufacturer wishes to mix two candies as a sales promotion. One candy sells for \$2.00 per pound and the other candy sells for \$0.75 per pound. The manufacturer wishes to have 1000 pounds of the mixture and to sell the mixture for \$1.35 per pound. How many pounds of each type of candy should be used in the mixture?**

The *elimination method* involves multiplying and combining the equations in a system in order to eliminate a variable.

Use elimination to solve the system. Check your solution.

1.
$$\begin{cases} 2x + y = 8 \\ x - y = 10 \end{cases}$$

2.
$$\begin{cases} x + y = 4 \\ 2x + 3y = 9 \end{cases}$$

3.
$$\begin{cases} 7m - 5n = 11 \\ -4n - 2m = -14 \end{cases}$$

4.
$$\begin{cases} -8x + 4y = -2 \\ 4x - 2y = 1 \end{cases}$$