

Name: _____

Date: _____

Learning Goal 7.3

Solve systems of linear equations by elimination.

The elimination method of solving linear systems is also referred to as solving by addition and subtraction.

Solve each of the systems below:

a.
$$\begin{aligned} 3x + 2y &= 22 \\ 5x - 2y &= 10 \end{aligned}$$

b.
$$\begin{aligned} 2x - 5y &= -12 \\ 2x + 6y &= 10 \end{aligned}$$

Thinking about the example above, when do you add and when do you subtract to solve a linear system?

Why is this method of solution called elimination?

Example Solve by using elimination and then check your solution.

a. $3x + 2y = 8$
 $5x + 3y = 13$

b. $7x - 2y = -29$
 $3x + 6y = 15$

Example Matt had \$650 to spend on 5 new golf clubs. When he did his research, he found that a wedge cost approximately \$145 and that irons were \$120 each. Based on these prices, how many golf clubs of each type could he buy and stay within his budget (before taxes)? Use elimination as your solution method.

Could you have easily solved this problem using substitution? Explain your answer.