



## Lesson Objectives

Solve systems of linear equations in two variables by elimination; Compare and choose an appropriate method for solving systems of linear equations

## Key Concepts

Solving Systems of Equations by Using Elimination (p. 397):

Solving Systems of Equations by Elimination
Step 1
Step 2
Step 3
Step 4

Systems of Linear Equations (p. 400):

METHOD	USE WHEN . . .	EXAMPLE
Graphing	<ul style="list-style-type: none"> <li>Both equations are solved for <math>y</math>.</li> <li>You want to estimate a solution.</li> </ul>	$\begin{cases} y = 3x + 2 \\ y = -2x + 6 \end{cases}$
Substitution	<ul style="list-style-type: none"> <li>A variable in either equation has a coefficient of 1 or <math>-1</math>.</li> <li>Both equations are solved for the same variable.</li> <li>Either equation is solved for a variable.</li> </ul>	$\begin{cases} x + 2y = 7 \\ x = 10 - 5y \end{cases}$ <p style="text-align: center;">or</p> $\begin{cases} x = 2y + 10 \\ x = 3y + 5 \end{cases}$
Elimination	<ul style="list-style-type: none"> <li>Both equations have the same variable with the same or opposite coefficients.</li> <li>A variable term in one equation is a multiple of the corresponding variable term in the other equation.</li> </ul>	$\begin{cases} 3x + 2y = 8 \\ 5x + 2y = 12 \end{cases}$ <p style="text-align: center;">or</p> $\begin{cases} 6x + 5y = 10 \\ 3x + 2y = 15 \end{cases}$



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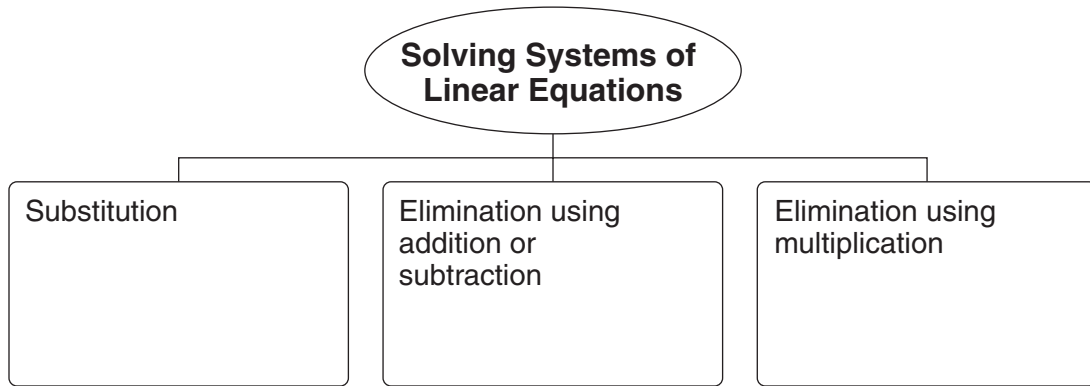
Solving Systems of Equations by Elimination	
<b>Step 1</b>	Write the system so that like terms are aligned.
<b>Step 2</b>	Eliminate one of the variables and solve for the other variable.
<b>Step 3</b>	Substitute the value of the variable into one of the original equations and solve for the other variable.
<b>Step 4</b>	Write the answers from Steps 2 and 3 as an ordered pair, $(x, y)$ , and check.

**Systems of Linear Equations (p. 400):**

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### Solving Systems of Equations by Substitution (p. 401)

**Get Organized** In each box, write an example of a system of equations that you could solve using the given method.



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