Typeset by Jonathan Rufo Bacolod using LaTeX

Lesson 1.9.2: Solving Systems of Linear Equations by Elimination Method

1. Choose which variable you want to eliminate.
2. Multiply one or both equations by an appropriate constant so that the variable that you want to eliminate becomes additive inverse of each other.
3. Add the resulting equations.
4. Solve the equation obtained in step 3.
5. Substitute the value of the variable obtained in step 4 into one of the original equations and solve for the other variable.
6. Check the solution in the original equations.

Practice Exercises 1.9.2

Find the solutions of the following systems of linear equations using the elimination method.

1. $\begin{cases} x+y = 12 \\ x-y = 8 \end{cases}$
2. $\begin{cases} 3x+6y = 4 \\ 6x+12y = 8 \end{cases}$
3. $\begin{cases} 8 = x+y \\ -4 = x-y \end{cases}$
4. $\begin{cases} x+y = 3 \\ x+y = -2 \end{cases}$
5. $\begin{cases} x-8y = 2 \\ 3x-24y = 6 \end{cases}$

Activity 1.9.2

Find the solutions of the following systems of linear equations using the elimination method.

1. $\begin{cases} y = \frac{2}{3}x+6 \\ y = -\frac{3}{2}x+6 \end{cases}$
2. $\begin{cases} x+y = 7 \\ x-y = 1 \end{cases}$
3. $\begin{cases} 4x-y = 8 \\ 3x+2y = 6 \end{cases}$
4. $\begin{cases} x+4y = 8 \\ x-2y = 2 \end{cases}$
5. $\begin{cases} x+y=5 \\ y=\frac{1}{2}x+2 \end{cases}$

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