Lesson 1.g.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.
$$\begin{cases} x+y = \\ x-y = \end{cases}$$

$$\begin{cases}
3x + 6y = 4 \\
6x + 12y = 8
\end{cases}$$

$$3 \cdot \begin{cases} 8 = x + y \\ -a = x - y \end{cases}$$

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

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

$$\begin{cases} x+y = 1 \\ y-y = 1 \end{cases}$$

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

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

$$\begin{cases} x+y=5\\ y=5x+\frac{1}{2} \end{cases}$$

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.
- $\ensuremath{\mathsf{6}}.$ 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.
$$\begin{cases} x+y = 12 \\ y-y = 8 \end{cases}$$

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

$$3. \begin{cases} 8 = x + y \\ -4 = x - y \end{cases}$$

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

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 \underline{method} .

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

$$2. \begin{cases} x+y = 7 \\ x-y = 1 \end{cases}$$

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

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

$$5. \begin{cases} x+y=5\\ y=5x+\frac{1}{2} \end{cases}$$

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

$$\begin{cases}
3x + 6y = \\
6x + 12y =
\end{cases}$$

$$3 \cdot \begin{cases} 8 = x + y \\ -a = x - y \end{cases}$$

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

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

$$\begin{cases} x+y = 7 \\ x-y = 1 \end{cases}$$

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

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

$$5. \quad \begin{cases} x+y=5\\ y=5x+\frac{1}{2} \end{cases}$$

Lesson 1.g.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.

$$\begin{cases} 3x + 6y = \\ 6x + 12y = \end{cases}$$

$$\begin{cases} 8 = x + y \end{cases}$$

$$\begin{cases} x+y = 3 \end{cases}$$

$$5. \begin{cases} x-8y = 3 \\ 3x-24y = 0 \end{cases}$$

Activity 1.9.2

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

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

$$\begin{cases}
x+y = 7 \\
x-y = 1
\end{cases}$$

$$3 \cdot \begin{cases} 4x - y = 8 \\ 3x + 2y = 6 \end{cases}$$

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

5.
$$\begin{cases} x+y=5\\ y=5x+\frac{1}{2} \end{cases}$$