Lesson 1.8.3: Solving Systems of Linear Equations by Graphing

Using the Intercept Method

- 1. Graph the equations in the same coordinate plane.
- 2. Determine the coordinates of all the points common to the graphs.

Practice Exercises 1.8.3

Find the solutions of the following systems of linear equations graphically.

1.
$$\begin{cases} x + y &= 12 \\ x - y &= 8 \end{cases}$$

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

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

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

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

Activity 1.8.3

Find the solutions of the following systems of linear

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

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

$$\begin{cases} y = -\frac{1}{2}x + 6 \\ x + y = 7 \end{cases}$$

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

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to the graphs.

Practice Exercises 1.8.3

equations graphically.

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

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

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

$$\mathbf{2.} \left\{ \begin{array}{l} x+y & = \\ x-y & = \end{array} \right.$$

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

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