Lesson 1.5.3: Graphs of Linear Equations

Graphing linear equations can be done using any of the four methods:

1. Using two points
2. Using the x- and y-intercepts
3. Using the slope and the y-intercept
4. Using the slope and a point

How to Graph Linear Equations Using Two Points:

1. Assign any two values for x.
2. Find the values for y to determine the ordered pairs of two points.
3. Plot the two points and connect them.

How to Graph Linear Equations Using the x- and y-intercepts:

1. Let $y = 0$ to find the x-intercept.
2. Let $x = 0$ to find the y-intercept.
3. Plot the two points and connect them.

How to Graph Linear Equations Using the Slope and y-intercept:

1. Let $x = 0$ to find the y-intercept.
2. Plot the y-intercept.
3. Use the slope to get the other point.
4. Connect the two points.

How to Graph Linear Equations Using the Slope and a Point:

1. Plot the given point.
2. Use the slope to get the other point.
3. Connect the two points.

Practice Exercises 1.5.3

A. Graph each linear equation using two points.

1. $y = 3x + 4$
2. $x = 2y$
3. $4y = 3x - 12$
4. $5 = 5x + y$

B. Graph each linear equation using the x- and y-intercepts.

1. $x - 3y = 9$
2. $6y + x = -6$
3. $20 = 5x - 4y$
4. $\frac{x}{2} + \frac{y}{3} = 1$

C. Graph each linear equation using the slope and the y-intercept.

1. $-6 = 3y$
2. $x = 2y$
3. $4y = 3x - 12$
4. $3(x + 2) = y$

D. Graph each linear equation using the slope and a point.

1. $x - 12 = 3y$
2. $x = 4y$
3. $20 = 5x - 4y$
4. $\frac{x}{2} + \frac{y}{3} = 1$

Activity 1.5.3

A. Graph each linear equation using the x- and y-intercepts.

1. $2x + 5y = 10$
2. $4x - 3y = 12$
3. $8y = 4x + 16$
4. $\frac{x}{-3} + \frac{y}{3} = 1$

B. Graph each linear equation using the slope and the y-intercept.

1. $2x - 5y = -10$
2. $2(y - x) = 4$
3. $-2x = y + 6$
4. $7x - 10 + 5y = 0$

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3. Plot the two points and connect them.

How to Graph Linear Equations Using the Slope and y-intercept:
1. Let $x = 0$ to find the y-intercept.
2. Plot the y-intercept.
3. Use the slope to get the other point.
4. Connect the two points.

How to Graph Linear Equations Using the Slope and a Point:
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2. Use the slope to get the other point.
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