

Name _____

Date _____

Solving Systems of Linear Equations by Graphing - Guided Lesson Explanation

Explanation#1

Step 1) First we have to see what is being asked.

“Solve this system of equations by graphing.”

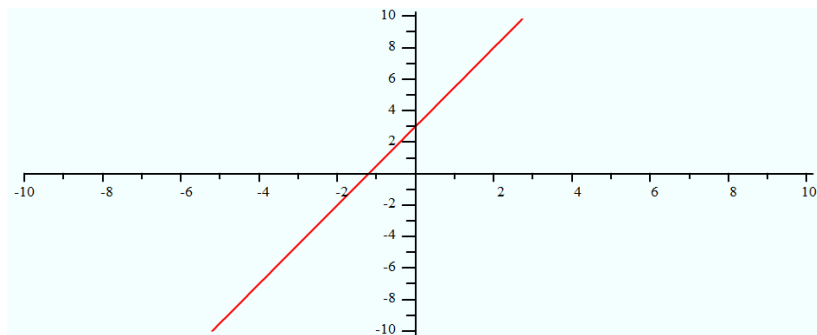
Step 2) The first equation is $y = \frac{5}{2}x + 3$

The y-intercept is 3. Plot the point (0, 3)

The slope is $\frac{5}{2}$. Move up 5 and right 2 to find another point on the line.

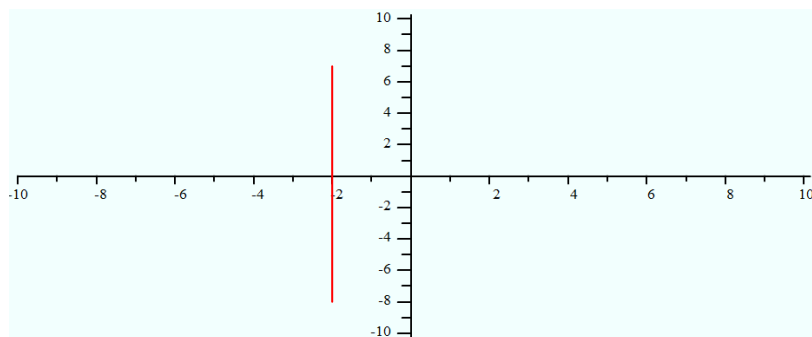
Draw a line connecting them.

Step 3)



The second equation is $x = -2$.

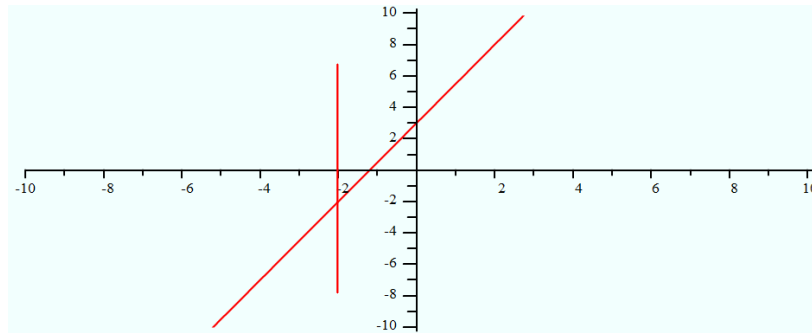
This equation tells you that every x-value is -2. Plot some points that have an x-value of -2, like (-2, 0) and (-2, -2), and then draw a line connecting them.



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Finally, identify the point of intersection.



The lines intersect at $(-2, -2)$, so the solution to the system of equations is $(-2, -2)$.

Explanation#2

Step 1) First we have to see what is being asked.

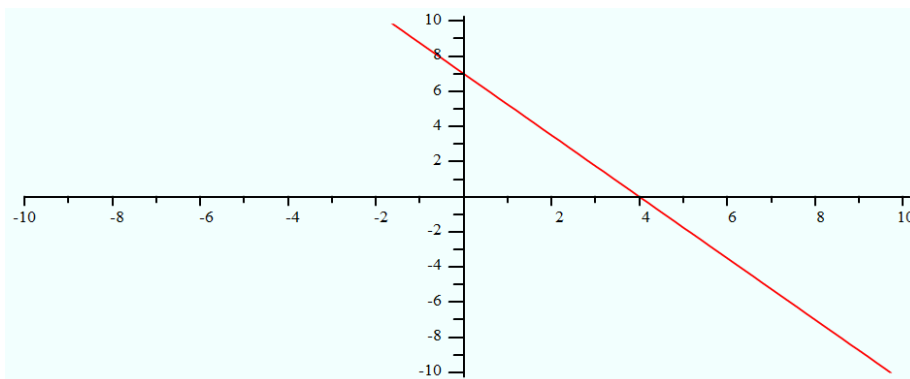
“Solve this system of equations by graphing.”

Step 2) The first equation is $y = \frac{-7}{4}x + 7$

The y-intercept is 7. Plot the point $(0, 7)$

The slope is $\frac{-7}{4}$. Move down -7 and right 4 to find another point on the line.

Draw a line connecting them.

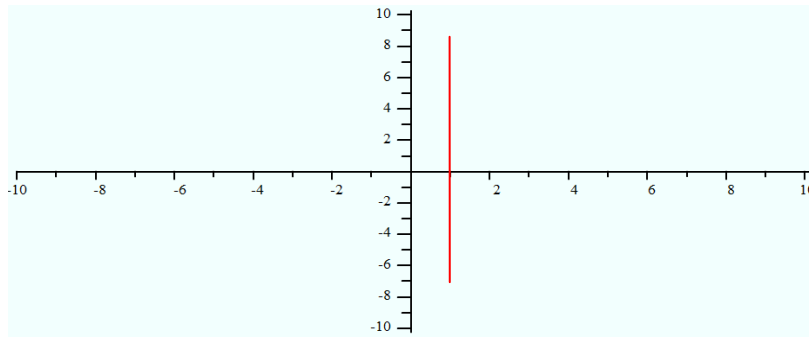


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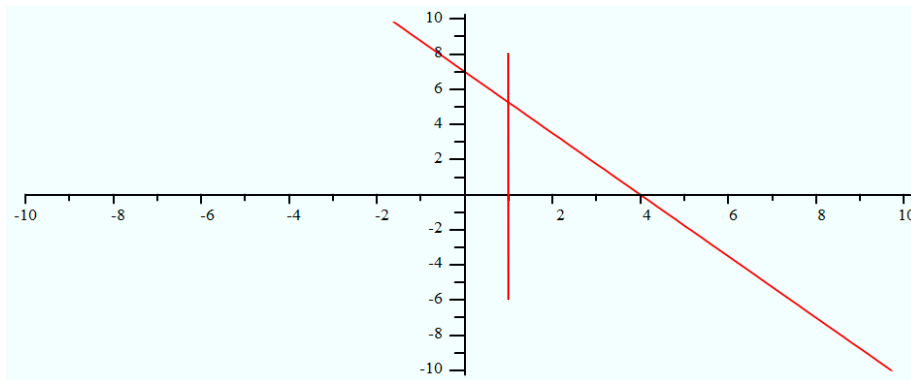
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The second equation is $x = 1$.

This equation tells you that every x-value is 1. Plot some points that have an x-value of 1, like $(1, 0)$ and $(1, 5.25)$, and then draw a line connecting them.



Finally, identify the point of intersection.



The lines intersect at $(1, 5.25)$, so the solution to the system of equations is $(1, 5.25)$.



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Explanation#3

Step 1) First we have to see what is being asked.

“Is (2, 5) a solution to this system of equations?”

Step 2) A point is a solution to a system of equations if plugging the point into each equation results in a true statement.

In the ordered pair (2, 5), 2 is the x-value and 5 is the y-value.

In the first equation, replace x with 2 and y with 5.

$$3x + 17y = 6$$

$3(2) + 17(5) ? 6$ We place a question mark to indicate that we are not sure if both sides will be equal.

$$6 + 85 ? 6$$

$$91 \neq 6$$

No, $91 \neq 6$.

Plugging (2, 5) into the first equation did not result in a true statement. So, (2, 5) is not a solution to the system of equations.

