

Do Now:

Directions: Consider the following compound sentence: $x + y = 10$ and $y = 2x + 1$.

1. **Circle** all the ordered pairs (x, y) that are solutions to the equation $x + y = 10$.

(3,7) (7,3) (0,1) (12,25) (5,11) $(-1, -1)$

2. **Underline** all the ordered pairs (x, y) that are solutions to the equation $y = 2x + 1$.

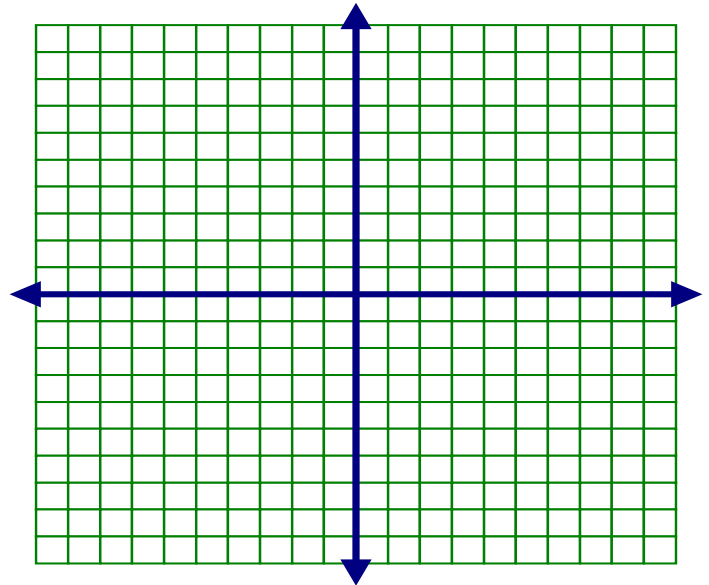
(3,7) (7,3) (0,1) (12,25) (5,11) $(-1, -1)$

3. List the ordered pair(s) (x, y) from above that are solutions to the compound sentence $x + y = 10$ and $y = 2x + 1$.

AIM: Solving Systems of Equations Graphically

4. Graph $x + y = 10$ and $y = 2x + 1$ on the same set of coordinate axes.

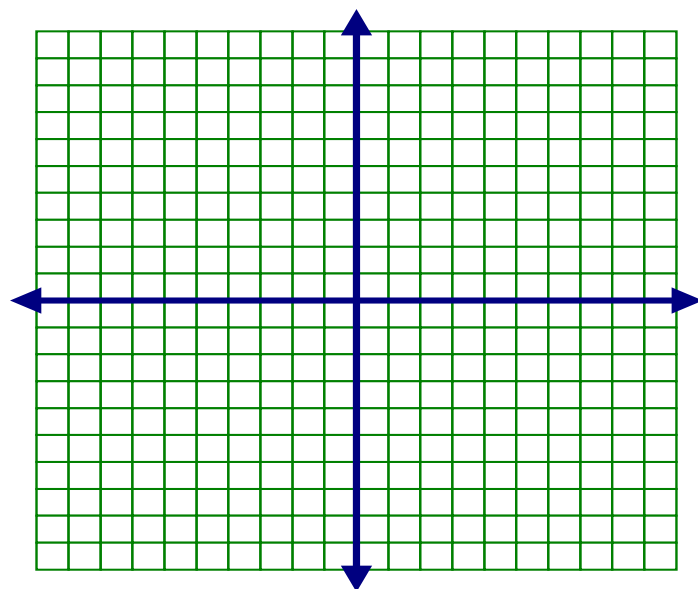
- a. Circle the point that lies on BOTH lines.
- b. What is this point called?
- c. What is the solution set to $x + y = 10$ and $y = 2x + 1$?



5. On the set of axes below, solve the following system of equations graphically. State the coordinates of the solution.

$$4x - 2y = 10$$

$$y = -2x - 1$$



6. When solved graphically, which system of equations will have exactly one point of intersection?

1) $y = -x - 20$

$$y = x + 17$$

2) $y = 0.5x + 30$

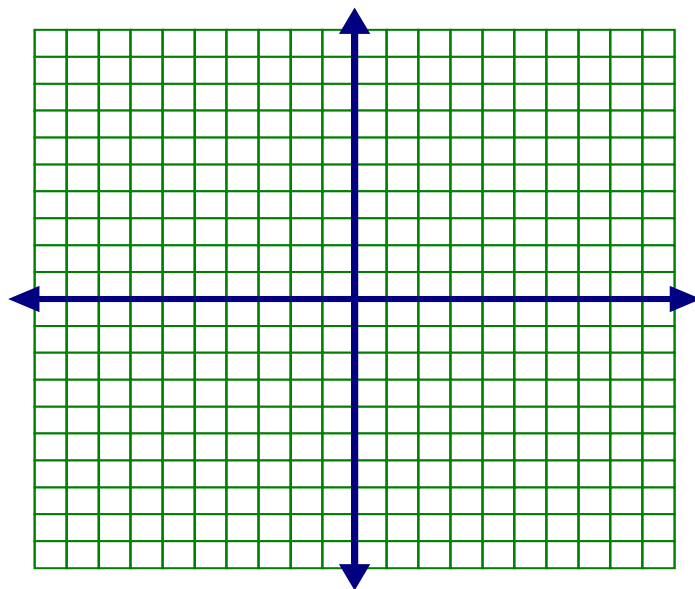
$$y = 0.5x - 30$$

3) $y = \frac{3}{5}x + 12$

$$y = 0.6x - 19$$

4) $y = -x + 15$

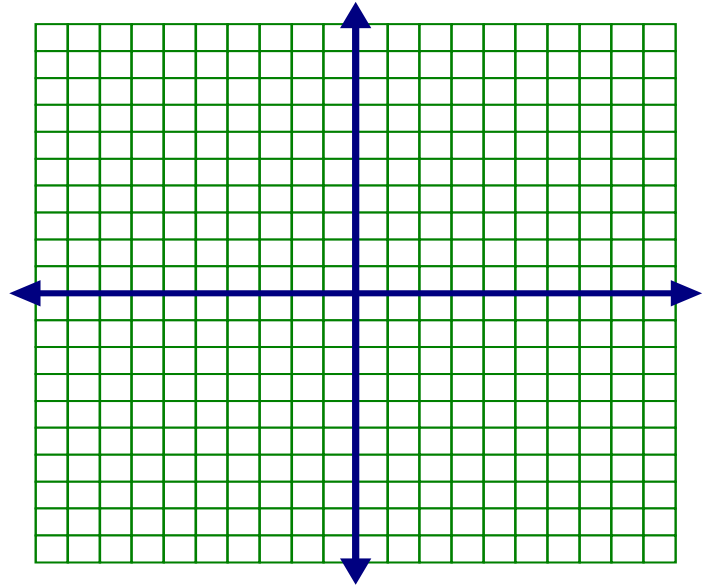
$$y = -x + 25$$



7. On the set of axes below, solve the following system of equations graphically. State the coordinates of the solution.

$$y - 4x = -1$$

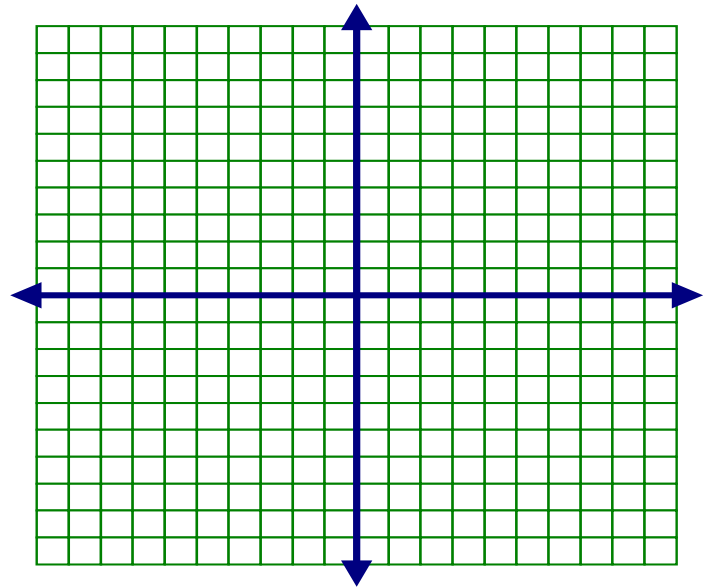
$$y - 8 = -\frac{1}{2}x$$



8. On the set of axes below, solve the following system of equations graphically. State the coordinates of the solution.

$$y - x = 1$$

$$y + 2x = 10$$



9. Explain what it means to solve systems of equations graphically.