

Definition: A Linear System is a set of two linear equations.

Example: $y = -2x$ and $y = x + 3$

- 1) Does the point (0, 4) make either equation true? Substitute it in and find out.

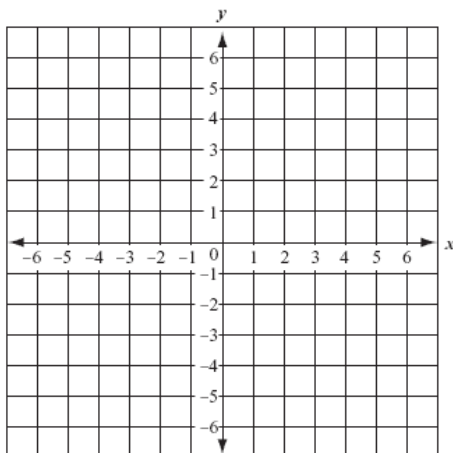
- 2) Does the point (2, 5) make either equation true? Explain.

- 3) Does the point (-1, 2) make either equation true? Explain.

If a point works in ***both*** equations of a linear system, then that point must be the **SOLUTION** to the linear system. When you solve a linear system you find that one point makes both equations true.

- 4) What point is the solution to the system above? _____

Plot ***both*** equations in the same coordinate plane below. $y = -2x$ and $y = x + 3$



- 5) At what point do the two lines intersect? _____ Compare this with your answer for #4...

An ordered pair that makes a linear equation TRUE is called a _____.

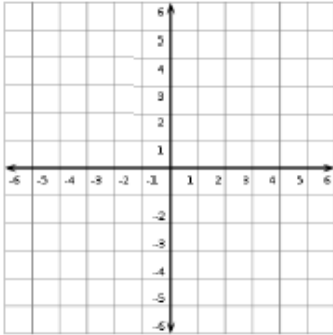
The point that the two lines _____ is the solution to the system!

To solve a system of linear equations, the ordered pair must work for _____ equations!

Graphing Systems of Equations

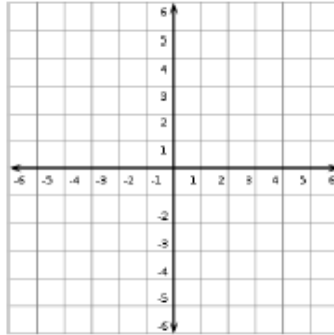
Solve each system of equations by graphing.

1. $x + y = 5$
 $x - y = 1$



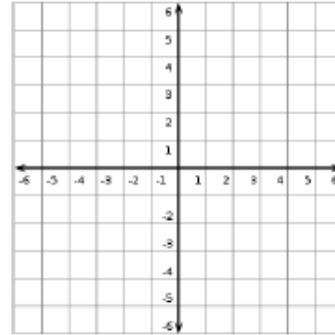
Solution: _____

2. $4x - 2y = -8$
 $y = 2x + 4$



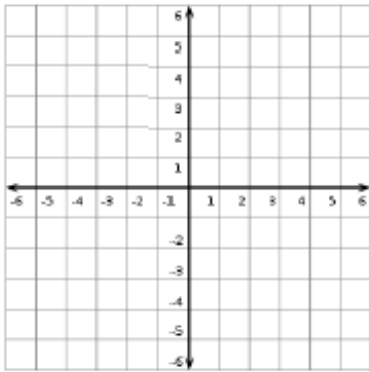
Solution: _____

3. $y = -3x + 2$
 $y = 2x - 3$



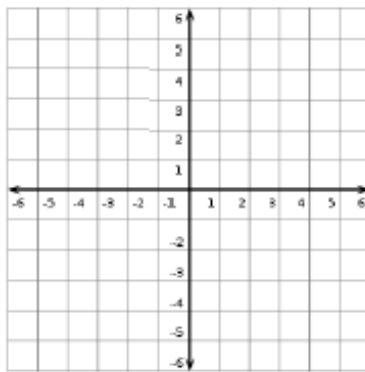
Solution: _____

4. $y = 2x + 1$
 $4x - 2y = -2$



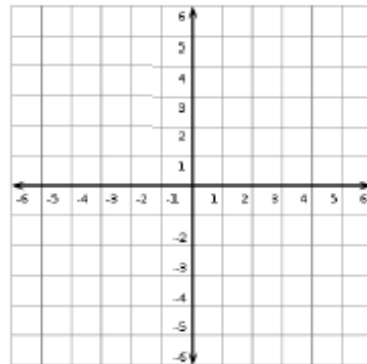
Solution: _____

5. $y = \frac{1}{2}x + 1$
 $y = \frac{1}{2}x - 2$



Solution: _____

6. $y = 5$
 $x = -3$



Solution: _____