

Solving Linear Systems with Graphing-8.4

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

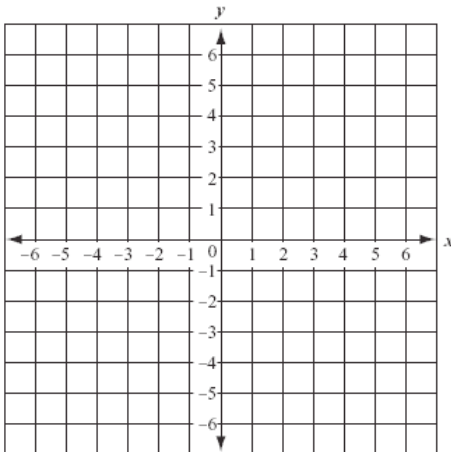
Example: $y = -2x$ and $y = x + 3$

- 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 _____.

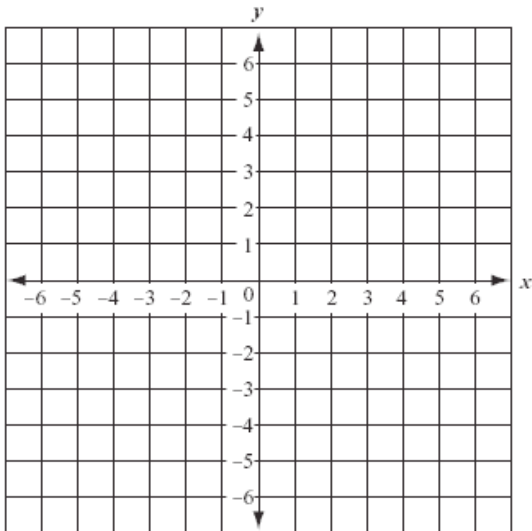
The point that the two lines _____ is the solution to the system!

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

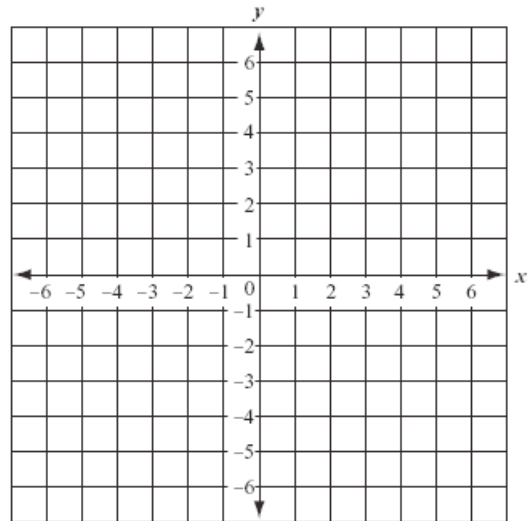
8.4 – Solving Systems of Equations by Graphing

Solve these linear systems by graphing.

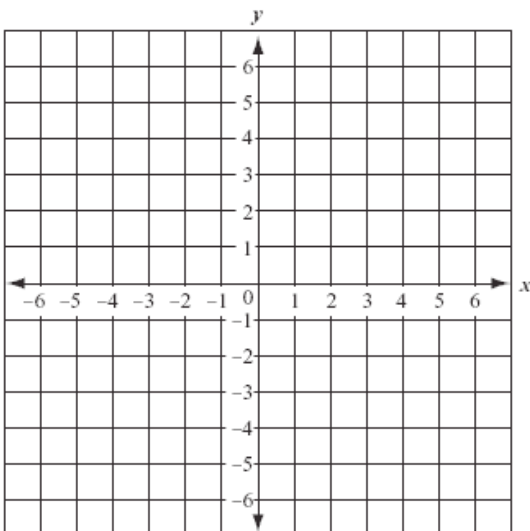
1) $y = -x + 3$ and $y = 2x - 6$



2) $y = -x + 3$ and $y = -x + 1$



3) $x - y = 2$ and $x + y = -6$



4) $3x + 2y = -2$ and $6x + 4y = -4$

