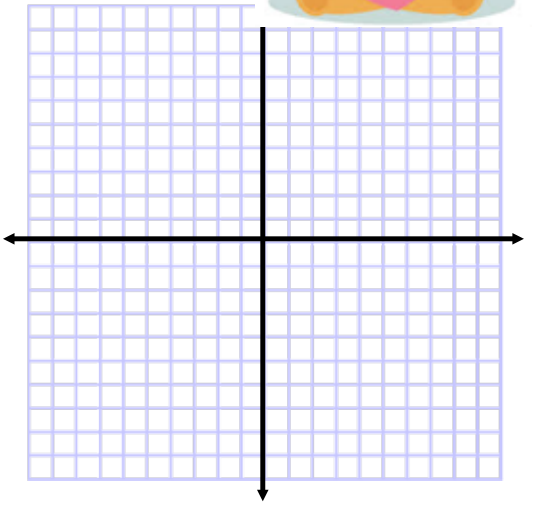
Monday, February 10, 2020

1.3 Graphically Solving Linear Systems

Review:

Graph both of the lines given below on the same set of axes. Use graph paper if you don't have the note printed!

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



New:

Label the point of intersection of the two lines with an ordered pair.

Congratulations, you just solved a linear system of equations by graphing!

Vocabulary

linear equation - an equation that represents a line ($y = mx + b$)

system of linear equations - two or more linear equations used to represent a situation

solving a linear system - finding the point where the lines cross, or the point of intersection (POI)

Steps to Solve by Graphing:

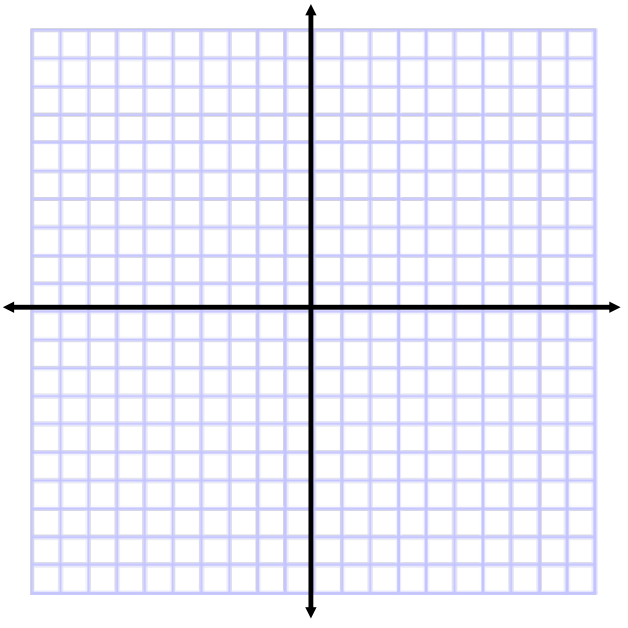
- Graph both lines on the same set of axes using the most appropriate method (table of values, intercepts, y = mx + b)

- Locate the POI. This is the solution of the linear system. It is the only point that both lines share!

Example:

Solve the given linear systems graphically.

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



2) $3x + 4y = 12$
   $2x + 3y = 9$

You need to graph accurately when you are doing these questions!!!
Also, if the POI is not on a gridline, please make a reasonable estimate. You can check your answer by substituting it back in to ***BOTH*** original equations.

Check for #1:

Try #2 on your own!