Solving Systems Of Equations

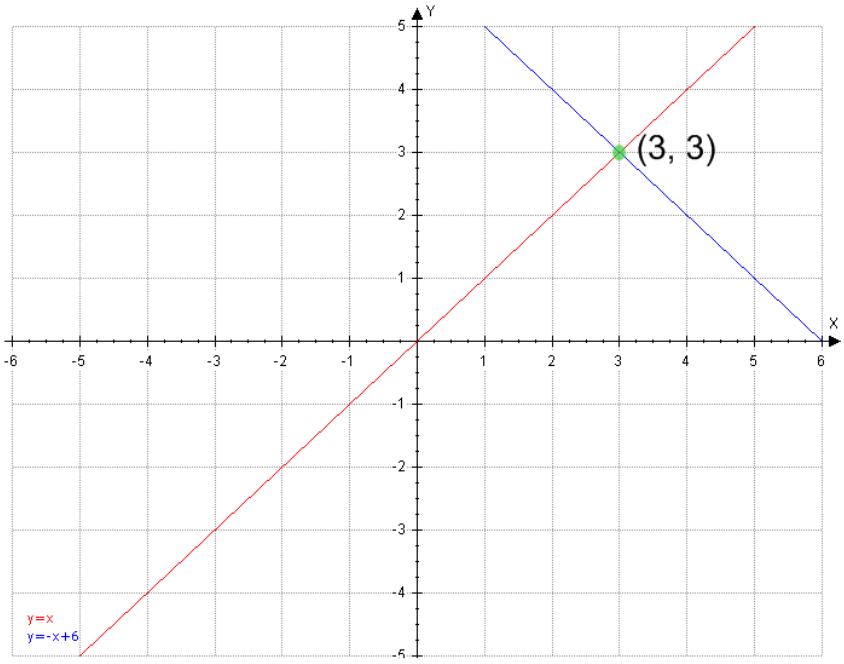
To solve by graphing

A.) Graph both of the equations.
   a. Use either plotting points or the slope-intercept form (y = mx + b), whichever is easier for you. I prefer the slope-intercept method.

B.) The point of intersection(x marks the spot) is the solution, if there is one.
   a. If there is no intersection, there is no solution.
   b. If they are the same line, there are infinite solutions.

Example 1:

a) x + y = 6 → y = -x + 6
b) x – y = 0 → x = y
c) The solution is (3, 3). The system is independent.

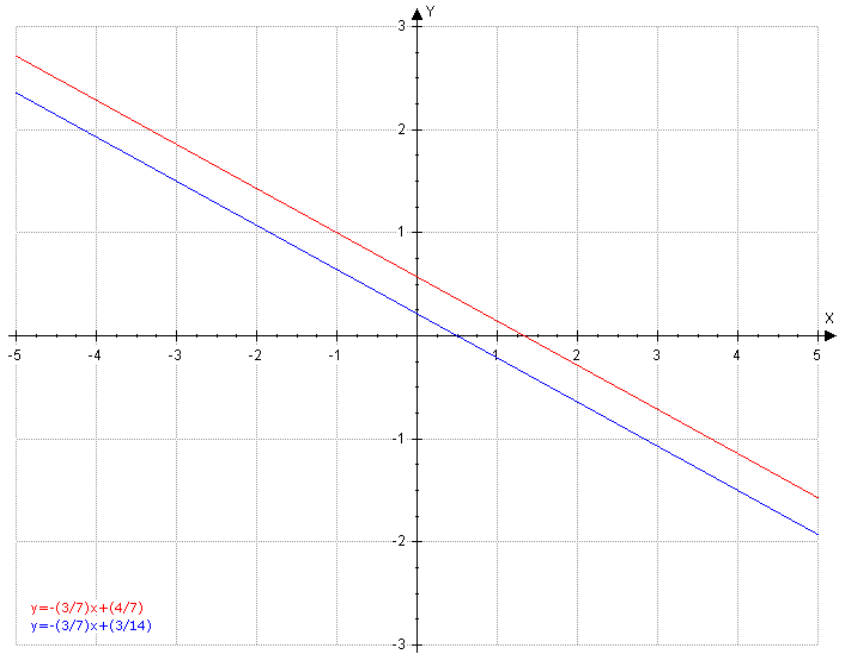


Example 2:

a) $3x + 7y = 4 \rightarrow y=-(3/7)x+(4/7)$

b) $6x + 14y = 3 \rightarrow y=-(3/7)x+(3/14)$

c) These 2 lines are parallel, so there is no solution. The system is inconsistent.



Example 3:

a) $7x + 2y = 6 \rightarrow y = -3.5x + 3$

b) $-14x + 4y = -12 \rightarrow y = 3.5x + 3$

c) The solution is the point (0, 3). The system is independent.