

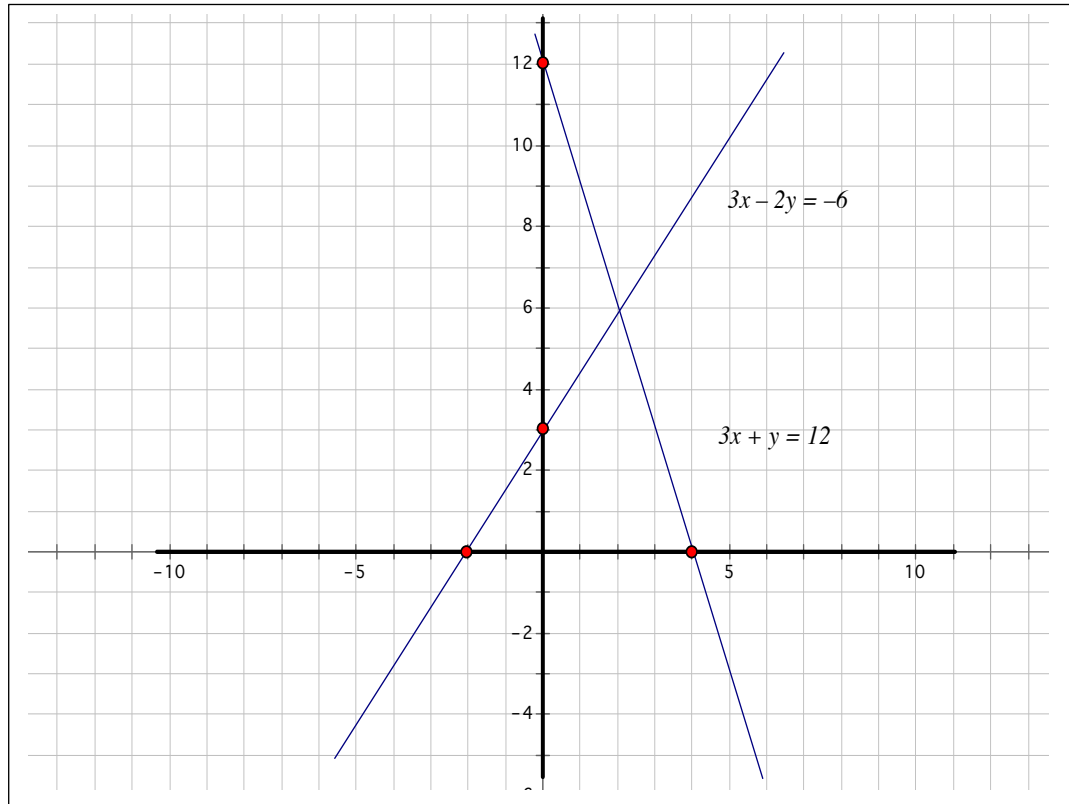
Solve Systems by Graphing

Graph both equations on the same coordinate plane, the point of intersection is the *only* point that satisfies both equations – the solution.

Example 1 Solve this system of equations by graphing

$$3x + y = 12$$

$$3x - 2y = -6$$



Looking at those 2 graphs, it looks like they intersect as (2, 6).

To see if they did, we would substitute (2, 6) into both equations to see if they were true.

Doing that in the 1st equation, $x = 2$ and $y = 6$.

$$3x + y = 12$$

$$3(2) + 6 = 12 \quad \text{That checks.}$$

Doing the same for the other equation.

$$3x - 2y = -6$$

$$3(2) - 2(6) = -6 \quad \text{That also checks.}$$

Therefore, the point (2, 6) is on both lines. It satisfies both equations. It is a solution.