

Solve Linear Systems by Graphing

A **System of Linear Equations**, or simply a linear system, consists of two or more linear equations with the same variables.

Ex: $x + 2y = 7$

$3x - 2y = 5$

(x, y)

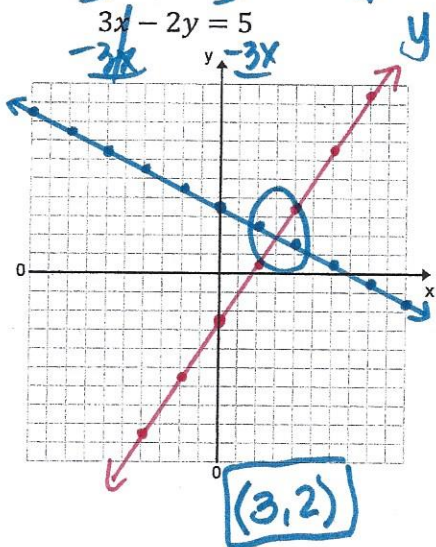
A **Solution of a System of Linear Equations** is an ordered pair that satisfies each equation in the problem.

Use the graph to solve the system. Then, check your solution.

Ex. 1)

$x + 2y = 7$

$3x - 2y = 5$



$2y = -x + 7$

$y = -\frac{1}{2}x + \frac{7}{2}$

$m = -\frac{1}{2}$
 $b = \frac{7}{2} = 3\frac{1}{2}$

$-2y = -3x + 5$

$y = \frac{3}{2}x - \frac{5}{2}$

$m = \frac{3}{2}$

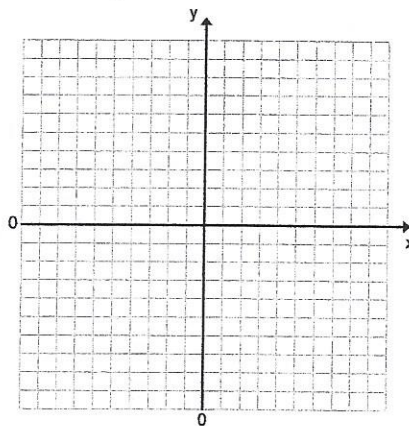
$b = -\frac{5}{2} = -2\frac{1}{2}$

$(3, 2)$

Ex. 2)

$-x + y = -7$

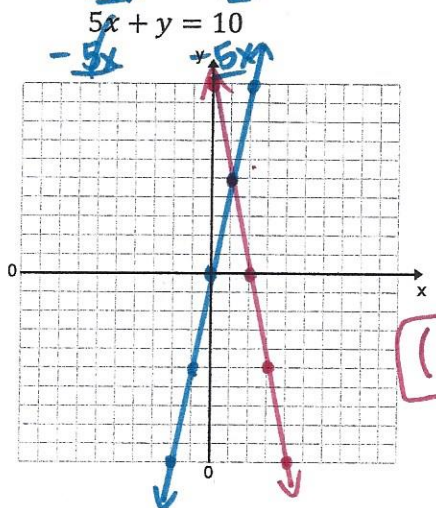
$x + 4y = -8$



Ex. 3)

$-5x + y = 0$

$5x + y = 10$



$y = 5x + 0$

$m = 5$

$b = 0$

$y = -5x + 10$

$m = -5$

$b = 10$

$(1, 5)$