

**7.2 Solving a System of Linear Equations Graphically**

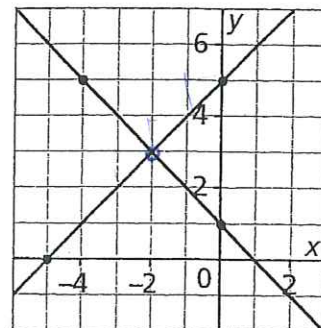
Two equations of a linear system are graphed on the same grid.

What are the equations of the graphs?

$y = x + 5$  and  $y = -x + 1$

What are the coordinates of the point of intersection of the two lines?

$(-2, 3)$



Why is this coordinate the solution of the linear system?

When  $x = -2$  and  $y = 3$  the 2 linear functions meet.

**Ex. 1** Solve the following linear systems by **graphing**.

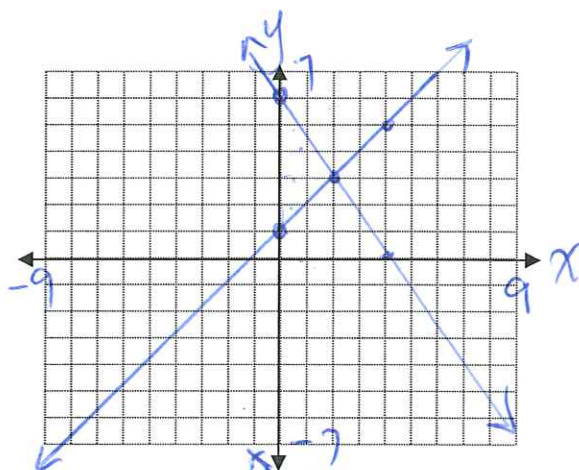
a)  $x - y = -1$   
 $3x + 2y = 12$

$y = x + 1$

$2y = -3x + 12$

$y = -\frac{3}{2}x + 6$

$(2, 3)$



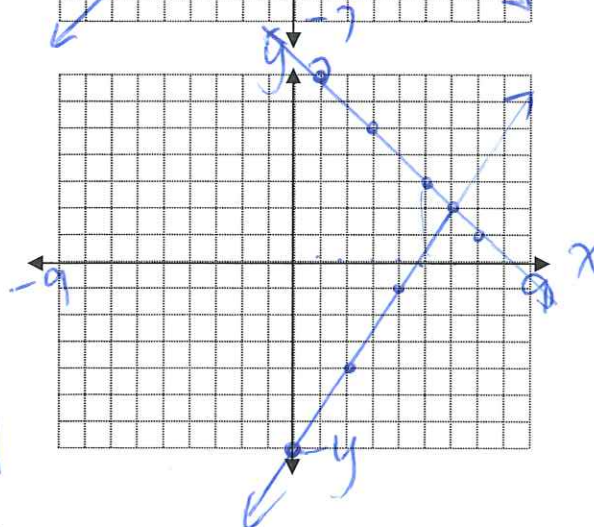
b)  $x + y = 8$   
 $3x - 2y = 14$

$y = -x + 8$

$2y = 3x - 14$

$y = \frac{3}{2}x - 7$

$(6, 2)$



Note: This method won't always help us find the exact solution (what if there are decimals?)