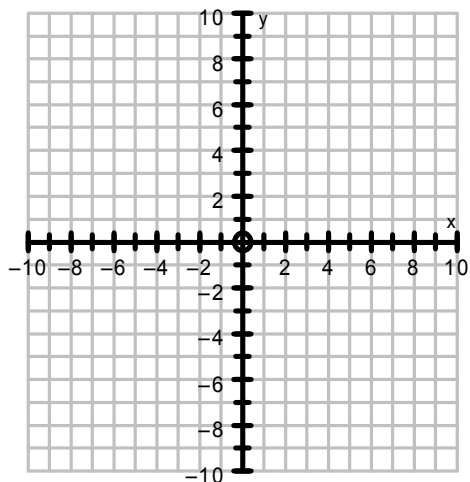


Solving Systems of Equations – Substitution Method

Solve the following system by graphing:

$$y = x - 1$$

$$y = 6x - 6$$



Graphing is not always a practical method when solving systems of equations. Note that both equations are rearranged for the y – variable. Set the two equations equal to each other and solve for x . What happens? Why does this work? How will you find the value of y ?

$$x - 1 = 6x - 6$$

Solve each of the following systems of equations without graphing:

(a) $y = 8x + 17$
 $y = -2x - 13$

(b) $y = -5x + 19$
 $y = -2x + 10$

(c) $y = -6x + 22$
 $y = 4x - 8$

(d) $y = -2x - 1$
 $y = 5x + 6$

(e) $y = 8x - 1$
 $y = 4x + 3$

(f) $y = 4x - 18$
 $-6x + 3y = -18$

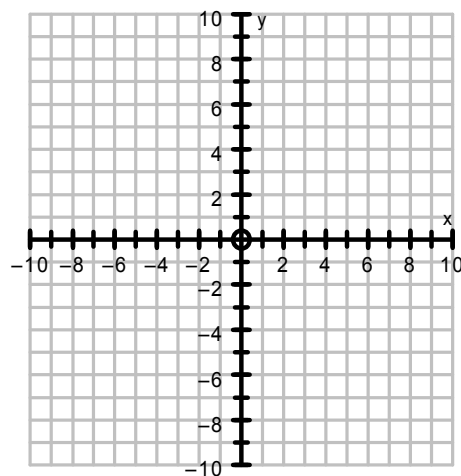
(g) $-8x + 6y = -14$
 $y = -8x - 21$

(h) $-3x + 2y = -12$
 $y = 2x - 8$

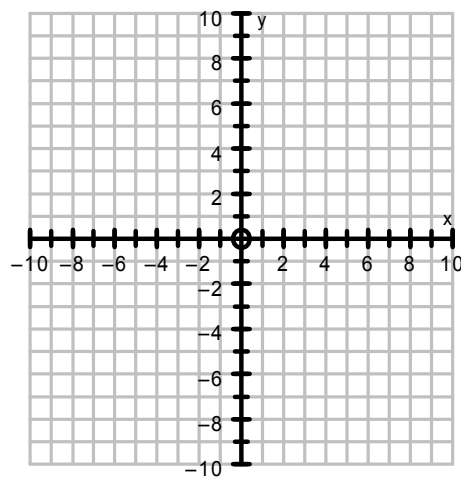
(i) $y = -3x + 17$
 $4x + 2y = 24$

Solve the following systems of equations by substitution AND by graphing:

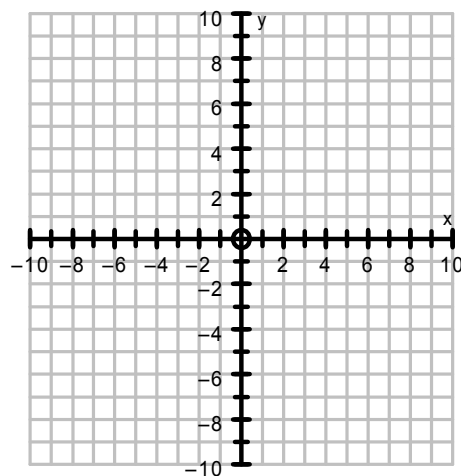
A)
 $2x + 3y = 3$
 $x - 3y = -12$



B)
 $y = -2x + 4$
 $-6x - 3y = 6$



C)
 $14x - 2y = -4$
 $-7x + y = 2$



What do you notice about the solutions and graphs for parts B) and C)?