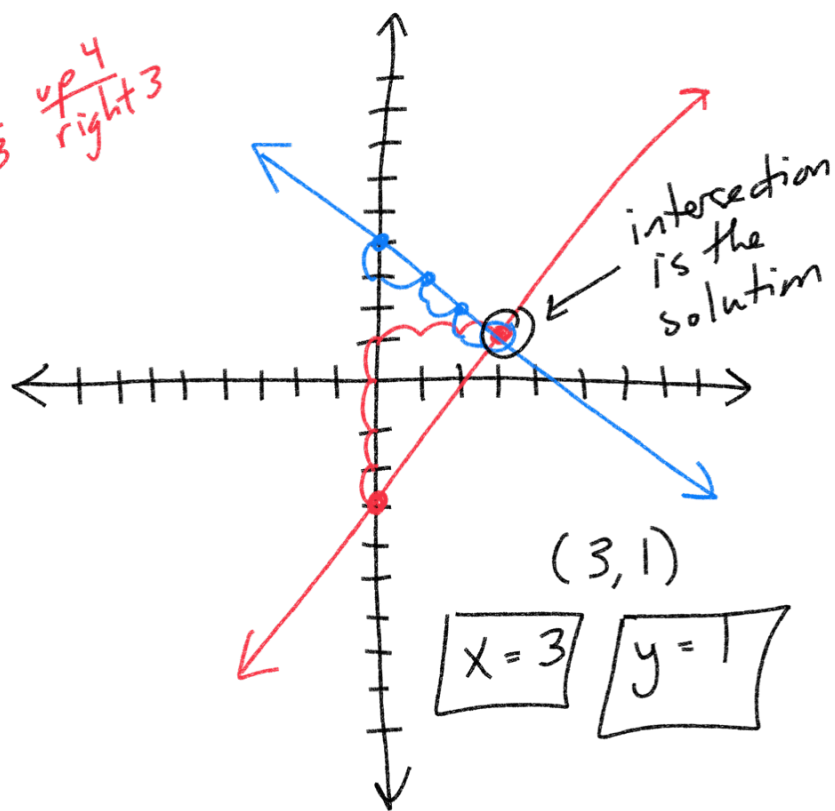


1.)  $y = \frac{4}{3}x - 3$  *y-int*  
*slope =  $\frac{4}{3}$  up 4 right 3*

$y = -x + 4$   
*slope = -1*  
*down 1 right 1*  
*y-int*



$$\frac{4}{3}x - 3 = -x + 4$$

$$\frac{4}{3}x = -x + 7$$

$$\frac{4}{3}x + \frac{3}{3}x = 7$$

$$\frac{7}{3}x = 7$$

$$x = 3$$

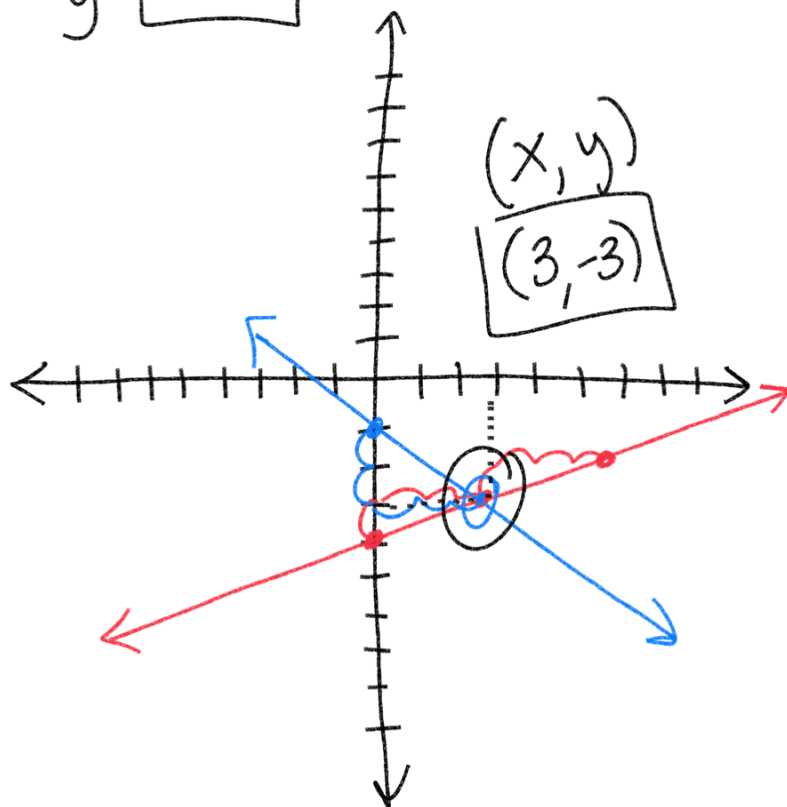
$$f(x) = -x + 4$$

$$f(3) = -3 + 4$$

$$y = 1$$

$$y = \frac{1}{3}x - 4$$

$$y = \frac{-2}{3}x - 1$$



# Substitution

$$-4x - 2y = 20$$

$$x - y = -2$$

$$x - y = -2$$

$$+y \quad +y$$

$$x = y - 2$$

$$-4x - 2y = 20$$

$$-4(y - 2) - 2y = 20$$

$$-4y + 8 - 2y = 20$$

$$-6y + 8 = 20$$

$$-8 \quad -8$$

$$\underline{-6y = 12}$$

$$\underline{-6 \quad -6}$$

$$y = -2$$

$$x = y - 2$$

$$x = -2 - 2$$

$$x = -4$$

$$(-4, -2)$$

$$x + 5y = -23$$

$$3x - 6y = 15$$

$$\begin{aligned} X + 5y &= -23 \\ 3X - 6y &= 15 \end{aligned}$$

$$\begin{aligned} X + 5y &= -23 \\ -5y & \quad -5y \end{aligned}$$

$$X = -5y - 23$$

$$3X - 6y = 15$$

$$3(-5y - 23) - 6y = 15$$

$$-15y - 69 - 6y = 15$$

$$\begin{aligned} -21y - 69 &= 15 \\ +69 & \quad +69 \end{aligned}$$

$$\begin{aligned} -21y &= 84 \\ \frac{-21}{-21} & \quad \frac{84}{-21} \end{aligned}$$

$$y = -4$$

$$\begin{aligned} X &= -5y - 23 \\ &= -5(-4) - 23 \\ &= 20 - 23 \end{aligned}$$

$$X = -3$$

$$(-3, -4)$$

# Elimination

$$\begin{array}{r} -3 \left( \begin{array}{l} X + 5y = -23 \\ 3x - 6y = 15 \end{array} \right) \end{array}$$

terms are equal,  
but have an  
opposite sign.

$$X + 5y = -23$$

$$X + 5(-4) = -23$$

$$\begin{array}{r} X - 20 = -23 \\ +20 \quad +20 \end{array}$$

$$\boxed{X = -3}$$

$$\begin{array}{r} -3x - 15y = 69 \\ + \quad 3x - 6y = 15 \end{array}$$

$$\begin{array}{r} 0 - 21y = 84 \\ \hline -21 \quad -21 \end{array}$$

$$\boxed{y = -4}$$

$$\begin{array}{r} 6 \left( \begin{array}{l} X + 5y = -23 \\ 3x - 6y = 15 \end{array} \right) \\ + \quad 5 \left( \begin{array}{l} 3x - 6y = 15 \end{array} \right) \end{array}$$

$$\cancel{6x + 30y = -138}$$

$$\cancel{15x - 30y = 75}$$

$$\begin{array}{r} 21x = -63 \\ \hline 21 \quad 21 \end{array}$$

$$\boxed{X = -3}$$

$$\begin{aligned} -2(2x - 2y = -8) \\ 4x - 5y = -15 \end{aligned}$$

$$\begin{aligned} -4x + 4y &= 16 \\ + 4x - 5y &= -15 \\ \hline -y &= 1 \\ -1 & \quad -1 \end{aligned}$$

$$\boxed{y = -1}$$

$$\boxed{(-5, -1)}$$

$$\begin{aligned} -5(2x - 2y = -8) \\ 2(4x - 5y = -15) \\ 10y \\ -10y \end{aligned}$$

$$2x - 2y = -8$$

$$2x - 2(-1) = -8$$

$$\begin{aligned} 2x + 2 &= -8 \\ -2 & \quad -2 \end{aligned}$$

$$\frac{2x}{2} = \frac{-10}{2}$$

$$\boxed{x = -5}$$

$$\begin{array}{l} 2(4x - y = -10) \\ -8x - 3y = 10 \end{array} \Bigg]$$

$$\begin{array}{l} 4x + 8x \\ -8x \end{array}$$

$$\begin{array}{l} \cancel{8x} - 2y = -20 \\ -\cancel{8x} - 3y = 10 \end{array}$$

$$\begin{array}{l} -3(4x - y = -10) \\ -8x - 3y = 10 \end{array}$$

$$\begin{array}{r} -5y = -10 \\ \hline -5 \quad -5 \end{array}$$

$$\boxed{y = 2}$$

$$\begin{array}{l} 3y \\ -3y \end{array}$$

$$4x - y = -10$$

$$\begin{array}{l} 4x - 2 = -10 \\ +2 \quad +2 \end{array}$$

$$\frac{4x}{4} = \frac{-8}{4}$$

$$\boxed{x = -2}$$

$$2(6x + 9y = 0) \quad 12x$$

$$-12x - 5y = -26 \quad -12x$$

$$\Downarrow$$

$$8(-5x - 10y = -20) = -40x$$

$$5(8x + 4y = 20) \quad 40x$$

$$\frac{-5x}{5} - \frac{10y}{5} = \frac{-20}{5} = -x - 2y = -4$$

$$\frac{8x}{4} + \frac{4y}{4} = \frac{20}{4} \quad 2x + y = 5$$

$$\frac{-5x}{5} - \frac{10y}{5} = \frac{-20}{5}$$

$$\frac{8x}{2} + \frac{4y}{2} = \frac{20}{2}$$

$$-x \cdot \boxed{-2y} = -4$$

$$4x \cdot \boxed{+2y} = 10$$