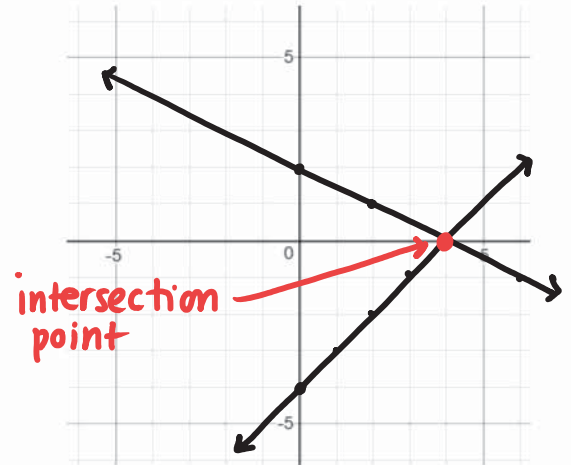




$$\begin{array}{l}
 \textcircled{1} \quad -16 \\
 -4x - 8y = -16 \quad \text{and} \\
 +4x \quad +4x \\
 \hline
 -8y = 4x - 16 \\
 \frac{-8y}{-8} = \frac{4x}{-8} - \frac{16}{-8} \\
 y = -\frac{1}{2}x + 2
 \end{array}$$

$$\begin{array}{l}
 \textcircled{2} \quad 4 \\
 x - y = 4 \\
 -x \quad -x \\
 \hline
 -y = -x + 4 \\
 \frac{-y}{-1} = \frac{-x}{-1} + \frac{4}{-1} \\
 y = x - 4
 \end{array}$$

solution :  $(4, 0)$



**Example 4:** Bill received and sent 60 text messages in one weekend. He sent 10 more messages than he received. Find the number of sent and received texts.

a) Write a linear system to model this situation.

Let  $x =$  # of sent texts

Eqn 1:  $x + y = 60$   
(total texts)

Let  $y =$  # of received texts

Eqn 2:  $x - y = 10$  or  $x = 10 + y$   
(relationship between sent and received texts)

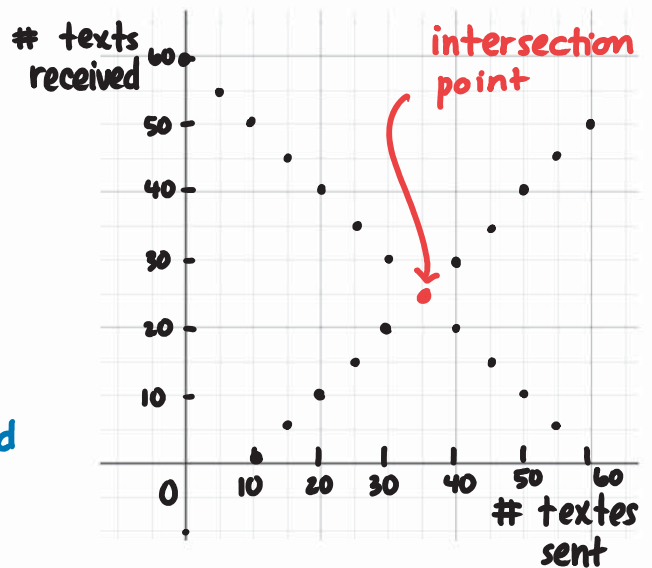
b) Graph the linear system then solve the problem. How many text messages did Bill send and how many did he receive?

$$\begin{array}{l}
 \textcircled{1} \quad x + y = 60 \\
 -x \quad -x \\
 \hline
 y = -x + 60
 \end{array}$$

$$\begin{array}{l}
 \textcircled{2} \quad x - y = 10 \\
 -x \quad -x \\
 \hline
 -y = -x + 10 \\
 \frac{-y}{-1} = \frac{-x}{-1} + \frac{10}{-1} \\
 y = x - 10
 \end{array}$$

Do not connect the points  
(discrete data)

$(35, 25)$   
 $x$  → # of sent texts  
 $y$  → # of received texts



Practice: 7.2 Worksheet and p.409 #3, 4, 5a, 7ab

Mrs. Donnelly

F & PC 10