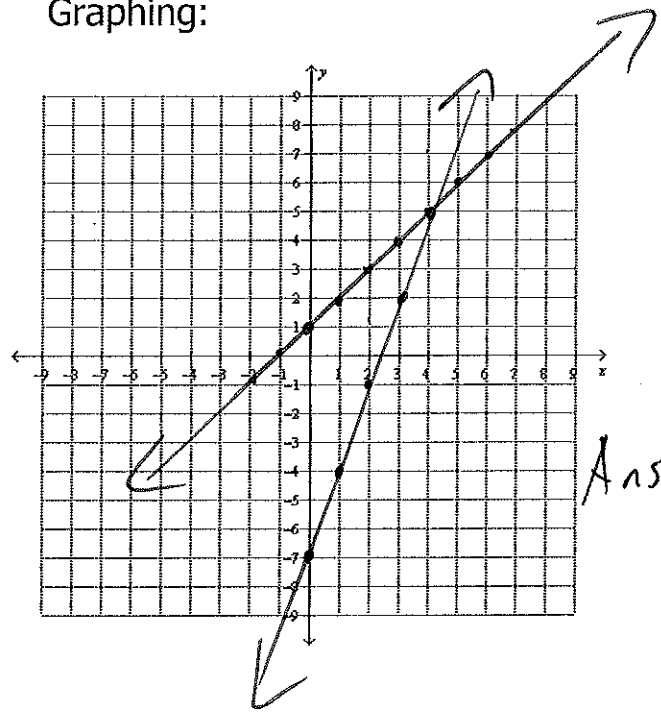


Substitution and Graphing Review

Solve each of the following systems by graphing first, then by substitution.

1. $y = x + 1$
 $y = 3x - 7$

Graphing:



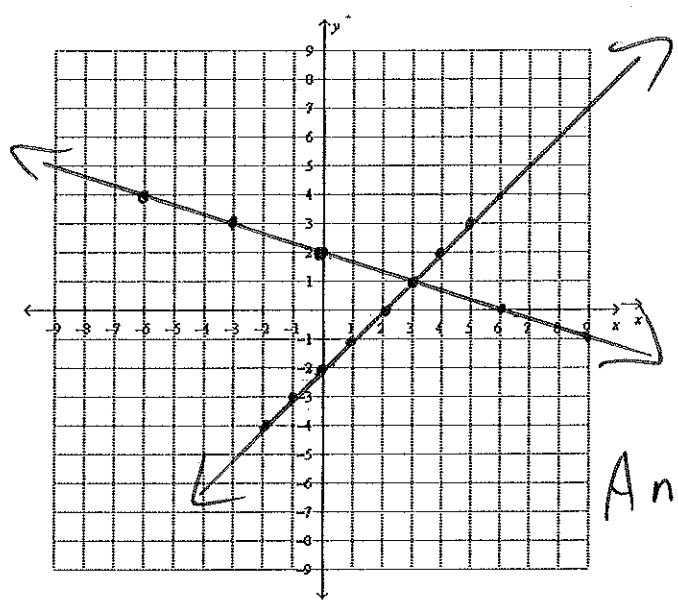
Answer (4, 5)

Substitution:

$$\begin{aligned} 3x - 7 &= x + 1 \\ 2x &= 8 \\ x &= 4 \\ \hline y &= 4 + 1 \\ y &= 5 \end{aligned}$$

2. $y = x - 2$
 $x + 3y = 6 \rightarrow y = -\frac{1}{3}x + 2$

Graphing:



Answer (3, 1)

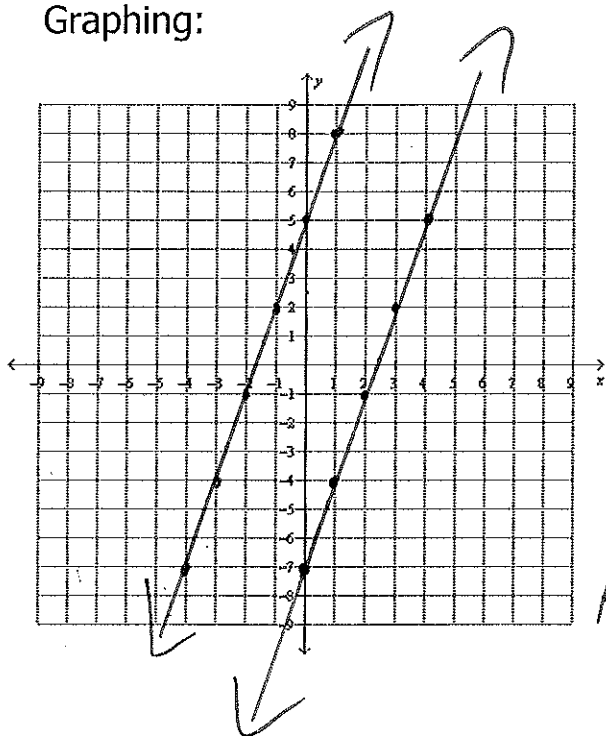
Substitution:

$$\begin{aligned} x + 3(x - 2) &= 6 \\ x + 3x - 6 &= 6 \\ 4x &= 12 \\ x &= 3 \\ \hline y &= 3 - 2 \\ y &= 1 \end{aligned}$$

$$3. \quad -3x + y = 5 \rightarrow y = 3x + 5$$

$$y = 3x - 7$$

Graphing:



Substitution:

$$-3x + 3x + 7 = 5$$

$$7 = 5$$

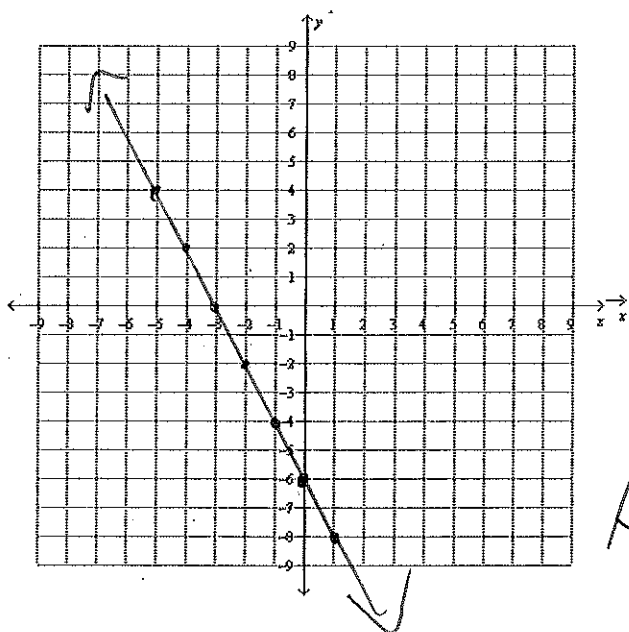
No solution

Answer \rightarrow no sol.

$$4. \quad y = -6 - 2x$$

$$2x + y = -6 \rightarrow y = -2x - 6$$

Graphing:



Substitution:

$$2x + -6 - 2x = -6$$

$$-6 = -6 \quad \checkmark$$

Answer \rightarrow Infinitely Many