

Solving one no infinite by graphing

Graph the following lines to find how many solutions they have. (First put in slope-intercept form.)

$$\begin{cases} y + 1 = 3x \\ 2y = -6x - 8 \end{cases}$$

$$\begin{array}{r} y + 1 = 3x \\ -1 \quad -1 \\ \hline y = 3x - 1 \end{array} \quad \begin{array}{r} 2y = -6x - 8 \\ \frac{2y}{2} = \frac{-6x - 8}{2} \\ \hline y = -3x - 4 \end{array}$$

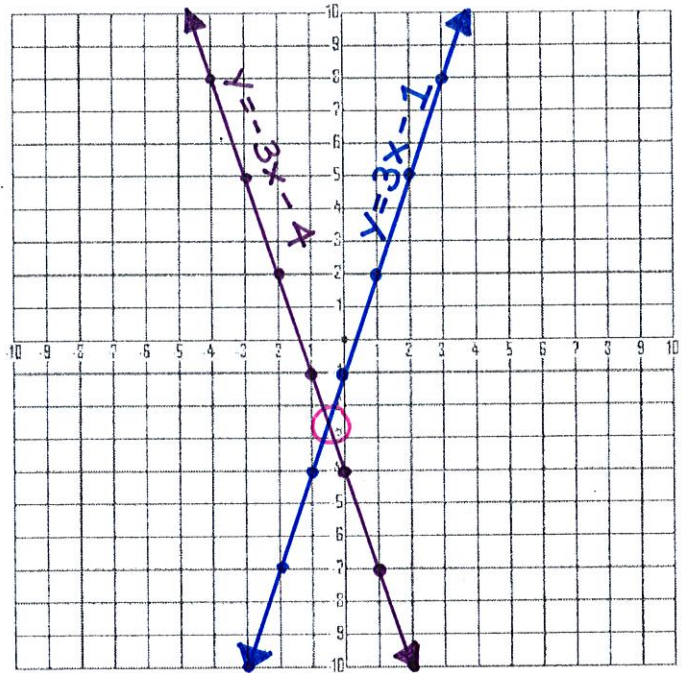
1 Solution

• Different R.o.C.

Graph the lines.

Solve the system and indicate the solution on the graph.

$$\begin{array}{r} 3x - 1 = -3x - 4 \\ +3x \quad +3x \\ \hline 6x - 1 = -4 \\ +1 \quad +1 \\ \hline 6x = -3 \\ \frac{6x}{6} = \frac{-3}{6} \\ x = -\frac{1}{2} \end{array} \quad \begin{array}{l} y = 3(-\frac{1}{2}) - 1 \\ y = -1\frac{1}{2} - 1 \\ y = -2\frac{1}{2} \end{array}$$



Point of Intersection

$(-\frac{1}{2}, -2\frac{1}{2})$