

Exercise 11

For the following exercises, determine whether the lines given by the equations below are parallel, perpendicular, or neither parallel nor perpendicular:

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

$$-3x + 4y = 1$$

Solution

Solve the given equations for y .

$$\begin{cases} y = \frac{3}{4}x + 1 \\ 4y = 3x + 1 \end{cases}$$

$$\begin{cases} y = \frac{3}{4}x + 1 \\ y = \frac{3}{4}x + \frac{1}{4} \end{cases}$$

The lines are parallel because the slopes ($3/4$ and $3/4$) are identical.