Exercise 4

Given the following set of information, find a linear equation satisfying the conditions, if possible.

Passes through $(5, 1)$ and $(3, -9)$

Solution

Find the slope of the line through these points.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-9 - 1}{3 - 5} = \frac{-10}{-2} = 5$$

Then use the point-slope formula with either of the two points to get the equation of the line.

$$y - 1 = 5(x - 5)$$

$$y - 1 = 5x - 25$$

$$y = 5x - 24$$