

Exercise 5

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

x intercept at $(-4, 0)$ and y -intercept at $(0, -6)$

Solution

Find the slope of the line through these points.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-6 - 0}{0 - (-4)} = \frac{-6}{4} = -\frac{3}{2}$$

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

$$y - (-6) = -\frac{3}{2}(x - 0)$$

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

$$y = -\frac{3}{2}x - 6$$