Exercise 6

Given each set of information, find a linear equation that satisfies the given conditions, if possible.

x-intercept at $(6, 0)$ and y-intercept at $(0, 10)$

Solution

Determine the slope of the line passing through these two points.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{10 - 0}{0 - 6} = \frac{10}{-6} = -\frac{5}{3}$$

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

$$y - 10 = -\frac{5}{3}(x - 0)$$

$$y - 10 = -\frac{5}{3}x$$

$$y = -\frac{5}{3}x + 10$$