

Exercise 68

For the following exercises, write the equation of the line satisfying the given conditions in slope-intercept form.

$$\text{Slope} = 3, \quad \text{passes through } (-3, 2)$$

Solution

The line that passes through (x_0, y_0) with the slope m has the following equation.

$$y - y_0 = m(x - x_0)$$

This is the point-slope formula. Here the slope is $m = 3$, and the point is $(-3, 2)$.

$$y - 2 = 3(x - (-3))$$

$$y - 2 = 3(x + 3)$$

$$y - 2 = 3x + 9$$

$$y = 3x + 11$$