Exercise 20

Find an equation of the tangent line to the graph of $y = g(x)$ at $x = 5$ if $g(5) = -3$ and $g'(5) = 4$.

Solution

Use the point-slope formula with the provided x-coordinate, y-coordinate, and slope to obtain the equation of the tangent line.

$$y - g(5) = g'(5)(x - 5)$$

$$y - (-3) = 4(x - 5)$$

$$y + 3 = 4x - 20$$

$$y = 4x - 23$$