Exercise 26

Write an equation for a line perpendicular to $h(t) = -2t + 4$ and passing through the point $(-4, -1)$.

Solution

A perpendicular line has the negative reciprocal of the slope of the given line: $1/2$. Use the point-slope formula to get the equation of the line through $(-4, -1)$.

$$y - (-1) = \frac{1}{2}(x - (-4))$$

$$y + 1 = \frac{1}{2}(x + 4)$$

$$y + 1 = \frac{1}{2}x + 2$$

$$y = \frac{1}{2}x + 1$$