Exercise 19

Write an equation for a line perpendicular to $f(x) = 5x - 1$ and passing through the point $(5, 20)$.

Solution

The slope of the line perpendicular to the given one is $-1/5$. Use the point-slope formula to obtain the equation of this perpendicular line.

$$y - 20 = -\frac{1}{5}(x - 5)$$

$$y - 20 = -\frac{1}{5}x + 1$$

$$y = -\frac{1}{5}x + 21$$