

Exercise 21

If an equation of the tangent line to the curve $y = f(x)$ at the point where $a = 2$ is $y = 4x - 5$, find $f(2)$ and $f'(2)$.

Solution

The tangent line touches the curve at $x = 2$, so

$$f(2) = 4(2) - 5 = 8 - 5 = 3.$$

The slope of the curve is the same as the slope of the tangent line at $x = 2$.

$$f'(2) = 4$$