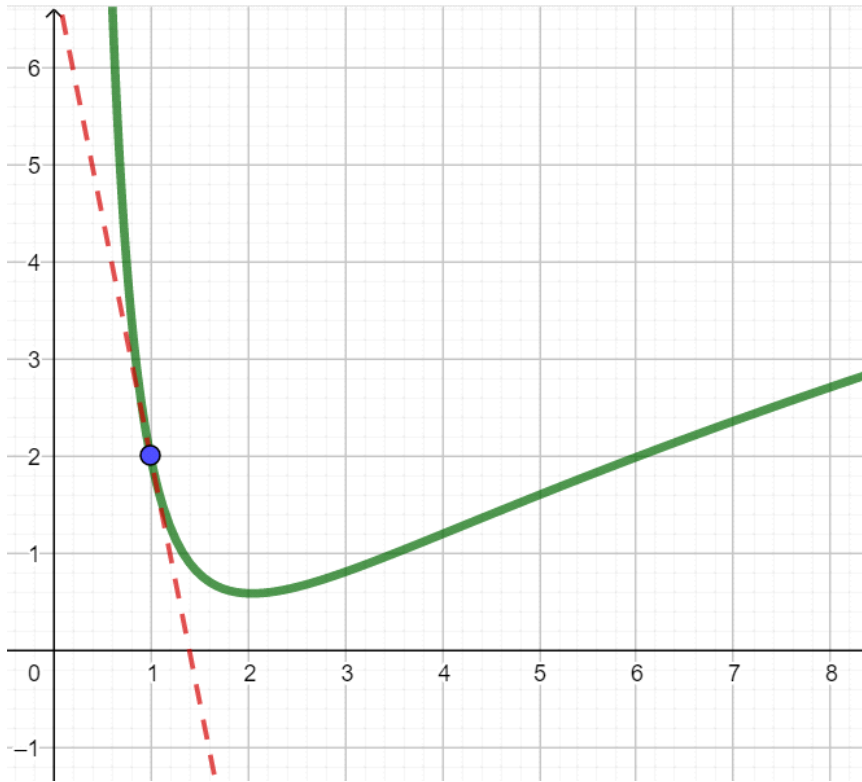


Find the gradient of the curve $y = \frac{3}{x^2} + 2\sqrt{x} - 3$ at the point (1,2)



$$y = \frac{3}{x^2} + 2\sqrt{x} - 3$$

$$y = 3x^{-2} + 2x^{0.5} - 3$$

$$\frac{dy}{dx} = 3(-2)x^{-3} + 2(0.5)x^{-0.5} + 0$$

$$\frac{dy}{dx} = -6x^{-3} + 1x^{-0.5}$$

$$\frac{dy}{dx} = \frac{-6}{x^3} + \frac{1}{\sqrt{x}}$$

When $x = 1$

$$\frac{dy}{dx} = \frac{-6}{1^3} + \frac{1}{\sqrt{1}}$$

$$\frac{dy}{dx} = -6 + 1 = -5$$