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


$$
\begin{aligned}
& y=\frac{3}{x^{2}}+2 \sqrt{x}-3 \\
& y=3 x^{-2}+2 x^{0.5}-3 \\
& \frac{d y}{d x}=3(-2) x^{-3}+2(0.5) x^{-0.5}+0 \\
& \frac{d y}{d x}=-6 x^{-3}+1 x^{-0.5} \\
& \frac{d y}{d x}=\frac{-6}{x^{3}}+\frac{1}{\sqrt{x}}
\end{aligned}
$$

When $\mathrm{x}=1$

$$
\begin{aligned}
& \frac{d y}{d x}=\frac{-6}{1^{3}}+\frac{1}{\sqrt{1}} \\
& \frac{d y}{d x}=-6+1=-5
\end{aligned}
$$

