

$$y' = 4\sqrt{x}$$

Integrate both sides:

$$\begin{aligned}\Rightarrow y &= \int 4(x)^{\frac{1}{2}} dx \\ &= 4 \left(\int x^{\frac{1}{2}} dx \right) + C \\ &= 4 \left(\frac{2x^{\frac{3}{2}}}{3} \right) + C\end{aligned}$$

$$y = \frac{8}{3} x^{\frac{3}{2}} + C$$