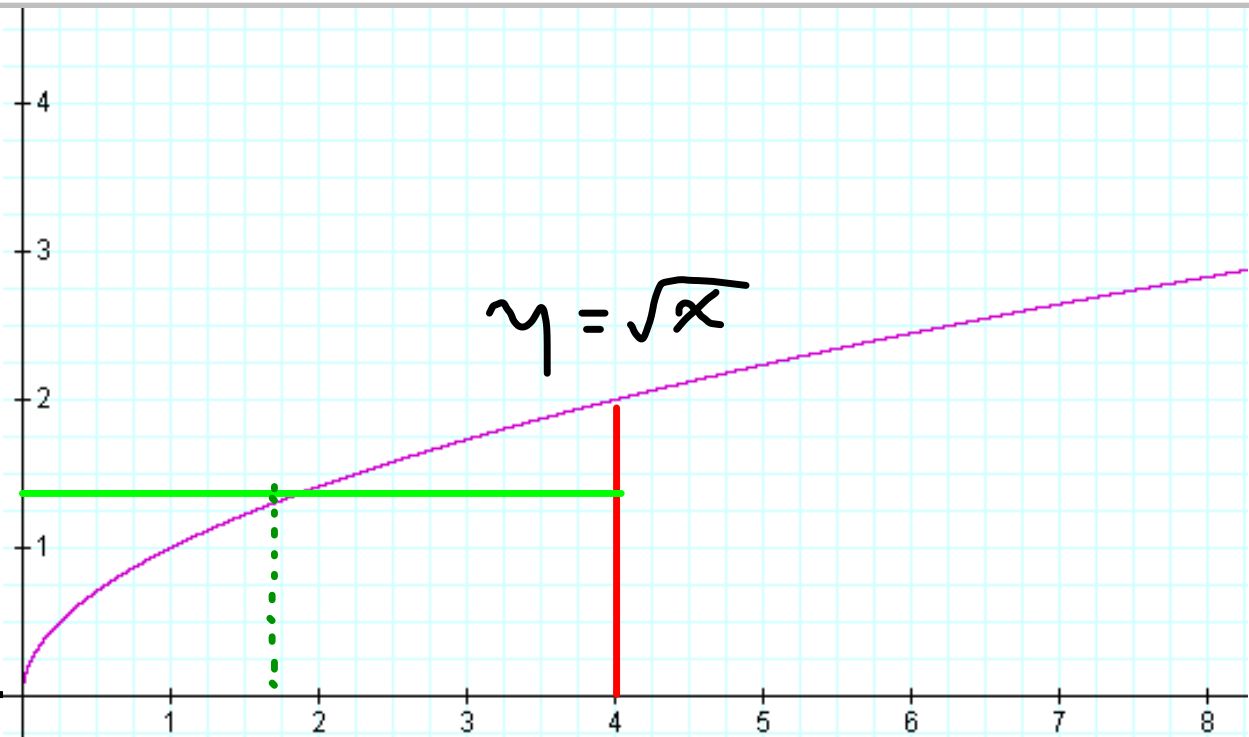


$$\int_0^4 \sqrt{x} \, dx$$

$$\frac{2}{3} x^{\frac{3}{2}} \Big|_0^4$$

$$\boxed{\frac{16}{3}}$$



$$\text{Avg function value} = \frac{1}{4-0} \int_0^4 \sqrt{x} \, dx$$

$$\therefore \frac{1}{4} \left(\frac{16}{3} \right) = \frac{4}{3}$$

$$\text{Area} = \int_0^{\frac{\pi}{2}} \cos x dx - \int_{\frac{\pi}{2}}^{\pi} \cos x dx$$

$$\text{Area} = 2 \int_0^{\frac{\pi}{2}} \cos x dx$$

