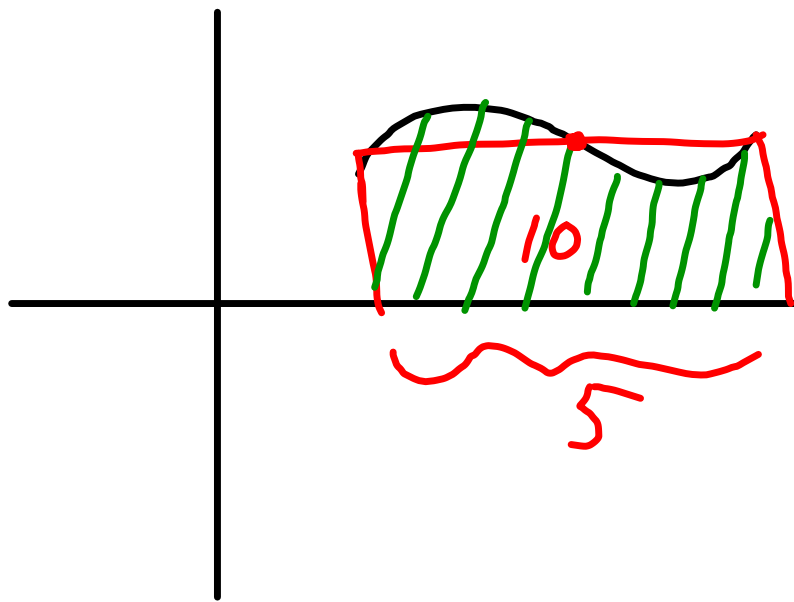
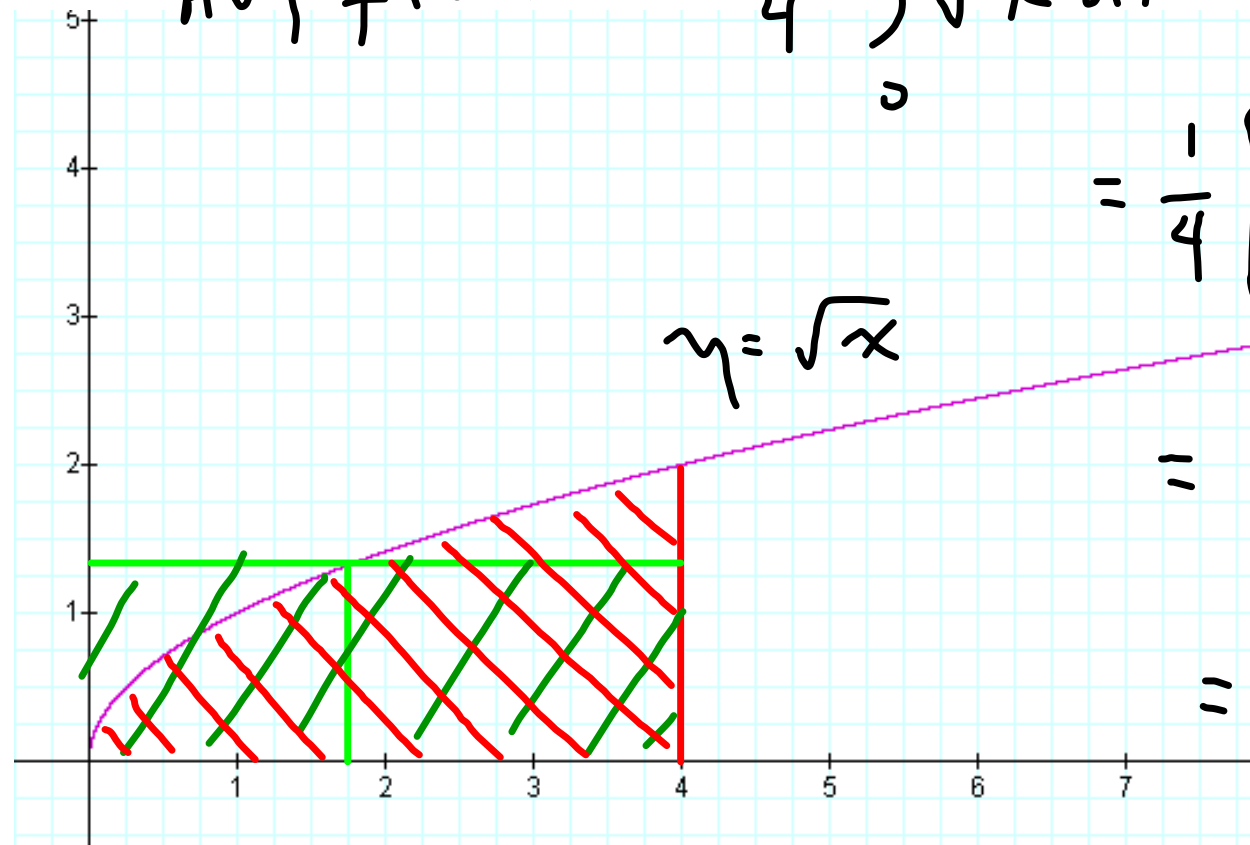


$$\text{Avg function value} = \frac{\int_a^b f(x) dx}{b-a}$$

$$= \frac{1}{b-a} \int_a^b f(x) dx$$



$$\text{Avg fn value} = \frac{1}{4} \int_0^4 \sqrt{x} dx$$

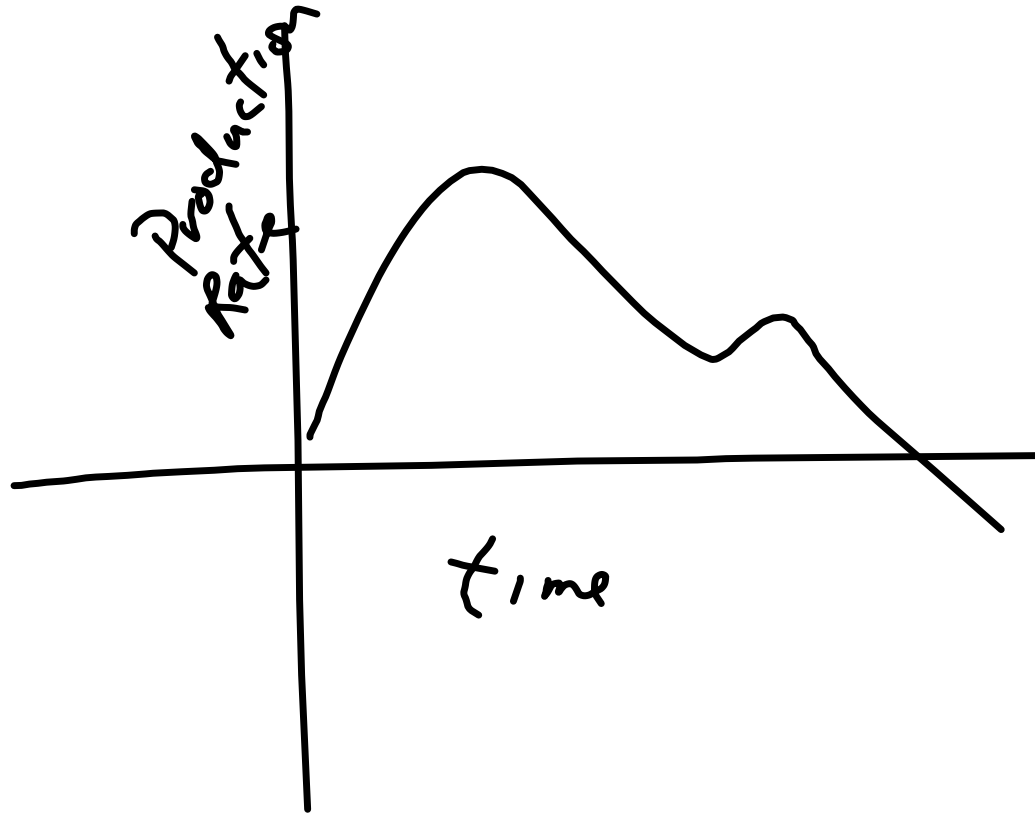


$$= \frac{1}{4} \left[ \frac{2}{3} x^{\frac{3}{2}} \right]_0^4$$

$$= \frac{1}{4} \cdot \frac{16}{3}$$

$$= \frac{4}{3}$$

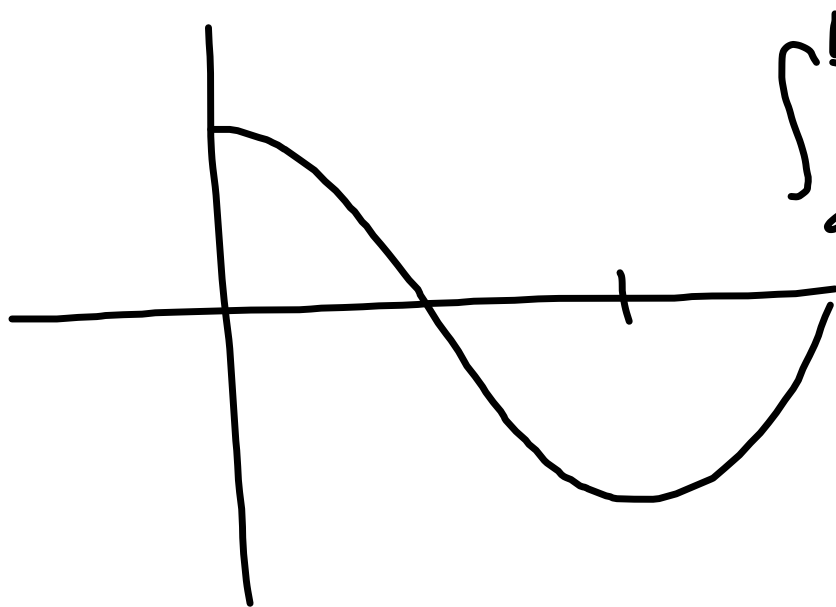
$$\int x^{\frac{1}{2}} dx = \frac{x^{\frac{3}{2}}}{\frac{3}{2}}$$
$$\int x^n dx = \frac{x^{n+1}}{n+1} + C$$



$$\int \cos x dx = F(a) - F(b)$$

"area"  
Net change

F



$$\int_a^b \cos x dx = \sin b - \sin a$$