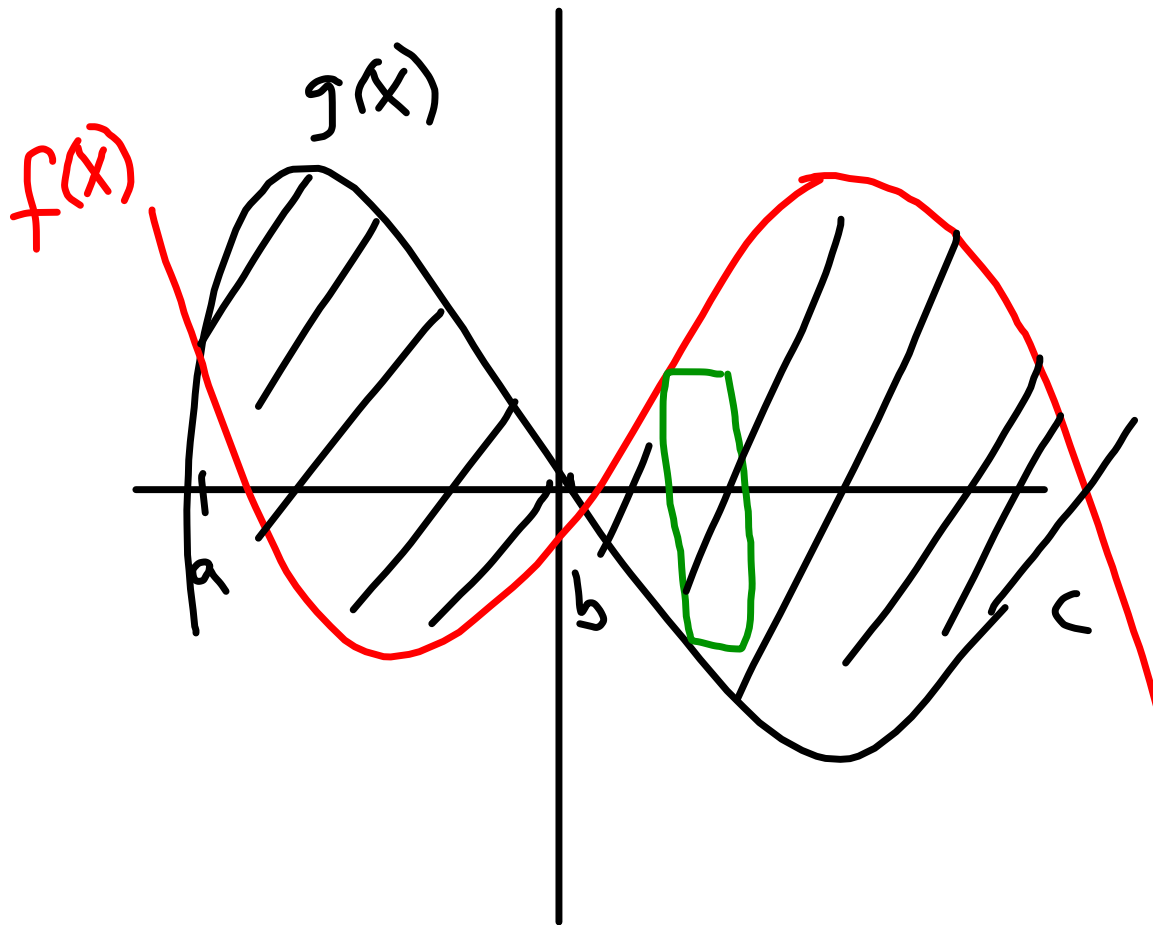


$$A = \int_a^b g(x) - f(x) dx + \int_b^c f(x) - g(x) dx$$

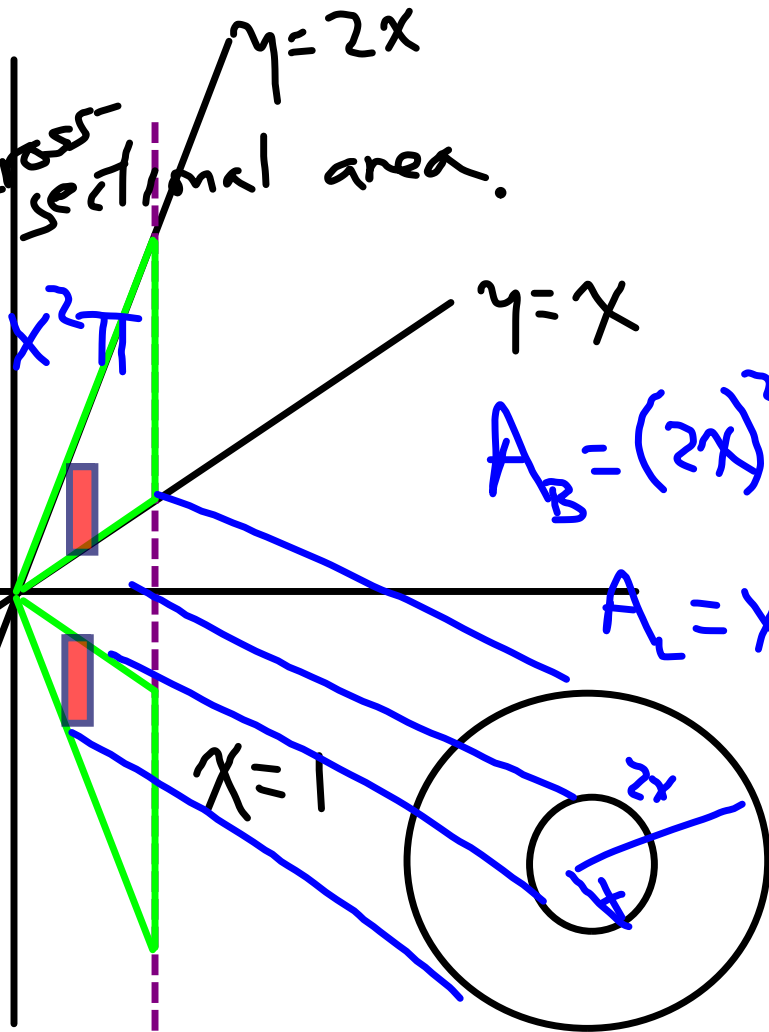


$$V = \int_a^b A(x) dx \quad \text{where } A(x) = \text{the cross-sectional area.}$$

$$A(x) = (2x)^2 \pi - x^2 \pi = 3x^2 \pi$$

$$A_B = (2x)^2 \pi$$

$$A_L = x^2 \pi$$



$$V = \pi \int_0^1 3x^2 dx$$

$$\text{or } \int_0^1 3\pi x^2 dx$$