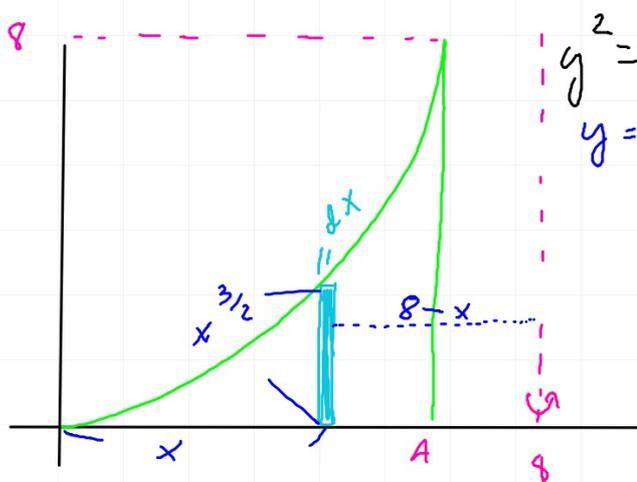


Volumes of Revolution--Shell Method



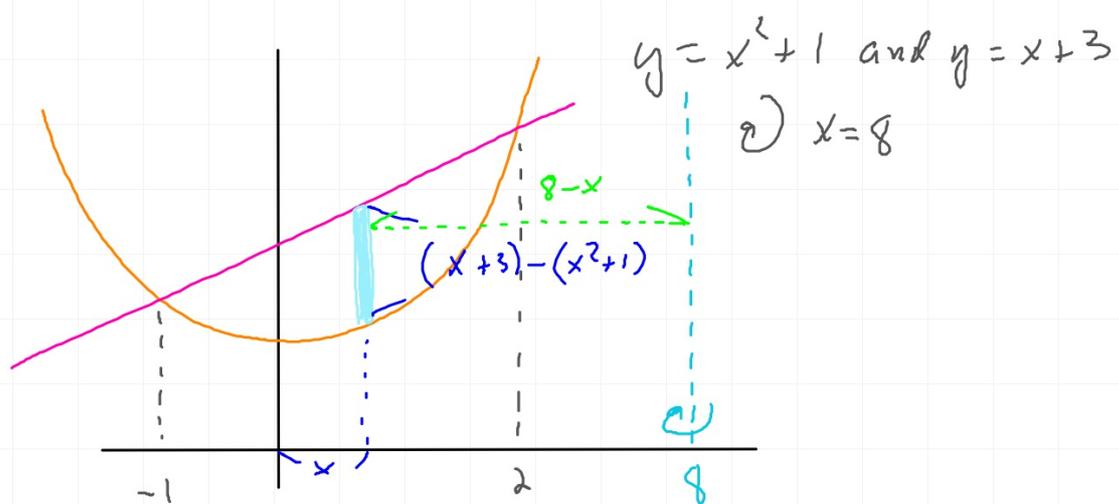
$$y^2 = x^3 \quad \text{① } x=1$$
$$y = x^{3/2}$$

$$V_s = 2\pi \int_0^4 (8-x)(x^{3/2}) dx$$

Shells

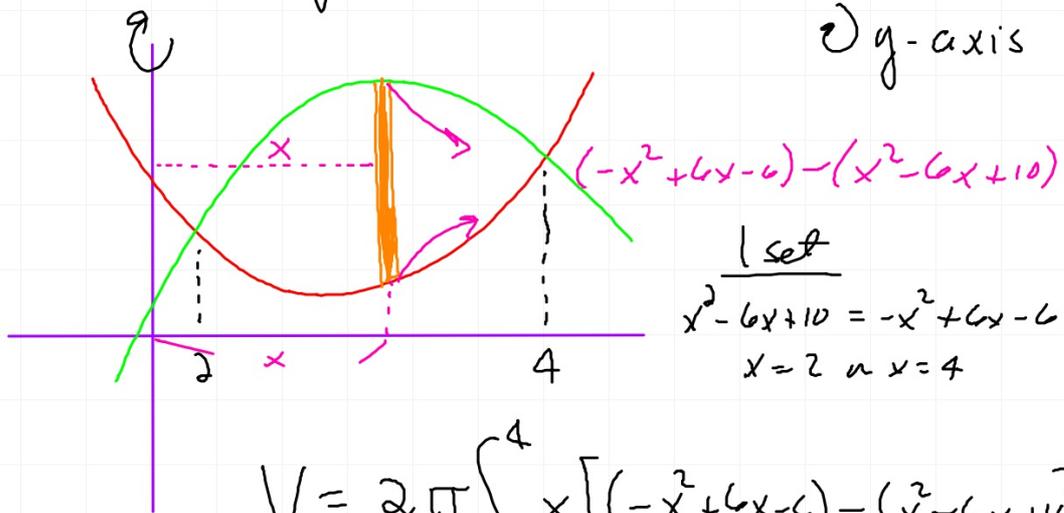
$$2\pi r h \text{ thickness}$$

↑



$$V_S = 2\pi \int_{-1}^2 (8-x) [(x+3) - (x^2+1)] dx$$

(22) Bands: $y = x^2 - 6x + 10$ and $y = -x^2 + 6x - 6$
 ↻ y -axis



$$\begin{aligned} & \text{set} \\ x^2 - 6x + 10 &= -x^2 + 6x - 6 \\ x &= 2 \text{ or } x = 4 \end{aligned}$$

$$V = 2\pi \int_2^4 x \left[(-x^2 + 6x - 6) - (x^2 - 6x + 10) \right] dx$$