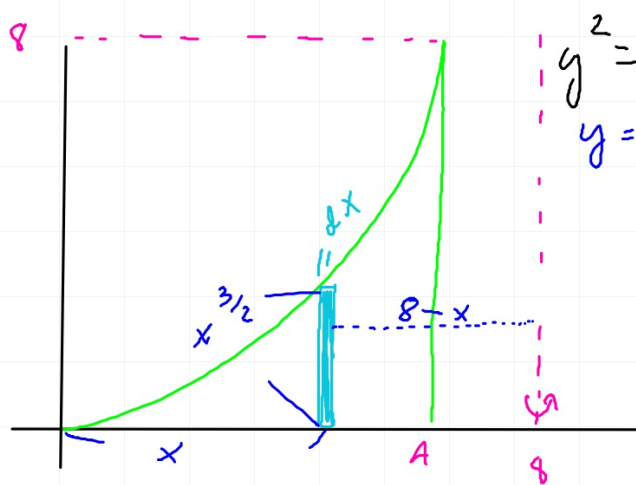


Volumes of Revolution--Shell Method



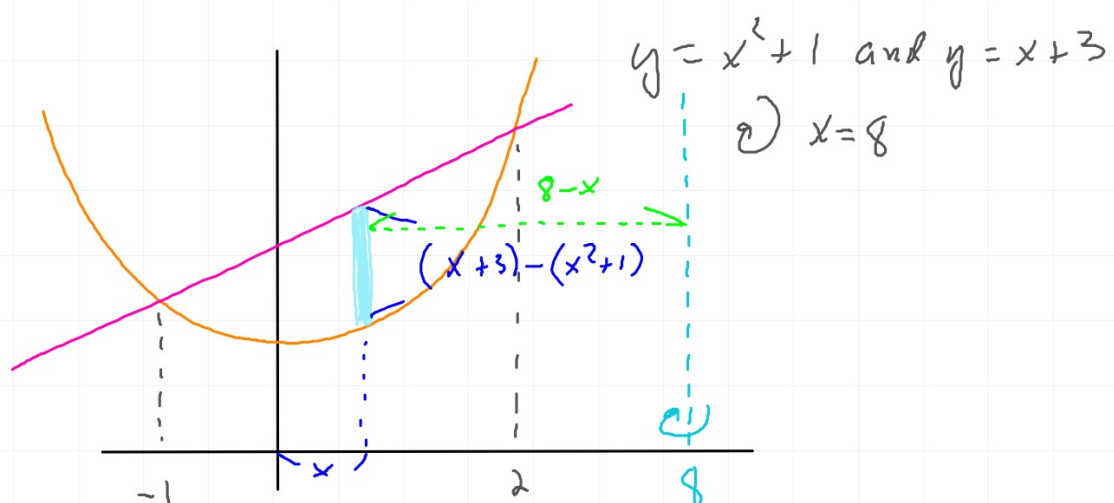
$$y^2 = x^3 \quad \text{or } x = 1$$

$$y = x^{3/2}$$

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

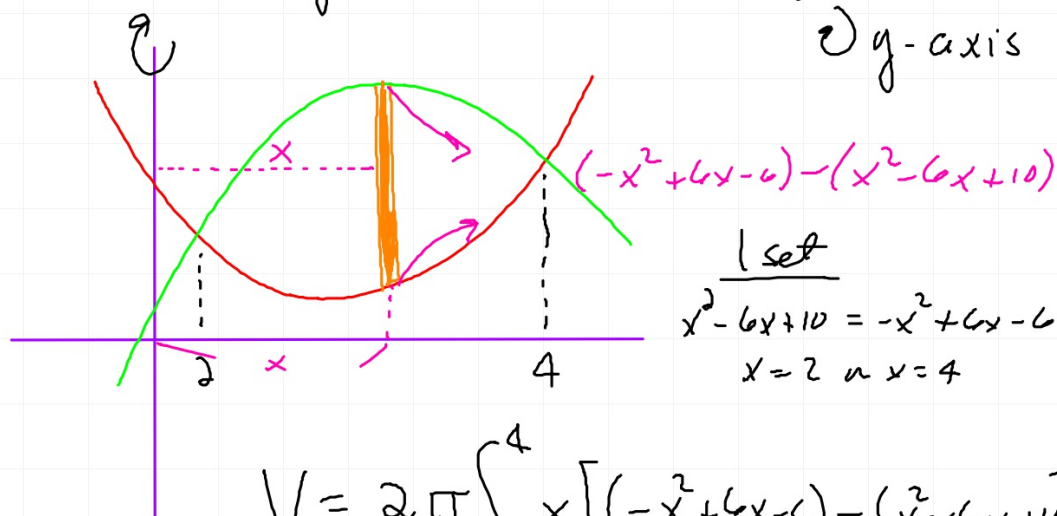
Shells

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



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

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



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