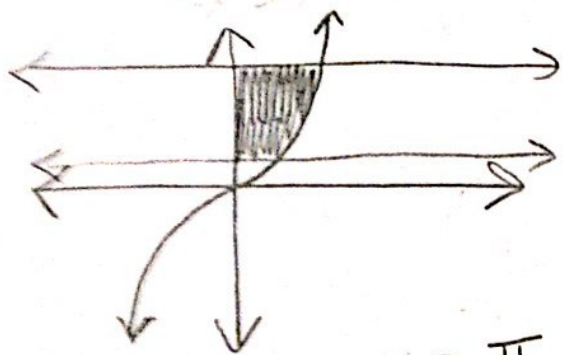


③ Volume of $y = x^3$, $y = 1$, $y = 8$ revolved around y -axis $x = y^{1/3}$



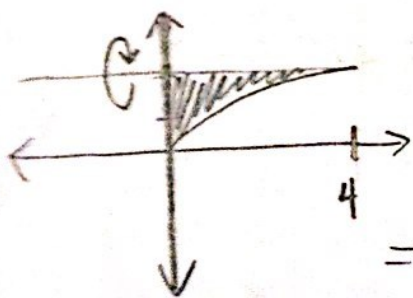
$$V = \pi \int_1^8 (y^{1/3})^2 dy$$

$$V = \pi \left(\frac{3}{5} y^{5/3} \Big|_1^8 \right)$$

$$= \pi \left[\left(\frac{3}{5} \cdot 32 \right) - \frac{3}{5} \right] = \pi \left(\frac{96}{5} - \frac{3}{5} \right)$$

$$= \boxed{\frac{93\pi}{5}} u^3$$

④ Volume of solid: $y = \sqrt{x}$, $y = 2$, $x = 0$ revolved around $y = 2$



$$V = \pi \int_0^4 (2 - \sqrt{x})^2 dx$$

$$= \pi \int_0^4 (4 - 4\sqrt{x} + x) dx$$

$$= \pi \left(4x - \frac{8}{3} x^{3/2} + \frac{1}{2} x^2 \Big|_0^4 \right)$$

$$= \pi \left[\left(16 - \frac{64}{3} + 8 \right) - 0 \right] = \pi \left(\frac{72}{3} - \frac{64}{3} \right) =$$

$$\boxed{\frac{8\pi}{3}} u^3$$