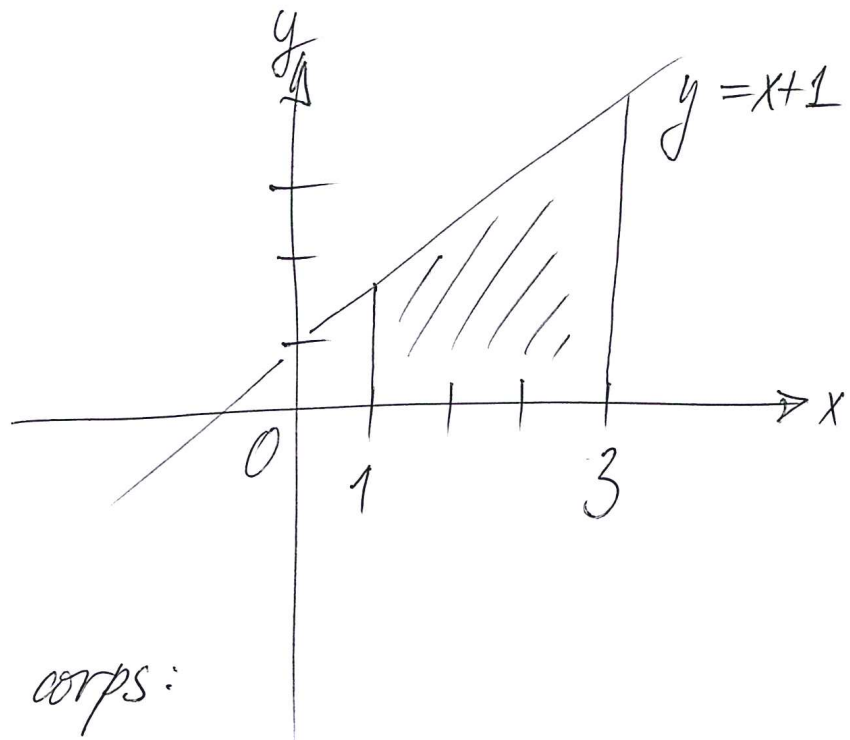
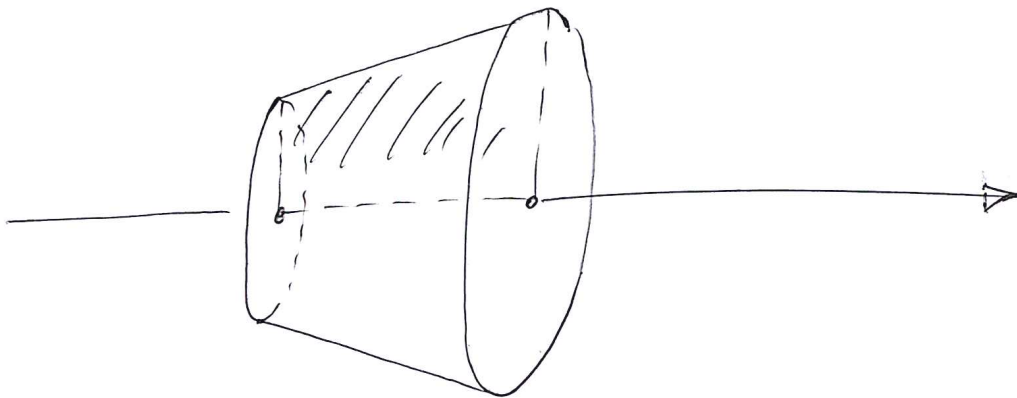


2)



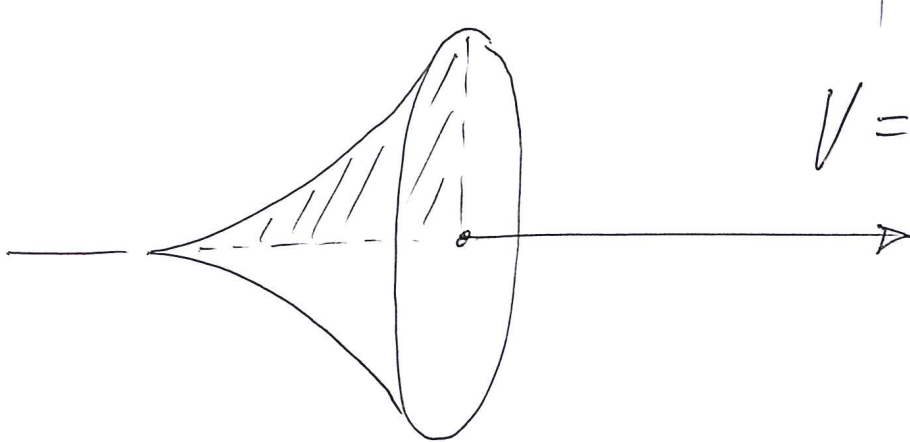
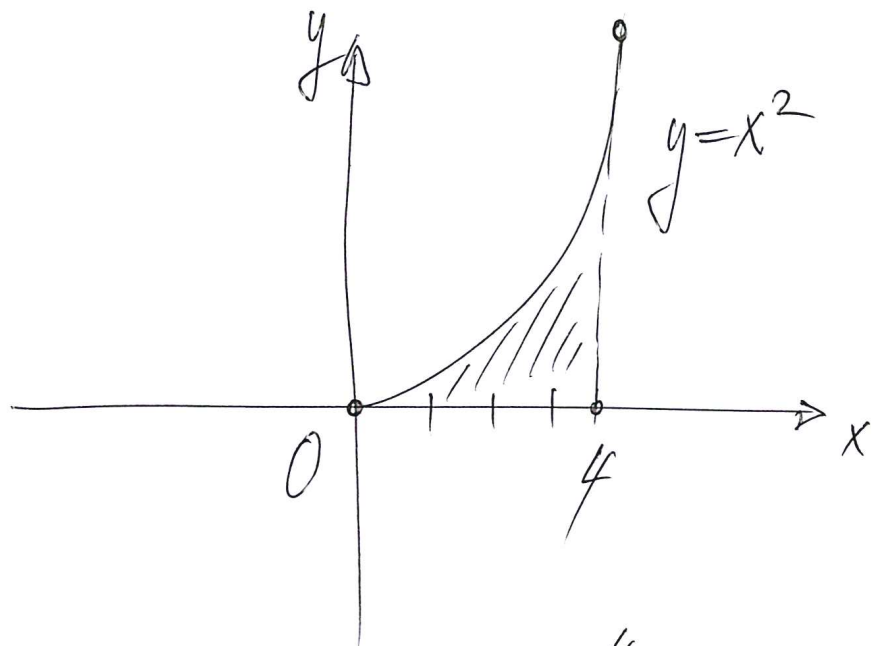
Esquisse du corps:



$$V = \pi \int_1^3 (x+1)^2 dx = \pi \cdot \frac{1}{3} (x+1)^3 \Big|_1^3$$

$$= \pi \cdot \left(\frac{64}{3} - \frac{8}{3} \right) = \frac{56\pi}{3}$$

6)

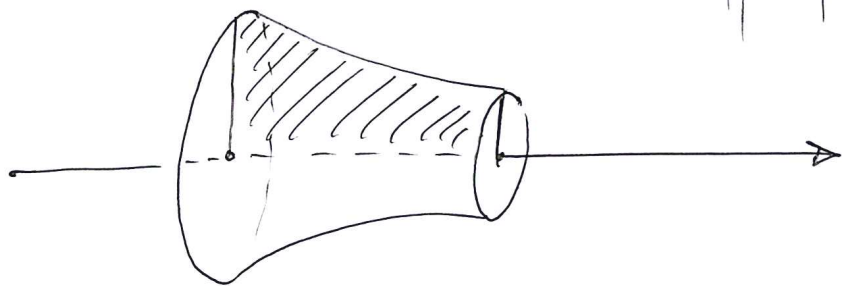
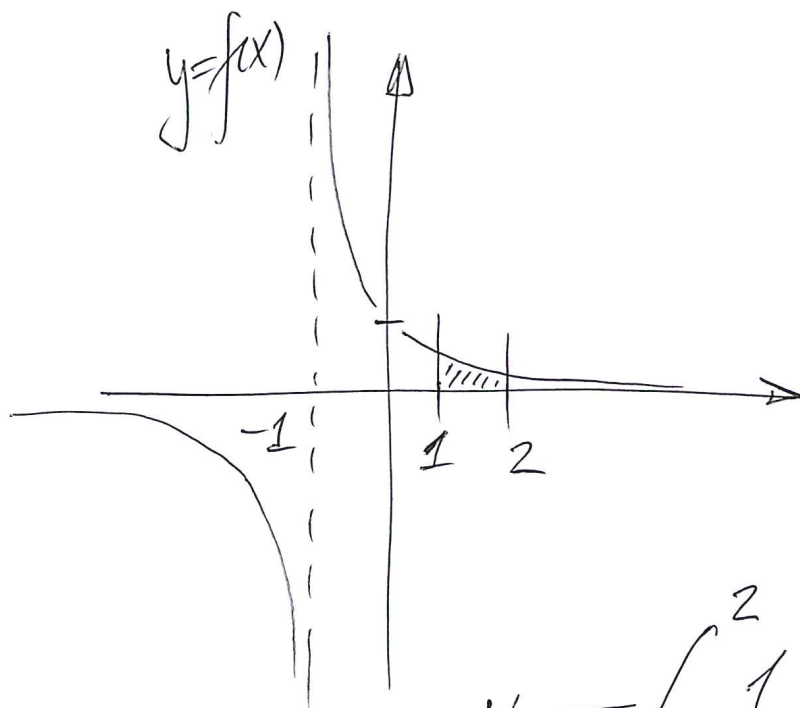


$$V = \pi \int_0^4 (x^2)^2 dx$$

$$\int_0^4 (x^2)^2 dx = \int_0^4 x^4 dx = \frac{1}{5} x^5 \Big|_0^4 = \frac{1024}{5}$$

$$\Rightarrow V = \pi \cdot \frac{1024}{5} = \frac{1024\pi}{5}$$

c)



$$V = \pi \int_1^2 \frac{1}{(x+1)^2} dx$$

$$\int_1^2 \frac{1}{(x+1)^2} dx = \int_1^2 (x+1)^{-2} \cdot 1 \cdot dx$$

$$= \int_1^2 (x+1)^{-2} \cdot (x+1)' \cdot dx = \frac{1}{-2+1} \cdot (x+1)^{-2+1} \Big|_1^2$$

$$= (-1) \cdot (x+1)^{-1} \Big|_1^2 = \frac{-1}{x+1} \Big|_1^2 = \frac{-1}{3} - \left(\frac{-1}{2} \right)$$

$$= \frac{1}{2} - \frac{1}{3} = \frac{1}{6} \quad \Rightarrow \quad V = \pi \cdot \frac{1}{6} = \frac{\pi}{6}$$