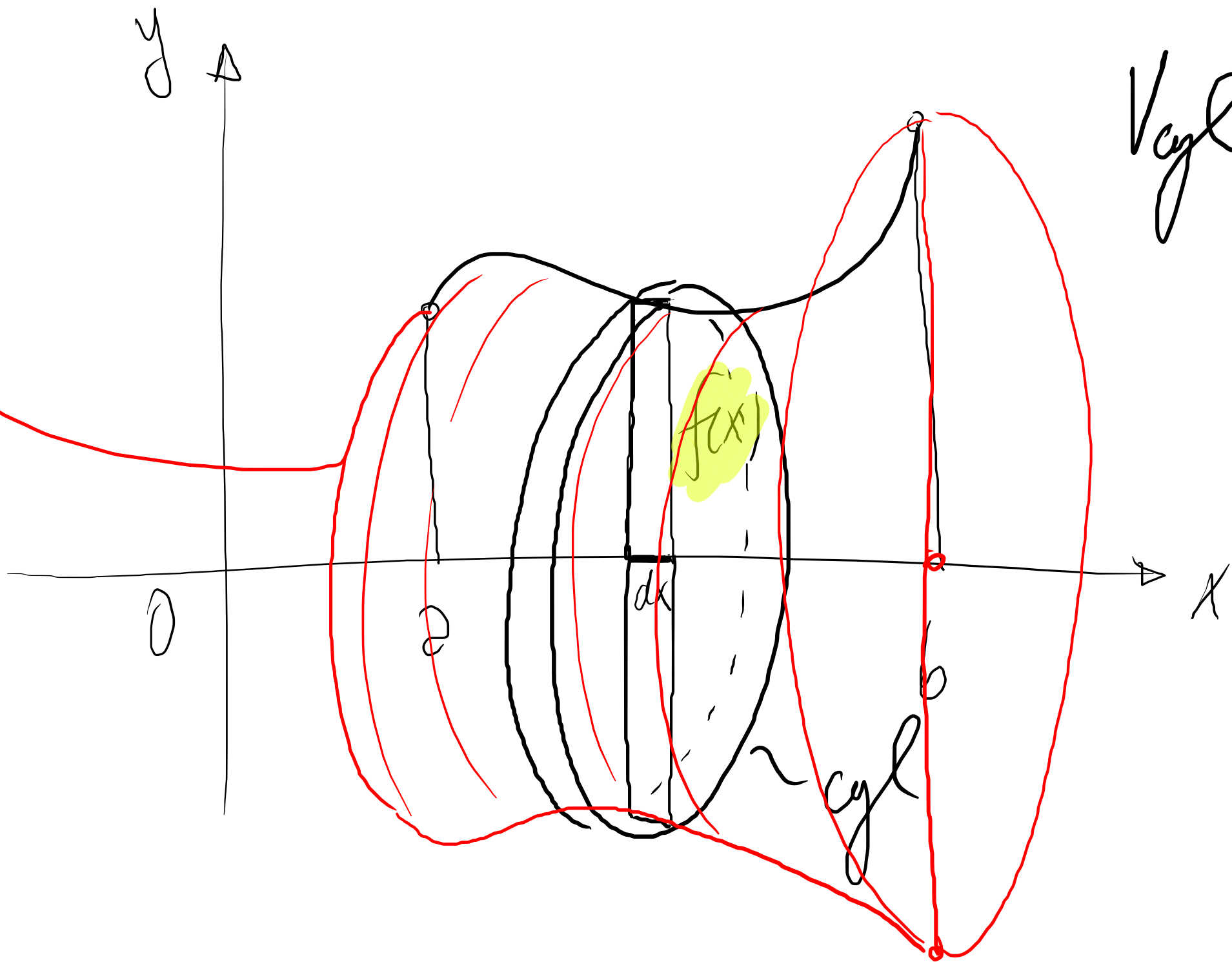


$$\pi \int_a^b f^2(x) dx$$



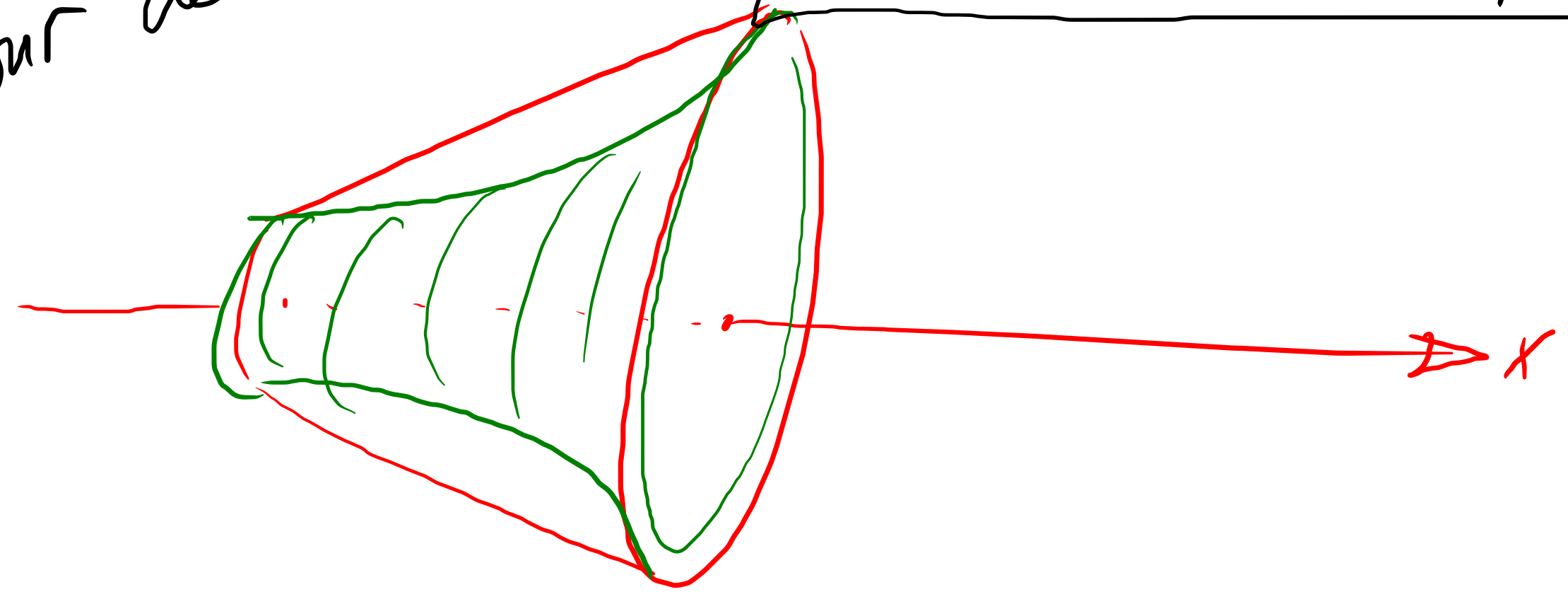
$$V_{\text{cyl}} = \text{base} \cdot \text{hauteur}$$
$$= \pi \cdot f(x)^2 \cdot dx$$

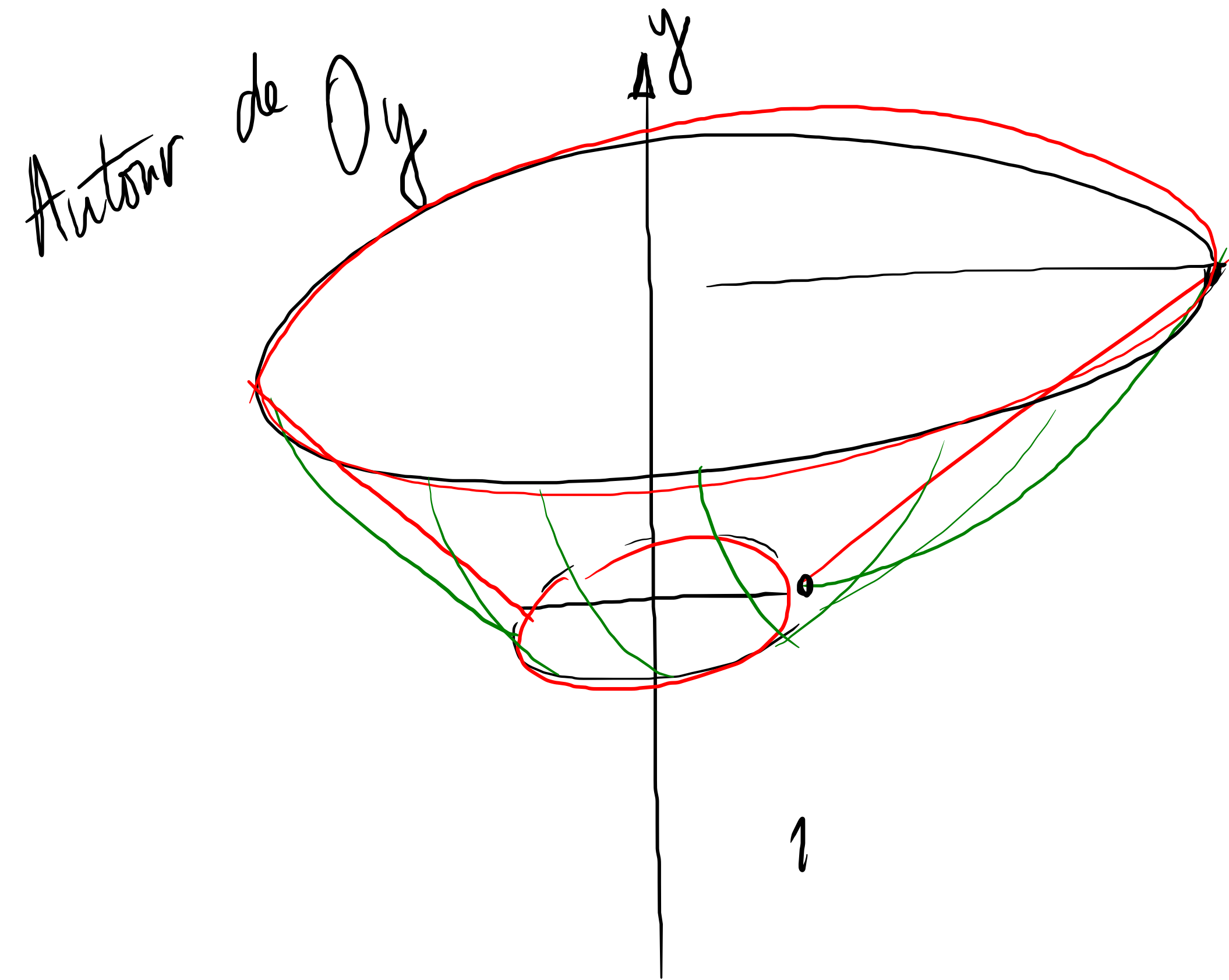
$$\int_a^b \pi f^2(x) dx$$

2.3.39

Au tour de Ox

$$\pi \int_1^2 (3x)^2 dx - \pi \int_1^2 (x^2 + 2)^2 dx$$

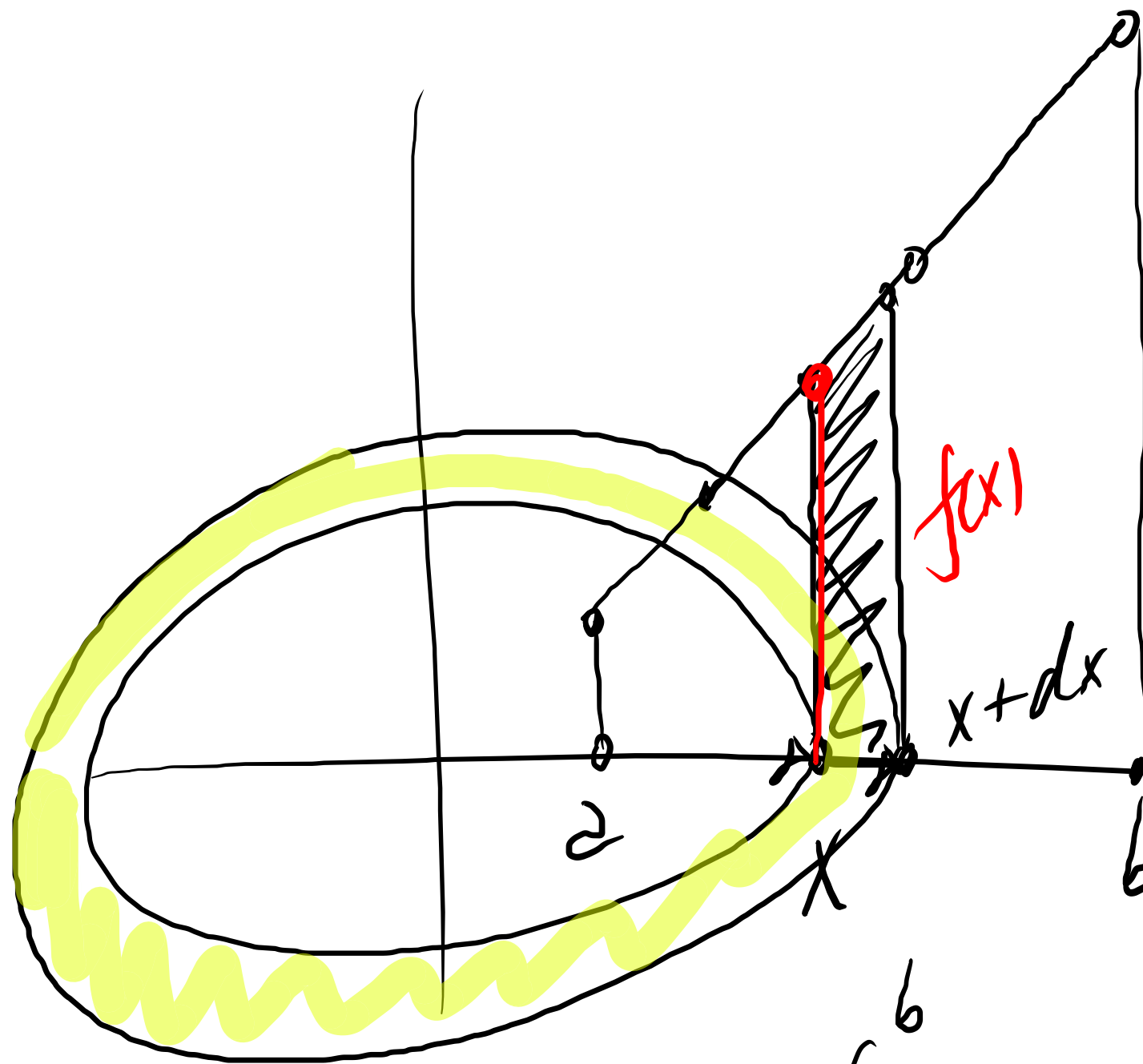




$$2\pi \int_a^b f(x) \cdot x \cdot dx$$

$$2\pi \cdot \int_1^2 (x^2 + 2) \cdot x \cdot dx$$

$$\left(-2\pi \int_1^2 3x \cdot x \cdot dx \right)$$



$$\pi (x+dx)^2 - \pi x^2 =$$

$$\pi [x^2 + 2x dx + dx^2 - x^2] =$$

$$2\pi x dx + \cancel{\pi dx^2}$$

negligible

$$\int_a^b 2\bar{u} \cdot x \cdot dx \cdot f(x) = \boxed{2\bar{u} \int_a^b f(x) x dx}$$