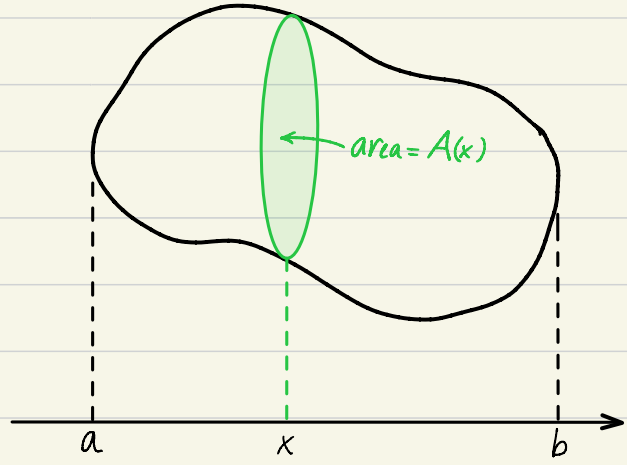
* Recall: (How to find volumes of solids)

- General formula:

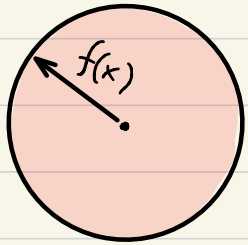
$$\text{Volume} = \int_a^b A(x)\,dx$$



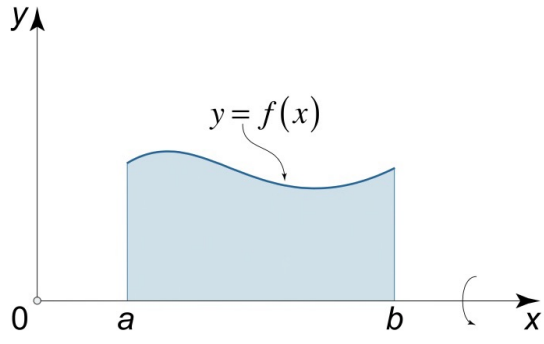
- **Solids of revolution**

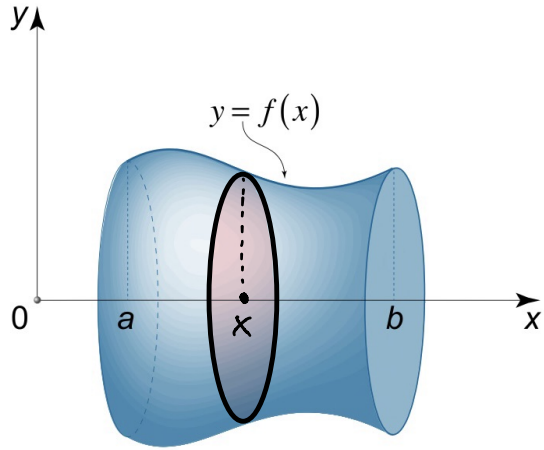
(The "disk method")

$$A(x) = \pi (f(x))^2$$



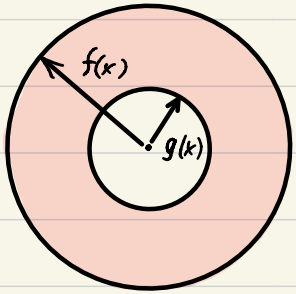
$$\text{volume} = \pi \int_a^b (f(x))^2 \, dx$$





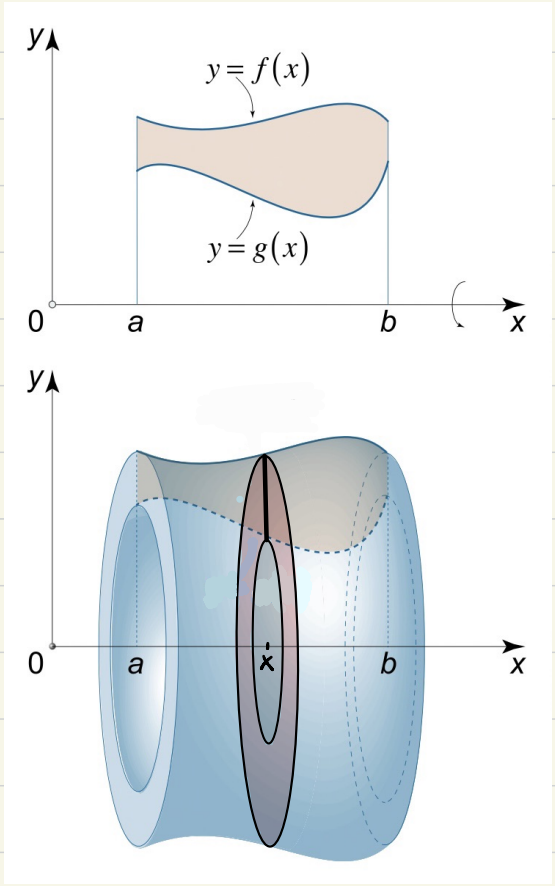
* Solids of revolution

("The "washer method")



$$A(x) = \pi (f(x))^2 - \pi (g(x))^2$$

$$\text{volume} = \pi \int_a^b (f^2(x) - g^2(x))\, dx$$



* Solids of revolution

(The "cylindrical shells method")

$$\text{Volume} = 2\pi \int_a^b x\, f(x)\, dx$$