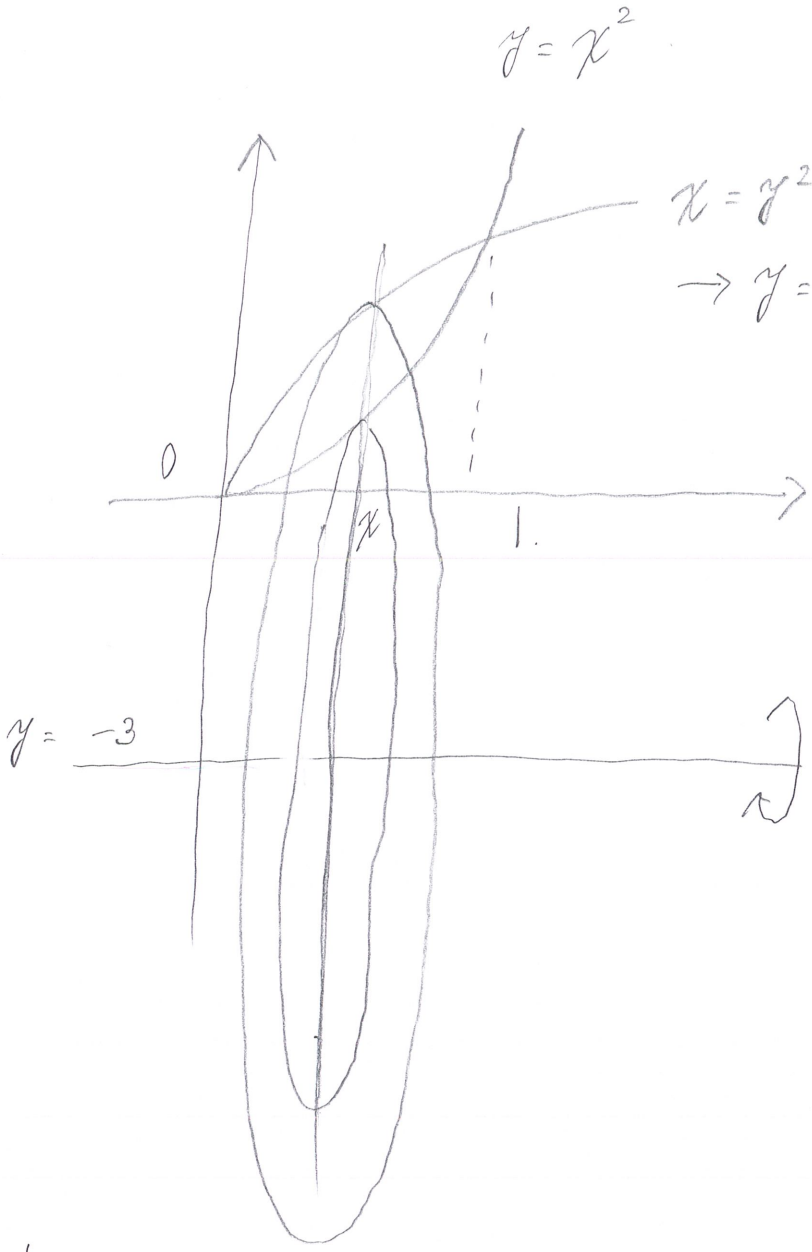
8.1.

(20)

(i) Washer



$$V = \int_0^1 \left(\pi r_{BIG}^2 - \pi r_{SMALL}^2 \right) dx$$

$$= \int_0^1 \left\{ \pi \left(\sqrt{x}\right)^2 - \pi \left(x^2\right)^2 \right\} dx$$

$$\int_0^1 \left\{ \pi \left(\sqrt{x}+3\right)^2 - \pi \left(x^2+3\right)^2 \right\} dx$$