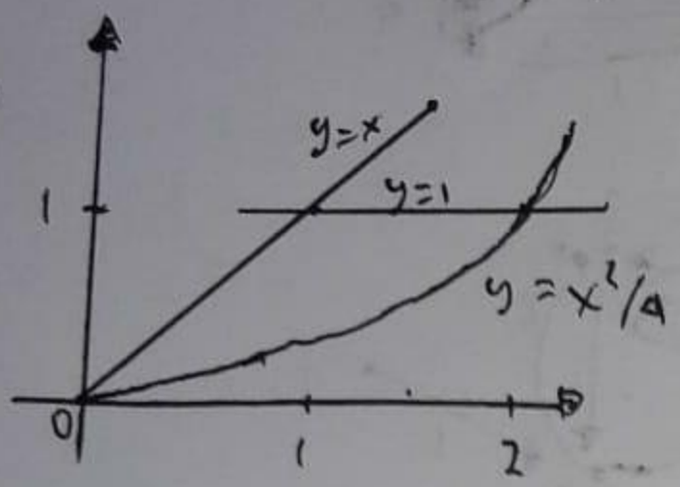
Muchammad Daniyal Kautsar
21/479067/TK/52800

Quiz KVT pertemuan 11

1.



$$L = \int_0^1 x - \frac{x^2}{4}\,dx + \int_1^2 1 - \frac{x^2}{4}\,dx$$

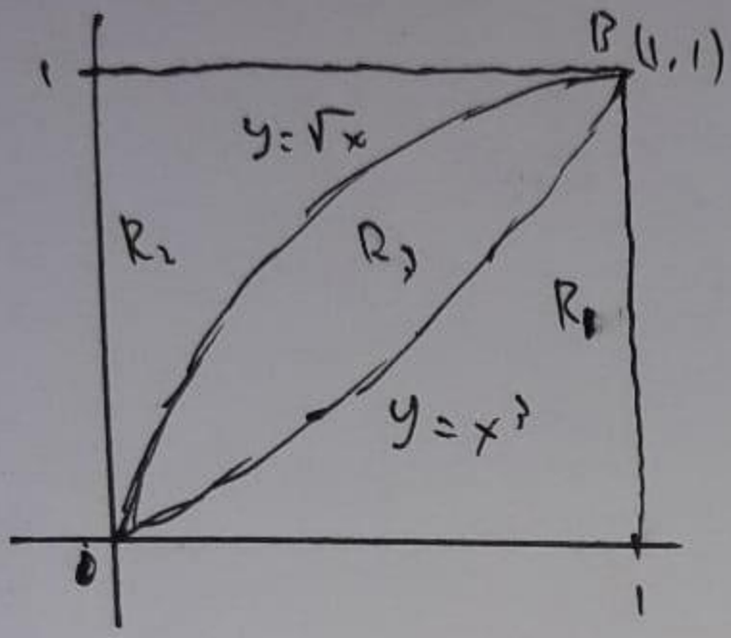
$$= \left(\frac{1}{2}x^2 - \frac{x^3}{12}\,\Big|_0^1\right) + \left(x - \frac{x^3}{12}\,\Big|_1^2\right)$$

$$= \frac{1}{2} - \frac{1}{12} + \left(2 - \frac{8}{12} - 1 + \frac{1}{12}\right)$$

$$= \frac{1}{2} - \frac{1}{12} + 2 - \frac{8}{12} - 1 + \frac{1}{12}$$

$$= \frac{18}{12} - \frac{8}{12} = \frac{10}{12} = 0,833 \text{ satuan}$$

2. Volume R_2 terhadap sumbu x



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

$$= \pi \int_0^1 1 - x \, dx$$

$$= \pi \left(x - \frac{x^2}{2} \Big|_0^1 \right)$$

$$= \pi \left(1 - \frac{1}{2}\right) = \frac{1}{2}\pi \text{ satuan}$$