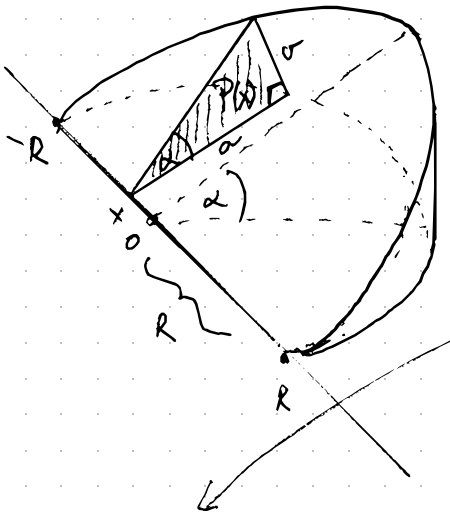
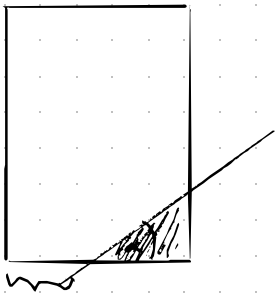
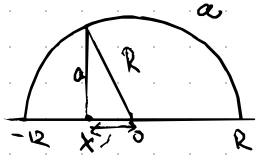
Primjer:





TLOCRT odredimo



$$V = \int_{-R}^{R} P(x)\,dx$$

$v = ?$

$$R^2 = a^2 + x^2 \quad \Leftarrow \quad a = \sqrt{R^2 - x^2}$$

$$tg\alpha = \frac{v}{a} \quad \Leftarrow \quad v = tg\alpha \cdot a = tg\alpha \cdot \sqrt{R^2 - x^2}$$

$$P(x) = \frac{a \cdot v}{2} \quad \Leftarrow$$

$$V = \int_{-R}^{R} \frac{\sqrt{R^2-x^2} \cdot \sqrt{R^2-x^2} \cdot tg\alpha}{2} = \frac{1}{2} tg\alpha \int_{-R}^{R} (R^2 - x^2)\,dx = 2 \cdot \frac{1}{2} tg\alpha \int_{0}^{R} (R^2 - x^2)\,dx$$

integral parne fije

$$V = tg\alpha \left(R^2 x - \frac{x^3}{3} \right) \Big|_0^R = \boxed{\frac{2}{3} R^3 tg\alpha}$$