

Zadatak 32. Kolika je površina jednakokračnog trokuta upisanog paraboli $y^2 = 3x$ tako da je jedan vrh trokuta ishodište koordinatnog sustava, a druga dva vrha imaju iste apscise kao i žarište parabole?

Rješenje.

$$H \dots y^2 = 3x \implies p = \frac{3}{2}, F\left(\frac{3}{4}, 0\right)$$

$$P_{\triangle ABC} = ?$$

$$B, C \in H \implies A(0, 0), B\left(\frac{3}{4}, \sqrt{3 \cdot \frac{3}{4}}\right), C\left(\frac{3}{4}, -\sqrt{3 \cdot \frac{3}{4}}\right)$$

$$A(0, 0), B\left(\frac{3}{4}, \frac{3}{2}\right), C\left(\frac{3}{4}, -\frac{3}{2}\right)$$

$$P = \frac{d(B, C) \cdot v_{\triangle}}{2}$$

$$P = \frac{\sqrt{\left(\frac{3}{4} - \frac{3}{4}\right)^2 + \left(\frac{3}{2} + \frac{3}{2}\right)^2} \cdot \frac{3}{4}}{2}$$

$$P = \frac{\frac{6}{2} \cdot \frac{3}{4}}{2}$$

$$P = \frac{9}{8}$$

