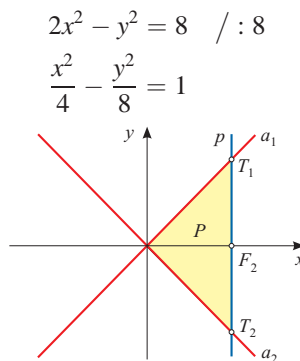


Zadatak 24. Kolika je površina trokuta što ga zatvaraju asimptote hiperbole $2x^2 - y^2 = 8$ s pravcem koji prolazi njezinim žarištem okomito na os Ox ?

Rješenje.



Asimptote:

$$a_{1,2} \dots y = \pm \frac{b}{a}x = \pm \frac{\sqrt{8}}{\sqrt{4}}x = \pm \sqrt{2}x$$

$$e^2 = a^2 + b^2 = 12 \implies e = 2\sqrt{3}$$

$$p \dots x = 2\sqrt{3}$$

$$T_{1,2}(x_0, y_0) = a_{1,2} \cap p$$

$$T_{1,2} \in p \implies x_0 = 2\sqrt{3}$$

$$T_{1,2} \in a_{1,2} \implies y_0 = \pm \sqrt{2}x_0 = \pm \sqrt{2} \cdot 2\sqrt{3}$$

$$\implies T_1(2\sqrt{3}, 2\sqrt{2}\sqrt{3}), \quad T_2(2\sqrt{3}, -2\sqrt{2}\sqrt{3})$$

$$P = \frac{2 \cdot y_0 \cdot e}{2} = y_0 \cdot e = 2\sqrt{2}\sqrt{3} \cdot 2\sqrt{3} \implies P = 12\sqrt{3}$$