

Zadatak 6. Kolike su duljine radijvektora točke $T(4, 6)$ hiperbole $3x^2 - y^2 = 12$?

Rješenje.

$$T(4, 6)$$

$$3x^2 - y^2 = 12 \quad / : 12$$

$$\frac{x^2}{4} - \frac{y^2}{12} = 1 \implies a = 2, \quad b = 2\sqrt{3}$$

$$e^2 = a^2 + b^2 = 4 + 12 = 16 \implies e = 4$$

$$F_1(-4, 0), \quad F_2(4, 0)$$

$$r_1 = d(T, F_1) = \sqrt{(4+4)^2 + (6-0)^2} = \sqrt{64+36} = 10 \implies r_1 = 10$$

$$r_1 - r_2 = 2a \implies r_2 = r_1 - 2a = 10 - 2 \cdot 2 = 6 \implies r_2 = 6$$