

Zadatak 40. Nacrtaj hiperbole zadane sljedećim jednažbama:

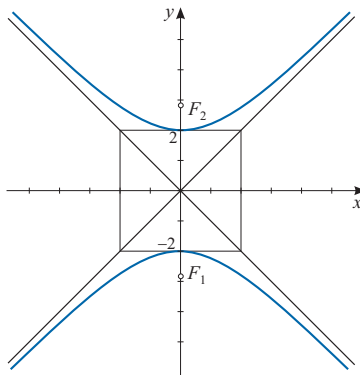
1) $y^2 - x^2 = 4$;

2) $4x^2 - 25y^2 = -16$.

Rješenje. 1)

$$y^2 - x^2 = 4 \quad / : 4$$

$$\frac{y^2}{4} - \frac{x^2}{4} = 1 \implies a = b = 2, \quad e = \sqrt{a^2 + b^2} = 2\sqrt{2} \approx 2.83$$



2)

$$4x^2 - 25y^2 = -16 \quad / : (-16)$$

$$\frac{y^2}{\frac{16}{25}} - \frac{x^2}{4} = 1 \implies a = \frac{4}{5}, \quad b = 2,$$

$$e = \sqrt{a^2 + b^2} = \sqrt{\frac{16}{25} + 4} = \sqrt{\frac{116}{25}} = \frac{2}{5}\sqrt{29} \approx 2.154$$

