

21.13

Οι ασύμπτωτες της υπερβολής $\frac{x^2}{\alpha^2} - \frac{y^2}{\beta^2} = 1$ είναι οι ευθείες

$$\varepsilon_1 : x = \frac{\alpha}{\beta} y \quad \text{και} \quad \varepsilon_2 : x = -\frac{\alpha}{\beta} y$$

$$\text{Άρα } d_1 = \frac{|\beta \cdot \gamma - \alpha \cdot 0|}{\sqrt{\beta^2 + \alpha^2}} = \frac{|\beta \gamma|}{\sqrt{\gamma^2}} = \beta \quad \text{και} \quad d_2 = \frac{|\beta \cdot \gamma + \alpha \cdot 0|}{\sqrt{\beta^2 + \alpha^2}} = \frac{|\beta \gamma|}{\sqrt{\gamma^2}} = \beta$$

$$\text{Οπότε } d_1 = d_2 = \beta$$