

Analitik Geometri

Telafi cevapları

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1 $(1, 2), (5, -6)$

Denklemi

$$(-6x - 5y)^2 + (2x - y)^2 = (1 \cdot -6 - 2 \cdot 5)^2$$

olan elips

$$40x^2 + 56xy + 26y^2 = 16^2$$

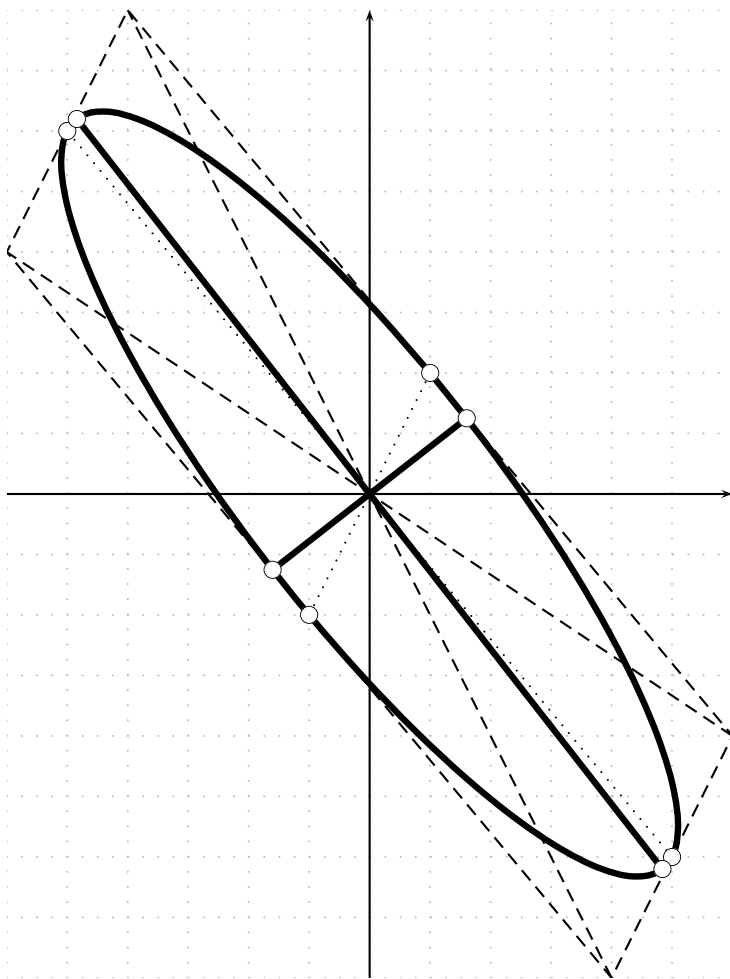
denklemini tarafından da tanımlanır; eksenlerinin uç noktaları,

$$\begin{aligned}\alpha^2 &= \frac{(\sqrt{17} + 1)(33 - 7\sqrt{17})}{2\sqrt{17}} = \frac{13\sqrt{17} - 43}{\sqrt{17}}, \\ \beta^2 &= \frac{(\sqrt{17} - 1)(33 - 7\sqrt{17})}{2\sqrt{17}} = \frac{20\sqrt{17} - 76}{\sqrt{17}}, \\ \gamma^2 &= \frac{(\sqrt{17} - 1)(33 + 7\sqrt{17})}{2\sqrt{17}} = \frac{13\sqrt{17} + 43}{\sqrt{17}}, \\ \delta^2 &= \frac{(\sqrt{17} + 1)(33 + 7\sqrt{17})}{2\sqrt{17}} = \frac{20\sqrt{17} + 76}{\sqrt{17}},\end{aligned}$$

koşullarını sağlayan (α, β) and (γ, δ) noktalarıdır; ayrıca

$$(\alpha, \beta) \approx (1.60, 1.25), \quad (\gamma, \delta) \approx (4.84, -6.20)$$

olur.



$(1, 2), (5, -6)$

Denklemini

$$(-6x - 5y)^2 - (2x - y)^2 = (1 \cdot -6 - 2 \cdot 5)^2$$

olan hiperbol

$$32x^2 + 64xy + 24y^2 = 16^2$$

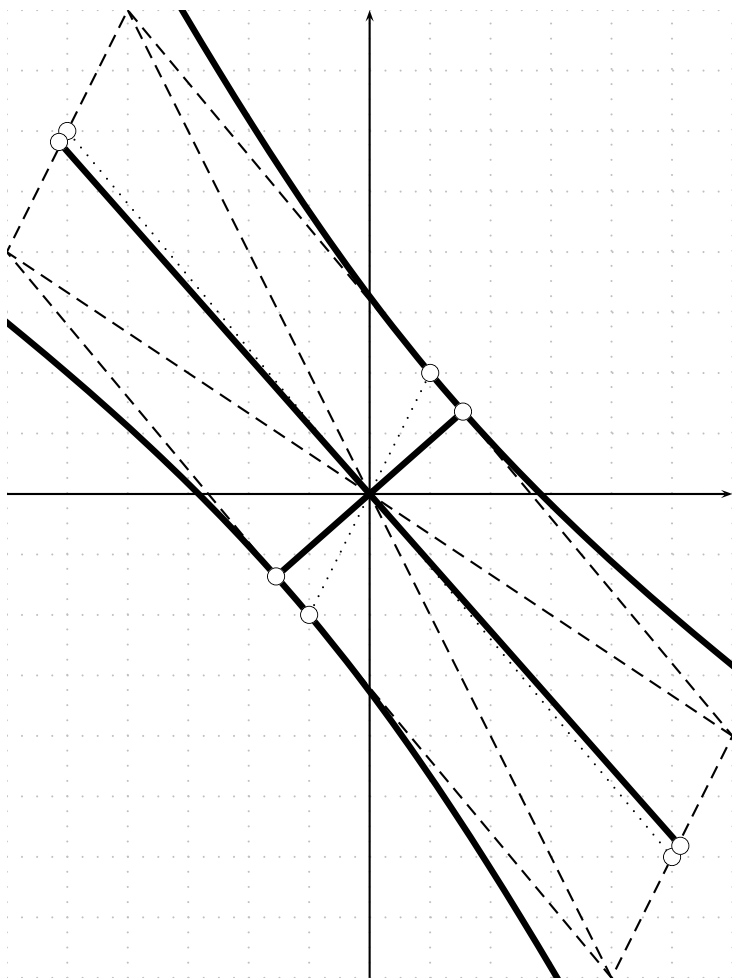
denklemini tarafından da tanımlanır; eksenlerin uç noktaları,

$$\begin{aligned}\alpha^2 &= \frac{2(\sqrt{65} + 1)(\sqrt{65} - 7)}{\sqrt{65}} = 2\frac{58 - 6\sqrt{65}}{\sqrt{65}}, \\ \beta^2 &= \frac{2(\sqrt{65} - 1)(\sqrt{65} - 7)}{\sqrt{65}} = 2\frac{72 - 8\sqrt{65}}{\sqrt{65}}, \\ \gamma^2 &= \frac{2(\sqrt{65} - 1)(\sqrt{65} + 7)}{\sqrt{65}} = 2\frac{58 + 6\sqrt{65}}{\sqrt{65}}, \\ \delta^2 &= \frac{2(\sqrt{65} + 1)(\sqrt{65} + 7)}{\sqrt{65}} = 2\frac{72 + 8\sqrt{65}}{\sqrt{65}},\end{aligned}$$

koşullarını sağlayan (α, β) and (γ, δ) noktalarıdır; ayrıca

$$(\alpha, \beta) \approx (1.55, 1.36), \quad (\gamma, \delta) \approx (5.14, -5.82)$$

olur.



$(1, 2), (5, -6)$

$$\mathbf{2} \quad (3, 2), (5, -6)$$

Denklemi

$$(-6x - 5y)^2 + (2x - 3y)^2 = (3 \cdot -6 - 2 \cdot 5)^2$$

olan elips

$$40x^2 + 48xy + 34y^2 = 28^2$$

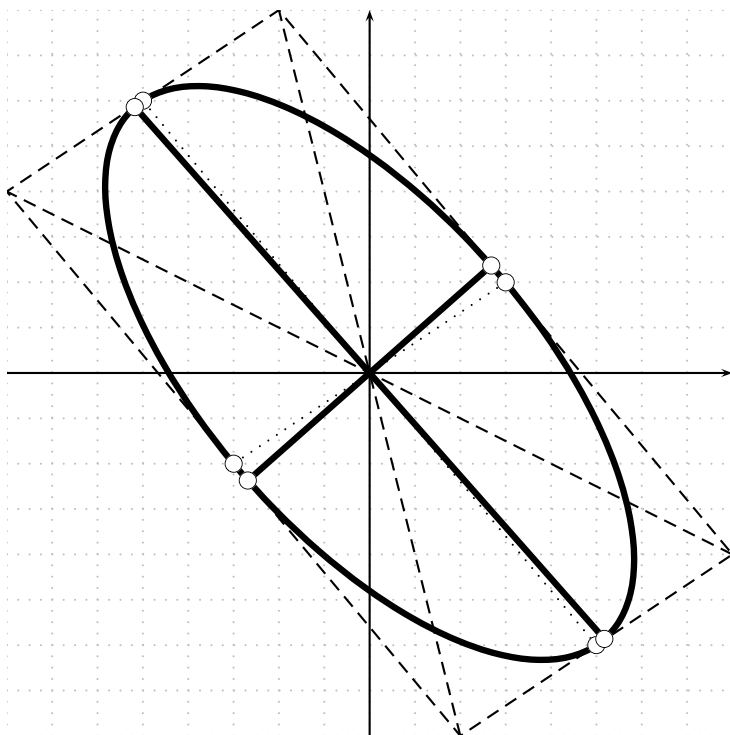
denklemini tarafından da tanımlanır; eksenlerinin uç noktaları,

$$\begin{aligned}\alpha^2 &= \frac{(\sqrt{65} + 1)(37 - 3\sqrt{65})}{2\sqrt{65}} = \frac{17\sqrt{65} - 79}{\sqrt{65}}, \\ \beta^2 &= \frac{(\sqrt{65} - 1)(37 - 3\sqrt{65})}{2\sqrt{65}} = \frac{20\sqrt{65} - 116}{\sqrt{65}}, \\ \gamma^2 &= \frac{(\sqrt{65} - 1)(37 + 3\sqrt{65})}{2\sqrt{65}} = \frac{17\sqrt{65} + 79}{\sqrt{65}}, \\ \delta^2 &= \frac{(\sqrt{65} + 1)(37 + 3\sqrt{65})}{2\sqrt{65}} = \frac{20\sqrt{65} + 116}{\sqrt{65}},\end{aligned}$$

koşullarını sağlayan (α, β) and (γ, δ) noktalarıdır; ayrıca

$$(\alpha, \beta) \approx (2.68, 2.37), \quad (\gamma, \delta) \approx (5.18, -5.86)$$

olur.



$(3, 2), (5, -6)$

Denklemi

$$(-6x - 5y)^2 - (2x - 3y)^2 = (3 \cdot -6 - 2 \cdot 5)^2$$

olan hiperbol

$$32x^2 + 72xy + 16y^2 = 28^2$$

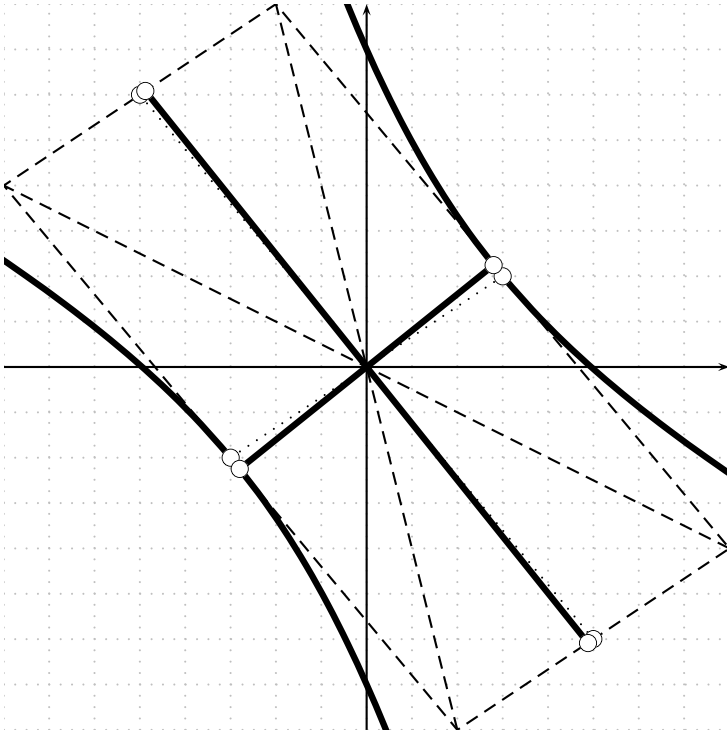
denklemini tarafından da tanımlanır; eksenlerin uç noktaları,

$$\begin{aligned}\alpha^2 &= \frac{2(\sqrt{85} + 2)(\sqrt{85} - 6)}{\sqrt{85}} = 2\frac{73 - 4\sqrt{85}}{\sqrt{85}}, \\ \beta^2 &= \frac{2(\sqrt{85} - 2)(\sqrt{85} - 6)}{\sqrt{85}} = 2\frac{97 - 8\sqrt{85}}{\sqrt{85}}, \\ \gamma^2 &= \frac{2(\sqrt{85} - 2)(\sqrt{85} + 6)}{\sqrt{85}} = 2\frac{73 + 4\sqrt{85}}{\sqrt{85}}, \\ \delta^2 &= \frac{2(\sqrt{85} + 2)(\sqrt{85} + 6)}{\sqrt{85}} = 2\frac{97 + 8\sqrt{85}}{\sqrt{85}},\end{aligned}$$

koşullarını sağlayan (α, β) and (γ, δ) noktalarıdır; ayrıca

$$(\alpha, \beta) \approx (2.80, 2.25), \quad (\gamma, \delta) \approx (4.88, -6.09)$$

olur.



$(3, 2), (5, -6)$

3 $(4, 4), (2, -6)$

Denklemi

$$(-6x - 2y)^2 + (4x - 4y)^2 = (4 \cdot -6 - 4 \cdot 2)^2$$

olan elips

$$52x^2 - 8xy + 20y^2 = 32^2$$

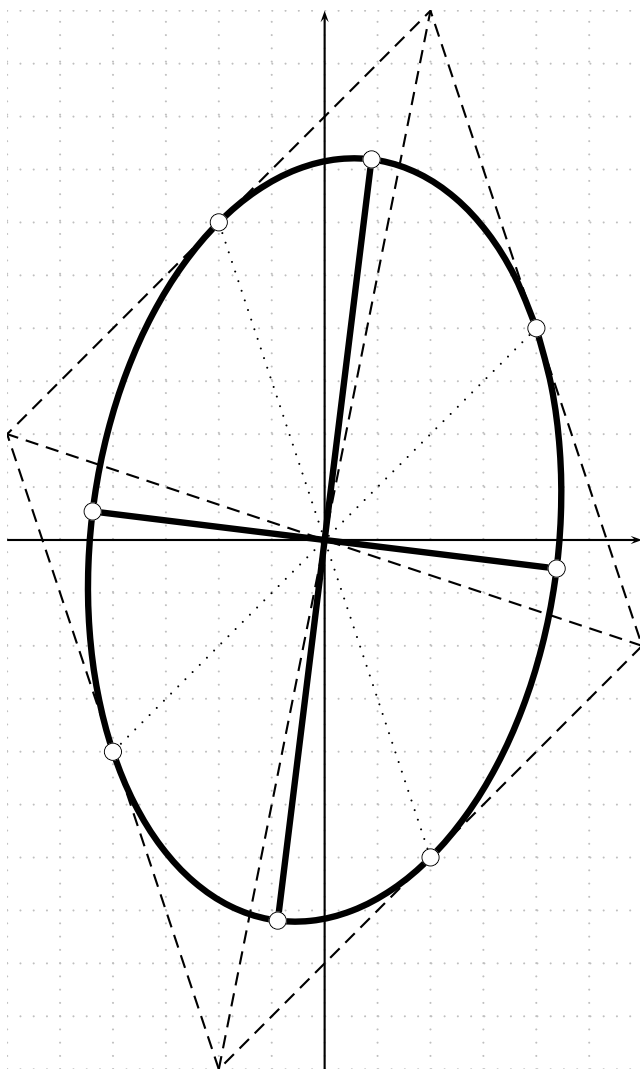
denklemini tarafından da tanımlanır; eksenlerinin uç noktaları,

$$\begin{aligned}\alpha^2 &= \frac{2(\sqrt{17} + 4)(9 - \sqrt{17})}{\sqrt{17}} = 2\frac{5\sqrt{17} + 19}{\sqrt{17}}, \\ \beta^2 &= \frac{2(\sqrt{17} - 4)(9 - \sqrt{17})}{\sqrt{17}} = 2\frac{13\sqrt{17} - 53}{\sqrt{17}}, \\ \gamma^2 &= \frac{2(\sqrt{17} - 4)(9 + \sqrt{17})}{\sqrt{17}} = 2\frac{5\sqrt{17} - 19}{\sqrt{17}}, \\ \delta^2 &= \frac{2(\sqrt{17} + 4)(9 + \sqrt{17})}{\sqrt{17}} = 2\frac{13\sqrt{17} + 53}{\sqrt{17}},\end{aligned}$$

koşullarını sağlayan (α, β) and (γ, δ) noktalarıdır; ayrıca

$$(\alpha, \beta) \approx (4.38, -0.54), \quad (\gamma, \delta) \approx (0.89, 7.19)$$

olur.



$(4, 4), (2, -6)$

Denklemi

$$(-6x - 2y)^2 - (4x - 4y)^2 = (4 \cdot -6 - 4 \cdot 2)^2$$

olan hiperbol

$$20x^2 + 56xy - 12y^2 = 32^2$$

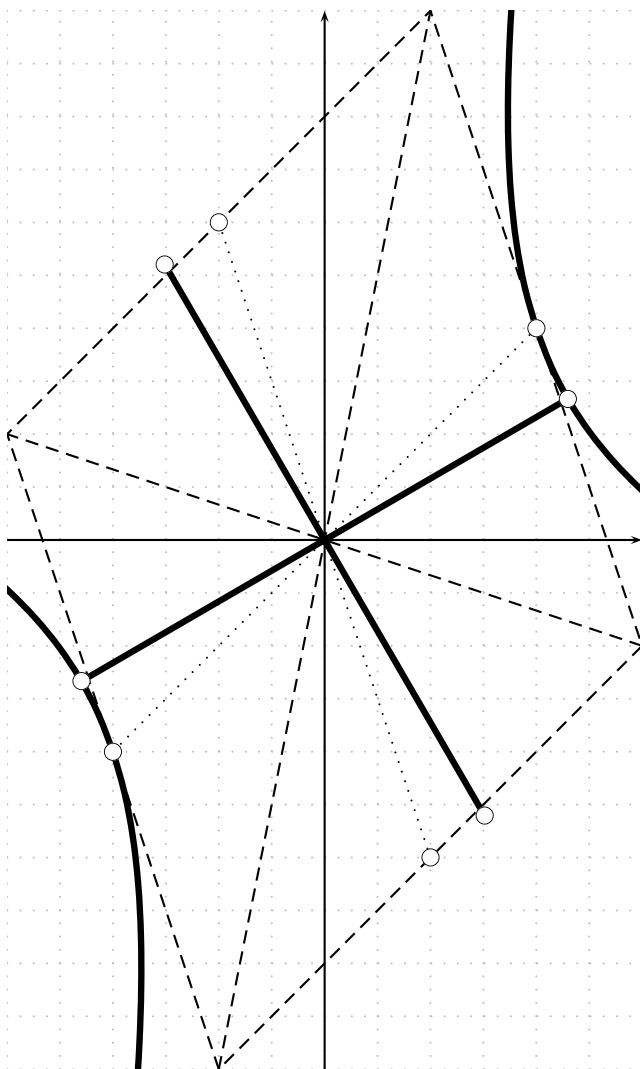
denklemini tarafından da tanımlanır; eksenlerin uç noktaları,

$$\begin{aligned}\alpha^2 &= \frac{2(\sqrt{65} + 4)(\sqrt{65} - 1)}{\sqrt{65}} = 2\frac{61 + 3\sqrt{65}}{\sqrt{65}}, \\ \beta^2 &= \frac{2(\sqrt{65} - 4)(\sqrt{65} - 1)}{\sqrt{65}} = 2\frac{69 - 5\sqrt{65}}{\sqrt{65}}, \\ \gamma^2 &= \frac{2(\sqrt{65} - 4)(\sqrt{65} + 1)}{\sqrt{65}} = 2\frac{61 - 3\sqrt{65}}{\sqrt{65}}, \\ \delta^2 &= \frac{2(\sqrt{65} + 4)(\sqrt{65} + 1)}{\sqrt{65}} = 2\frac{69 + 5\sqrt{65}}{\sqrt{65}},\end{aligned}$$

koşullarını sağlayan (α, β) and (γ, δ) noktalarıdır; ayrıca

$$(\alpha, \beta) \approx (4.60, 2.67), \quad (\gamma, \delta) \approx (3.02, -5.21)$$

olur.



$(4, 4), (2, -6)$