Lasse A weg:

$A(4|-1), B(2|0), C(4|-3), D(2|-6), E(-2|-2)$

$$\left.\begin{array}{l}\overrightarrow{BD} = \begin{pmatrix}2\\-6\end{pmatrix} - \begin{pmatrix}2\\0\end{pmatrix} = \begin{pmatrix}0\\-6\end{pmatrix} \perp \begin{pmatrix}6\\0\end{pmatrix} \rightarrow 6x = 12 \Rightarrow 6x - 12 = 0 \\ \overrightarrow{EC} = \begin{pmatrix}4\\-3\end{pmatrix} - \begin{pmatrix}-2\\-2\end{pmatrix} = \begin{pmatrix}6\\-1\end{pmatrix} \perp \begin{pmatrix}1\\6\end{pmatrix} \rightarrow x + 6y = -14 \Rightarrow x + 6y + 14 = 0\end{array}\right\} f_{(x|y)}$$

$$\left.\begin{array}{l}\overrightarrow{BE} = \begin{pmatrix}-2\\-2\end{pmatrix} - \begin{pmatrix}2\\0\end{pmatrix} = \begin{pmatrix}-4\\-2\end{pmatrix} \perp \begin{pmatrix}-2\\4\end{pmatrix} \rightarrow -2x + 4y = -4 \Rightarrow -2x + 4y + 4 = 0 \\ \overrightarrow{CD} = \begin{pmatrix}2\\-6\end{pmatrix} - \begin{pmatrix}4\\-3\end{pmatrix} = \begin{pmatrix}-2\\-3\end{pmatrix} \perp \begin{pmatrix}-3\\2\end{pmatrix} \rightarrow -3x + 2y = -18 \Rightarrow -3x + 2y + 18 = 0\end{array}\right\} g_{(x|y)}$$

$$\left.\begin{array}{l}f_{(x|y)}: (6x - 12) \cdot (x + 6y + 14) = 0 \\ g(x|y): (-2x + 4y + 4) \cdot (-3x + 2y + 18) = 0\end{array}\right\} \text{für } B, C, D \,\&\, E$$

$$\lambda \cdot f_{(x|y)} + \mu \cdot g_{(x|y)} = 0 \quad \rightarrow \text{für } B, C, D \,\&\, E$$

$$\text{wähle } \lambda = \underbrace{g(x_A, y_A)}_{\text{"}g(A)\text{"}} \quad \wedge \quad \mu = \underbrace{-f(x_A, y_A)}_{\text{"}-f(A)\text{"}}$$

A in g, -f)

$$\lambda: g(A): (-2 \cdot 4 + 4 \cdot (-1) + 4) \cdot (-3 \cdot 4 + 2 \cdot (-1) + 18) = 0$$

$$8 \cdot (4) = (-8) \cdot 4 \rightarrow 32 = \underline{16 \cdot 2}$$

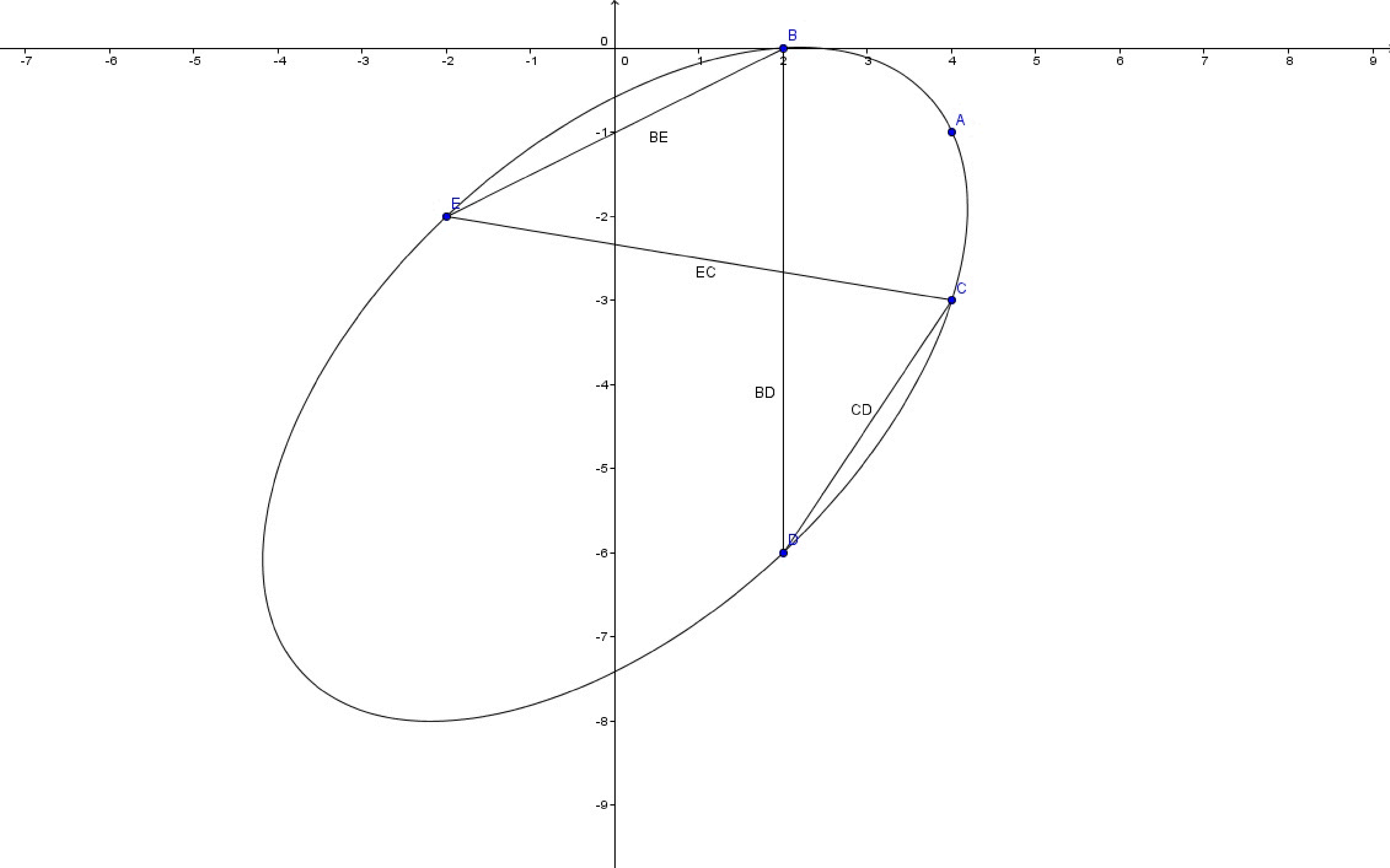
$$\mu: -f(A): -[(6 \cdot 4 - 12) \cdot (4 + 6 \cdot (-1) + 14)] = 0$$

$$12 \cdot 12 = 144 = 16 \cdot 9$$

$$2 \cdot f_{(x|y)} + 9 \cdot g_{(x|y)} = 0$$

$$k: 24x^2 + 144xy + 336x - 48x - 288y - 672 - 486x^2 - 324xy - 2916x$$
$$- 972xy + 648y^2 + 5832y - 972x + 648y + 5832$$

$$\boxed{k: 11x^2 - 12xy + 12y^2 - 48x + 96y + 52 = 0}$$


B
A
E
C
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