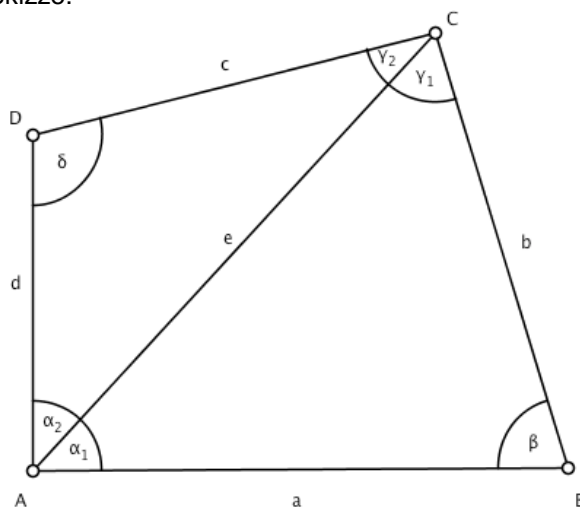


LÖSUNG ZU 790c:

Skizze:



$$a = 7,0 \text{ cm} \quad b = 5,8 \text{ cm} \quad d = 3,2 \text{ cm} \quad e = 6,4 \text{ cm} \quad \delta = 93^\circ$$

$$a^2 = b^2 + e^2 - 2be \cdot \cos(\gamma_1)$$

$$7^2 = 5,8^2 + 6,4^2 - 2 \cdot 5,8 \cdot 6,4 \cdot \cos(\gamma_1) \quad \rightarrow \quad \cos(\gamma_1) = \frac{7^2 - 5,8^2 - 6,4^2}{-2 \cdot 5,8 \cdot 6,4} \quad \rightarrow \quad \gamma_1 \approx 69,83^\circ$$

$$e^2 = a^2 + b^2 - 2ab \cdot \cos(\beta)$$

$$6,4^2 = 7^2 + 5,8^2 - 2 \cdot 7 \cdot 5,8 \cdot \cos(\beta) \quad \rightarrow \quad \cos(\beta) = \frac{6,4^2 - 7^2 - 5,8^2}{-2 \cdot 7 \cdot 5,8} \quad \rightarrow \quad \beta \approx 59,12^\circ$$

$$\alpha_1 = 180^\circ - (\beta + \gamma_1) \quad \rightarrow \quad \alpha_1 \approx 51,06^\circ$$

$$\frac{\sin(\gamma_2)}{d} = \frac{\sin(\delta)}{e}$$

$$\frac{\sin(\gamma_2)}{3,2} = \frac{\sin(93^\circ)}{6,4} \quad \rightarrow \quad \sin(\gamma_2) = \frac{\sin(93^\circ)}{6,4} \cdot 3,2 \quad \rightarrow \quad \gamma_2 \approx 29,95^\circ$$

$$\gamma = \gamma_1 + \gamma_2 \quad \rightarrow \quad \gamma \approx 99,78^\circ$$

$$\alpha = 360^\circ - (\beta + \gamma + \delta) \quad \rightarrow \quad \alpha = 108,10^\circ$$

$$\alpha_2 = \alpha - \alpha_1 \quad \rightarrow \quad \alpha_2 \approx 57,05^\circ$$

$$c = \sqrt{d^2 + e^2 - 2de \cdot \cos(\alpha_2)} \quad \rightarrow \quad c \approx 5,38 \text{ cm}$$

