

Winkelaufgaben, Teil 1 – Lösung

1. Lösung:

$$y = \delta \text{ (Scheitelwinkel)}$$

$$\gamma = \underline{\underline{66^\circ}}$$

$$\beta = \varepsilon \text{ (Scheitelwinkel)}$$

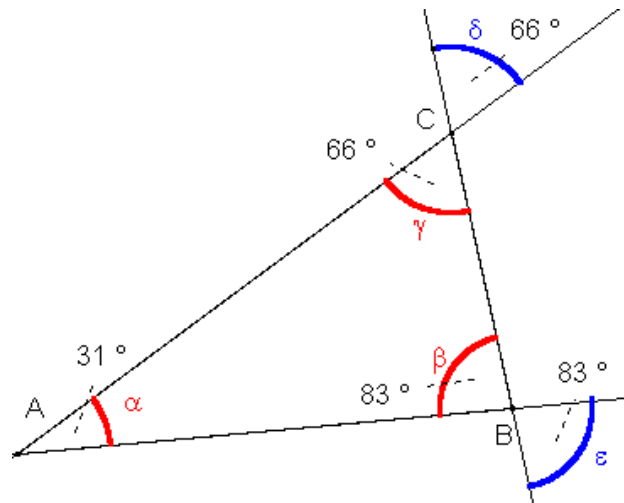
$$\beta = \underline{\underline{83^\circ}}$$

$$\alpha + \beta + \gamma = 180^\circ \text{ (WS - Satz)}$$

$$\alpha = 180^\circ - (\beta + \gamma)$$

$$= 180^\circ - (83^\circ + 66^\circ)$$

$$= \underline{\underline{31^\circ}}$$



2. Lösung:

$$\alpha + \beta + \gamma = 180^\circ \text{ (WS - Satz)}$$

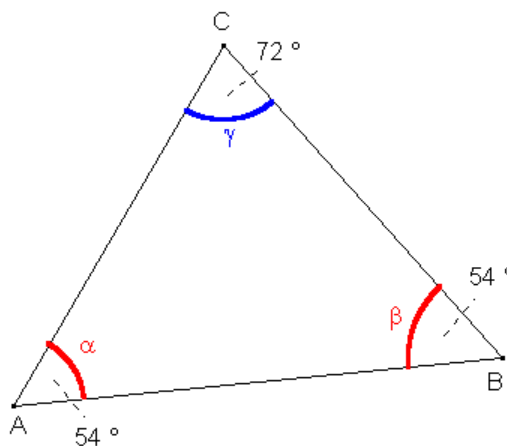
$$\alpha + \beta = 180^\circ - \gamma$$

$$= 108^\circ$$

$$\alpha = \frac{108^\circ}{2}$$

$$= \underline{\underline{54^\circ}}$$

$$\beta = \underline{\underline{54^\circ}}$$



3. Lösung:

$$\beta + \beta^* = 180^\circ \text{ (Nebenwinkel)}$$

$$\beta = 180^\circ - \beta^*$$

$$= 180^\circ - 143^\circ$$

$$= \underline{\underline{37^\circ}}$$

$$\gamma + \gamma^* = 180^\circ \text{ (Nebenwinkel)}$$

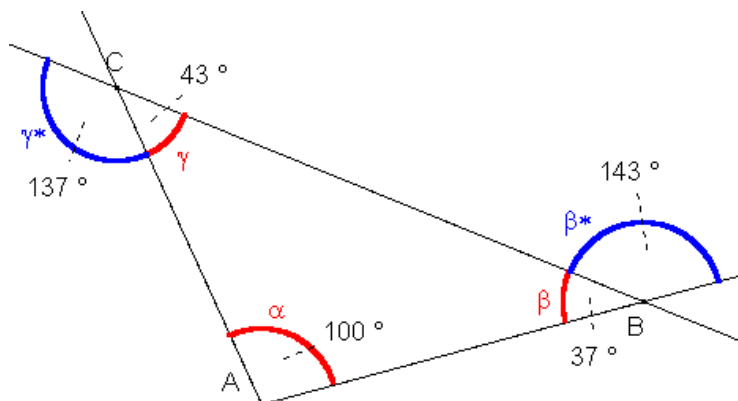
$$\gamma = \underline{\underline{43^\circ}}$$

$$\alpha + \beta + \gamma = 180^\circ \text{ (WS - Satz)}$$

$$\alpha = 180^\circ - (\beta + \gamma)$$

$$= 180^\circ - (37^\circ + 43^\circ)$$

$$= \underline{\underline{100^\circ}}$$



4. Lösung:

$$\gamma + \gamma^* = 180^\circ \text{ (Nebenwinkel)}$$

$$\gamma = 180^\circ - \gamma^*$$

$$= \underline{\underline{100^\circ}}$$

$$\alpha = \delta \text{ (Scheitelwinkel)}$$

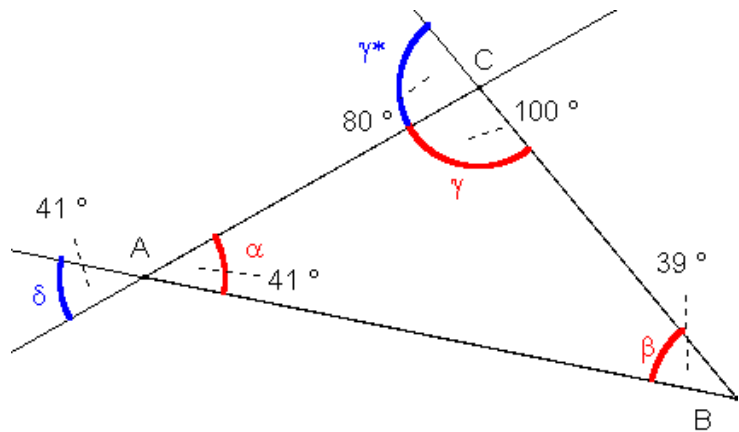
$$\alpha = \underline{\underline{41^\circ}}$$

$$\alpha + \beta + \gamma = 180^\circ \text{ (WS - Satz)}$$

$$\beta = 180^\circ - (\alpha + \gamma)$$

$$= 180^\circ - (100^\circ + 41^\circ)$$

$$= \underline{\underline{39^\circ}}$$

**5. Lösung:**

$$\alpha_1 + 90^\circ = \beta_1 \text{ (Stufenwinkel)}$$

$$\beta_1 = 42^\circ + 90^\circ = \underline{\underline{132^\circ}}$$

Oder etwas umständlicher:
(siehe Zeichnung)

