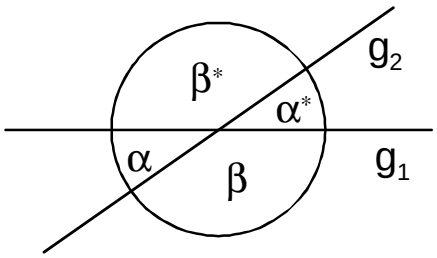
Regeln für Winkel

1 Neben- und Scheitelwinkel

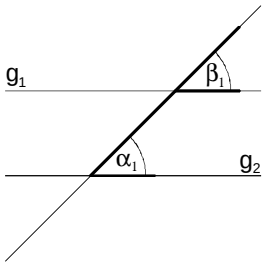


Scheitelwinkel sind gleich groß:
$\alpha = \alpha^*$ und $\beta = \beta^*$

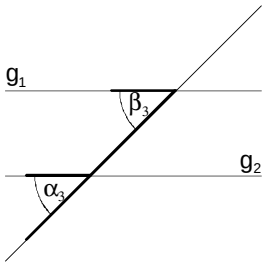
Nebenwinkel ergänzen sich zu 180°:
$\alpha + \beta = 180°$

2 Winkel an Parallelen ($g_1 \parallel g_2$)

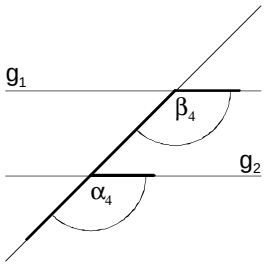
2.1 Stufenwinkel (F-Winkel)



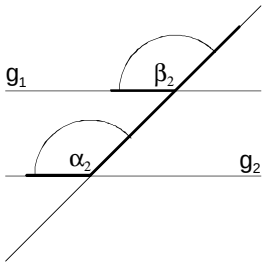
$\alpha_1 = \beta_1$



$\alpha_3 = \beta_3$

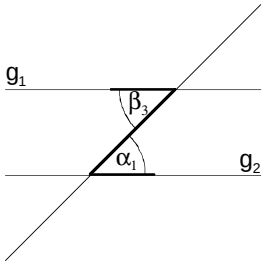


$\alpha_4 = \beta_4$

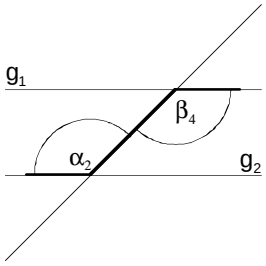


$\alpha_2 = \beta_2$

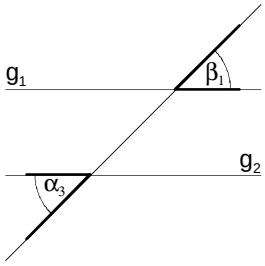
2.2 Wechselwinkel (Z-Winkel)



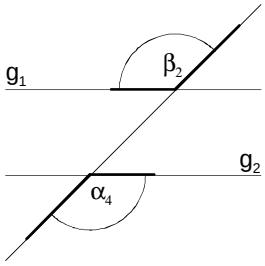
$\alpha_1 = \beta_3$



$\alpha_2 = \beta_4$



$\alpha_3 = \beta_1$



$\alpha_4 = \beta_2$

3 Innenwinkelsummen

3.1 im Dreieck

In jedem Dreieck beträgt die Summe der Winkelmaße der drei Innenwinkel 180°:
$\alpha + \beta + \gamma = 180°$

3.2 im Viereck

In jedem Viereck beträgt die Summe der Winkelmaße der vier Innenwinkel 360°:
$\alpha + \beta + \gamma + \delta = 360°$

Ü: Gib die fehlenden Winkelmaße an und begründe.