

# Kräfte rechnerisch ermitteln

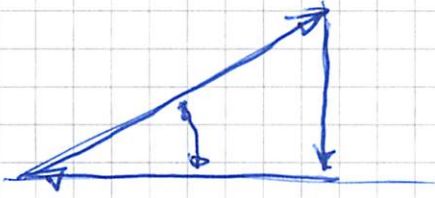
TA 105-11 27.04.2020

Zerlegen - individuelle Lösung

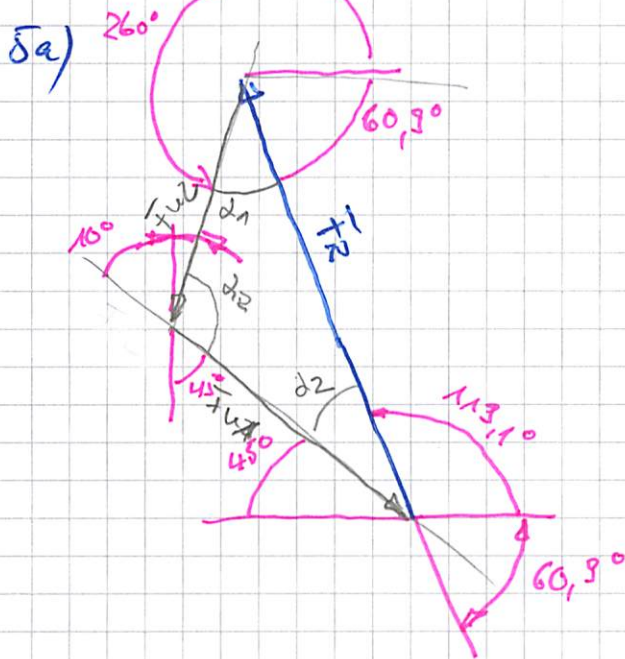
= Durchquerstellen anhand Kräfteplan

Rechtwinklige Dreiecke

über die Winkelfunktionen



Beliebige Dreiecke



Sinussatz

$$\frac{a \cdot \bar{F}_2}{\sin \alpha} = \frac{b \cdot \bar{F}_1}{\sin \beta} = \frac{c \cdot \bar{F}_R}{\sin \gamma}$$

$$\bar{F}_1 = \bar{F}_R \cdot \frac{\sin \alpha}{\sin \beta} = 229,10 \cdot \sin$$

$$\bar{F}_2 = \bar{F}_R \cdot \frac{\sin \gamma}{\sin \beta} =$$

$$\bar{F}_1 = 229,10 \cdot \frac{\sin 39,10}{\sin 1250} = 176,40$$

$$\bar{F}_2 = 229,10 \cdot \frac{\sin 15,90}{\sin 1250} = 76,60$$

$$d_2 = 180^\circ - 45^\circ - 119,1^\circ = 15,9^\circ$$

$$d_1 = 360^\circ - 260^\circ - 60,9^\circ = 39,1^\circ$$

$$d_R = 180^\circ - 45^\circ - 10^\circ = \frac{125,0}{221} = 180,0^\circ$$

