

# Aufgabe 157 (Bl.)

kN := 1000N      ° := Grad

$\alpha := 60^\circ$

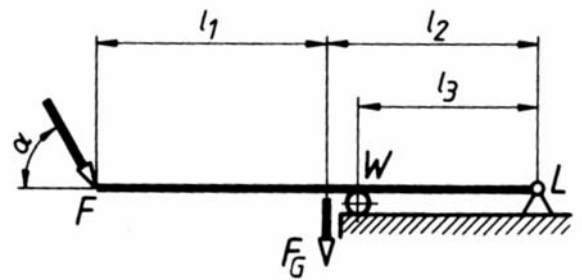
$l_1 := 2.6\text{m}$

$F_G := 300\text{N}$

$l_2 := 2.4\text{m}$

$F := 900\text{N}$

$l_3 := 2.1\text{m}$



$F_{Lx} := 0\text{N}$

$F_{Ly} := 0\text{N}$

$F_W := 0\text{N}$

Vorgabe

$$0 = F \cdot \cos(\alpha) - F_{Lx}$$

$$0 = F_W - F_{Ly} - F_G - F \cdot \sin(\alpha)$$

$$0 = F \cdot \sin(\alpha) \cdot (l_1 + l_2) + F_G \cdot l_2 - F_W \cdot l_3$$

$$\begin{pmatrix} F_{Lx} \\ F_{Ly} \\ F_W \end{pmatrix} := \text{suchen}(F_{Lx}, F_{Ly}, F_W)$$

$F_{Lx} = 450\text{N}$

$F_{Ly} = 1119.2\text{N}$

$$F_L := \sqrt{F_{Lx}^2 + F_{Ly}^2}$$

$F_L = 1.206\text{ kN}$

$F_W = 2198.6\text{ N}$

