



$$l_1 := 590 \text{ mm}$$

$$l_2 := 250 \text{ mm}$$

$$l_3 := 180 \text{ mm}$$

$$F_g := 105 \text{ N}$$

$$F_D := 200 \text{ N}$$

$$\alpha := 11.5^\circ$$

$$F_{Dy} := \sin(\alpha) \cdot F_D = 39.874 \text{ N}$$

$$F_{Dx} := \cos(\alpha) \cdot F_D = 195.985 \text{ N}$$

Fg ... Gewichtskraft

FD ... Dämpferkraft

FH ... Haltekraft

FA ... Auflagekraft

$$\Sigma F_x = -F_{Dx} + F_{Ax}$$

$$\Sigma F_y = -F_H - F_g + F_{Dy} + F_{Ay}$$

$$\Sigma M_A = F_H \cdot l_1 + F_g \cdot l_2 - F_{Dy} \cdot l_3$$

$$F_H := \frac{F_g \cdot l_2 - F_{Dy} \cdot l_3}{l_1}$$

$$F_H = 32.327 \text{ N}$$

$$F_{Ay} := F_H + F_g - F_{Dy}$$

$$F_{Ay} = 97.453 \text{ N}$$

$$F_{Ax} := F_{Dx}$$

$$F_{Ax} = 195.985 \text{ N}$$

$$F_A := \sqrt{F_{Ay}^2 + F_{Ax}^2}$$

$$F_A = 218.877 \text{ N}$$