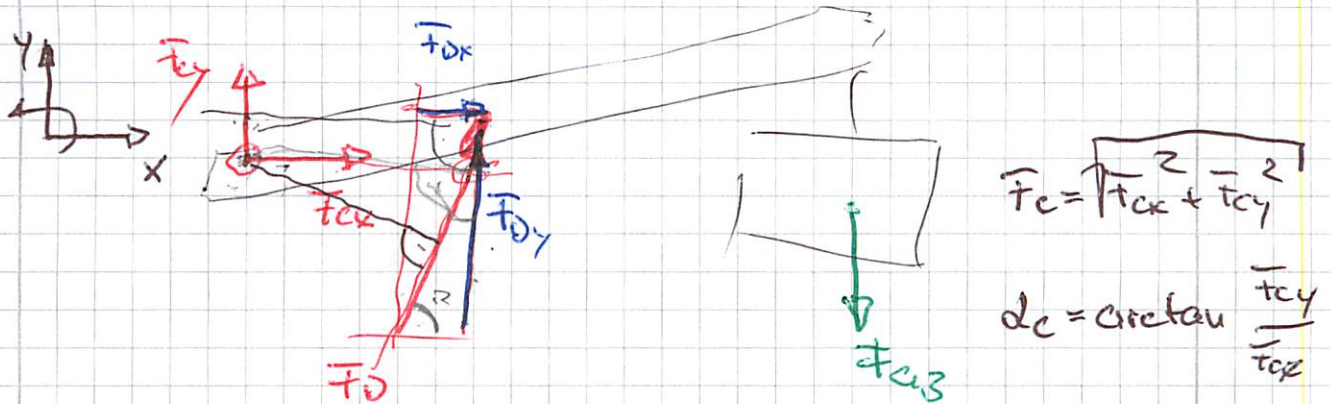


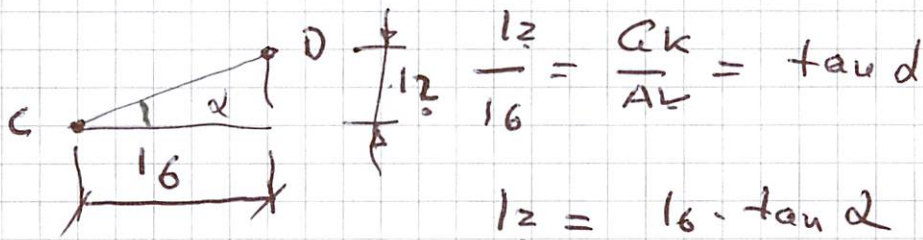
3.3 L3 Ausleger + Carag



$$\sum M_c = 0 = - \underline{F_{dx}} \cdot 12 + \underline{F_{dy}} \cdot 16 - F_{dz} \cdot 14$$

$$\sin \beta = \frac{F_{dy}}{F_D} \rightarrow F_{dy} = F_D \cdot \sin \beta$$

$$F_{dx} = F_D \cdot \cos \beta$$



$$\frac{12}{16} = \frac{AK}{AL} = \tan \delta$$

$$12 = 16 \cdot \tan \delta$$

$$0 = - \underline{F_D} \cdot \cos \beta \cdot 16 \cdot \tan \delta + \underline{F_D} \cdot \sin \beta \cdot 16 - F_{dz} \cdot 14$$

$$= F_D \cdot (-\cos \beta \cdot 16 \cdot \tan \delta + \sin \beta \cdot 16) - F_{dz} \cdot 14$$

$$F_D = \frac{F_{dz} \cdot 14}{()}$$

$$= \frac{120 \text{ kN} \cdot 6,5 \text{ m}}{-\cos 60^\circ \cdot 2 \text{ m} \cdot \tan 15^\circ + \sin 60^\circ \cdot 2 \text{ m}}$$

$$F_D = \underline{\underline{532,7 \text{ kN}}}$$

$$\uparrow \sum F_y = 0 = + F_{cy} + F_{dy} - F_{dz}$$

$$F_{cy} = - F_D \cdot \sin \beta + F_{dz} = - 532,7 \text{ kN} \cdot \sin 60^\circ + 120 \text{ kN}$$

$$= - 341 \text{ kN}$$

$$\rightarrow \sum F_x = 0 = + F_{cx} + F_{dx}$$

$$F_{cx} = - F_D \cdot \cos \beta = - 532,7 \text{ kN} \cdot \cos 60^\circ = - 266 \text{ kN}$$