

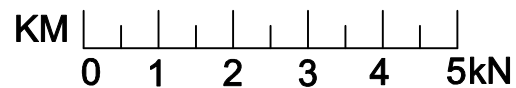
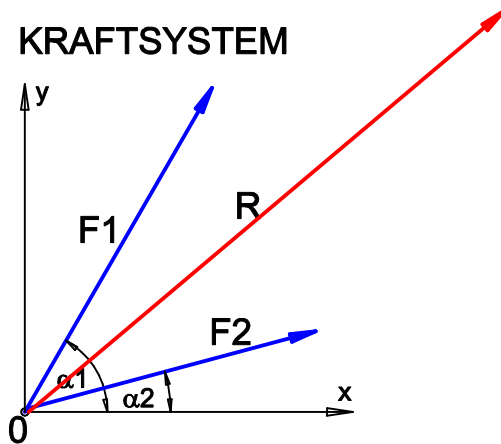
ZENTRALES EBENES KRAFTSYSTEM

BEISPIEL:

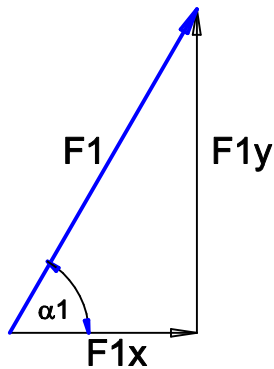
GEG: $F_1=5\text{kN}$; $\alpha_1=60^\circ$
 $F_2=4\text{kN}$; $\alpha_2=15^\circ$

GES: R (rechnerische Methode)

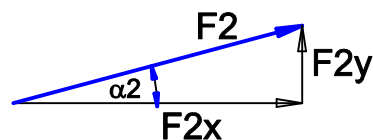
KRAFTSYSTEM



KRÄFTEZERLEGUNG



$$F_{1x} = F_1 \cdot \cos(\alpha_1) = 5 \cdot \cos(60^\circ) = 2,50\text{kN}$$
$$F_{1y} = F_1 \cdot \sin(\alpha_1) = 5 \cdot \sin(60^\circ) = 4,33\text{kN}$$



$$F_{2x} = F_2 \cdot \cos(\alpha_2) = 4 \cdot \cos(15^\circ) = 3,86\text{kN}$$
$$F_{2y} = F_2 \cdot \sin(\alpha_2) = 4 \cdot \sin(15^\circ) = 1,04\text{kN}$$

STATIK

KULLE G.

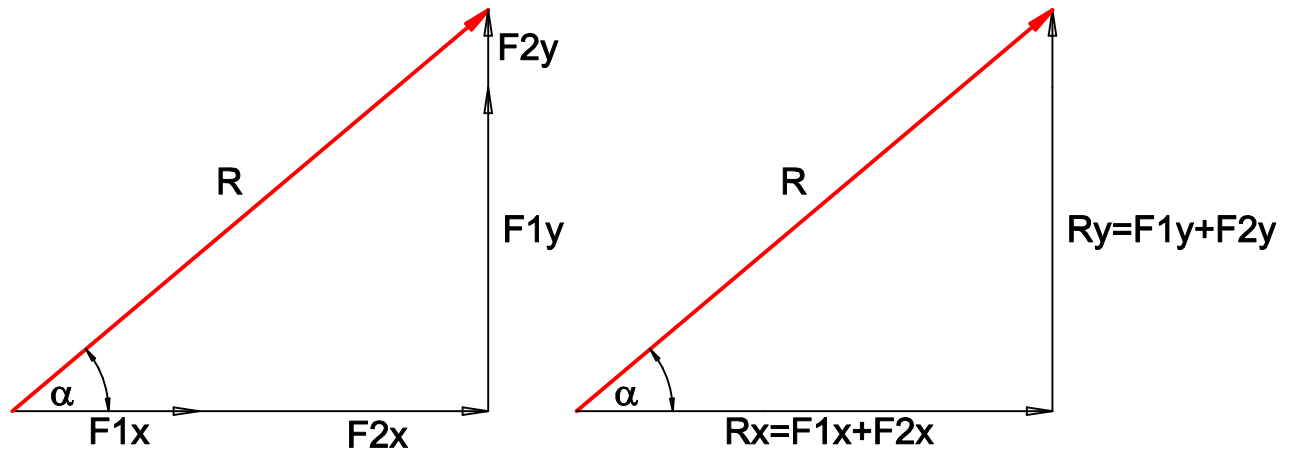
**ZENTRALES EBENES
KRAFTSYSTEM**

KM 1kN=1cm

2007/08

BLATT: 11.1

ZENTRALES EBENES KRAFTSYSTEM



$$R_x = F_{1x} + F_{2x} = 2,50 + 3,85 = 6,35 \text{ kN}$$

$$R_y = F_{1y} + F_{2y} = 4,33 + 1,04 = 5,37 \text{ kN}$$

$$R = \sqrt{R_x^2 + R_y^2} = \sqrt{6,35^2 + 5,37^2} = 8,32 \text{ kN}$$

$$\alpha = \text{atn} (|R_y| / |R_x|) = \text{atn} (5,37 / 6,35) = 40,22^\circ$$

STATIK

KULLE G.

**ZENTRALES EBENES
KRAFTSYSTEM**

KM 1kN=1cm

2007/08

BLATT: 11.2