

Remarks: See §3.1.7, page 64 till 68 and the example on page 66-67

Answers:

1. $R_x = -2 \text{ kN}$; $R_y = -10 \text{ kN}$; $R = 2\sqrt{26} \text{ kN} = 10,2 \text{ kN}$

$\alpha = 258,7^\circ$ (α is the angle that R makes with the positive x-axle)

The line of action of R intersects the x-axle in $x = +6 \text{ m}$

2. $R_x = 0$; $R_y = -6 \text{ kN}$; $R = 6 \text{ kN}$

$\alpha = 270^\circ$ (α is the angle that R makes with the positive x-axle)

The line of action of R intersects the x-axle in $x = +13 \text{ m}$

3. $R_x = R_y = -\frac{5}{2}\sqrt{2} \text{ kN}$; $R = 2\sqrt{26} \text{ kN} = 5 \text{ kN}$

$\alpha = 225^\circ$ (α is the angle that R makes with the positive x-axle)

The line of action of R intersects the x-axle in $x = -6 \text{ m}$ and the y-as in $y = +6 \text{ m}$

4. There's no resulting force (closed force polygon), but a resulting moment:

$$\sum T_z = +12 \text{ kNm}$$