

Remarks: See §3.1.7, page 64 till 68

Answers:

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

$\alpha = 180^\circ$  ( $\alpha$  is the angle that  $R$  makes with the positive x-axle)

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

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

$$\sum T_z = +36 \text{ kNm}$$

3.  $R_x = -18 \text{ kN}$ ;  $R_y = 0$ ;  $R = 18 \text{ kN}$

$\alpha = 180^\circ$  ( $\alpha$  is the angle that  $R$  makes with the positive x-axle)

The line of action of  $R$  intersects the y-axle in  $y = +2 \text{ m}$

4.  $R_x = 0$ ;  $R_y = -10 \text{ kN}$ ;  $R = 10 \text{ kN}$

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

The line of action of  $R$  intersects the x-axle in  $x = +3 \text{ m}$