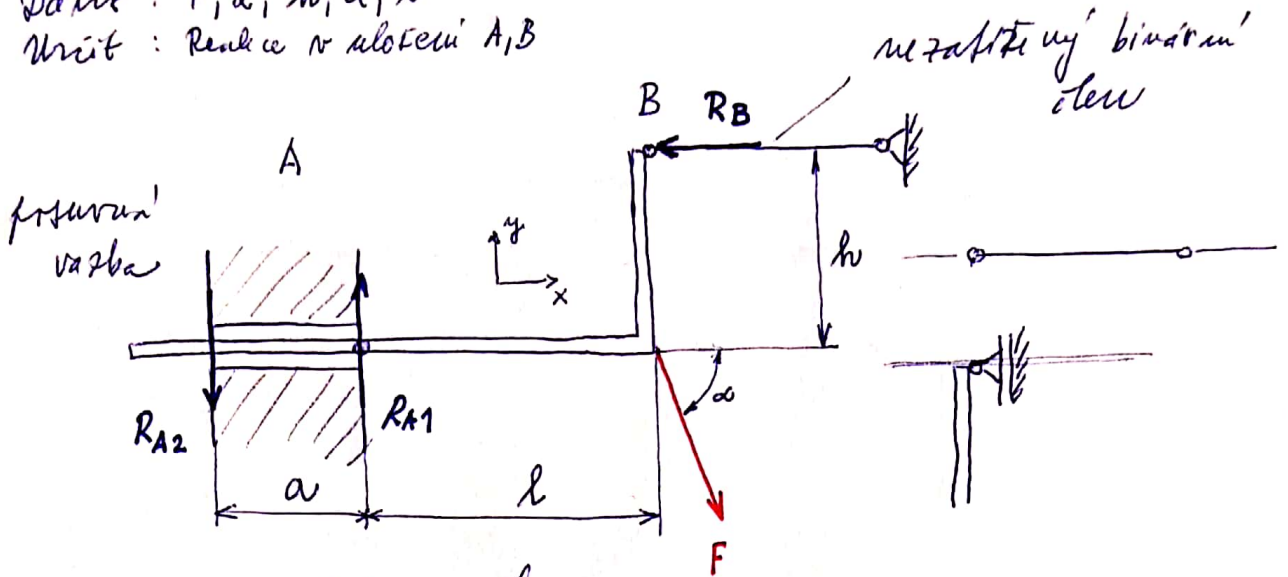


STATIKA TĚLESA V ROVINĚ

Dáno: F, α, h, a, l

Užít: Reakce v uložení A, B



Revnice statické rovnice:

$$(1) x: F \cdot \cos \alpha - R_B = 0 \Rightarrow R_B = F \cos \alpha$$

$$(2) y: -R_{A2} + R_{A1} - F \sin \alpha = 0$$

$$(3) \overset{+}{M}_A: R_{A2} \cdot a + R_B \cdot h - l \cdot F \cdot \sin \alpha = 0 \Rightarrow R_{A2} = \frac{l \cdot F \cdot \sin \alpha - R_B \cdot h}{a} =$$

3 vst.

3 nezn. (R_{A1}, R_{A2}, R_B)

$$= \frac{l \cdot F \cdot \sin \alpha - F \cos \alpha \cdot h}{a} =$$

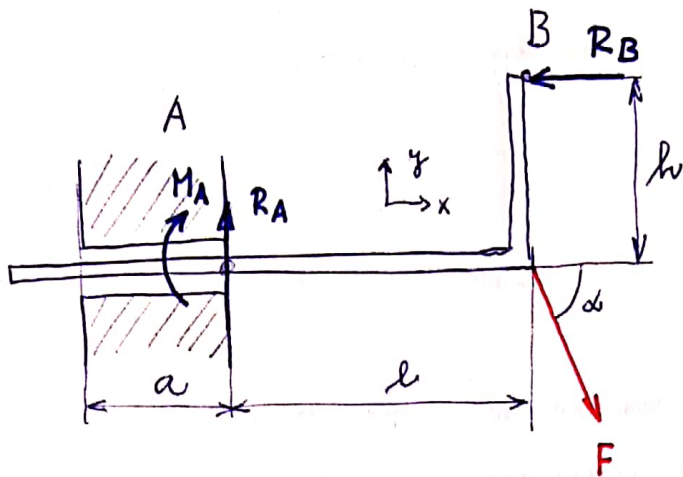
$$= F \frac{l \sin \alpha - h \cos \alpha}{a}$$

$$(2) R_{A1} = F \sin \alpha + R_{A2} = F \sin \alpha + F \frac{l \sin \alpha - h \cos \alpha}{a} =$$

$$= F \frac{a \sin \alpha + l \sin \alpha - h \cos \alpha}{a} =$$

$$= F \frac{(a+l) \sin \alpha - h \cos \alpha}{a}$$

Varianty uvolnění tělesa



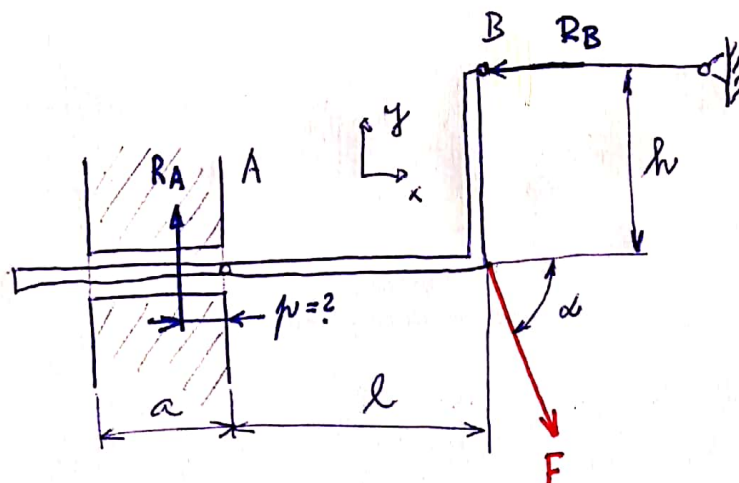
$$(1) x: F \cos \alpha - R_B = 0 \Rightarrow R_B = F \cos \alpha$$

$$(2) y: R_A - F \sin \alpha = 0 \Rightarrow R_A = F \sin \alpha$$

$$(3) \overset{+}{\curvearrowleft} M_A: -M_A - F \sin \alpha \cdot l + R_B \cdot h = 0 \Rightarrow M_A = \dots$$

3 vst.

3 nezn. (M_A, R_A, R_B)



$$(1) x: F \cos \alpha - R_B = 0 \Rightarrow R_B = F \cos \alpha$$

$$(2) y: R_A - F \sin \alpha = 0 \Rightarrow R_A = F \sin \alpha$$

$$(3) \overset{+}{\curvearrowleft} M_B: F \cos \alpha \cdot h - R_A (\rho + l) = 0 \Rightarrow \rho = \dots$$

3 vst.

3 nezn. (R_A, R_B, ρ)