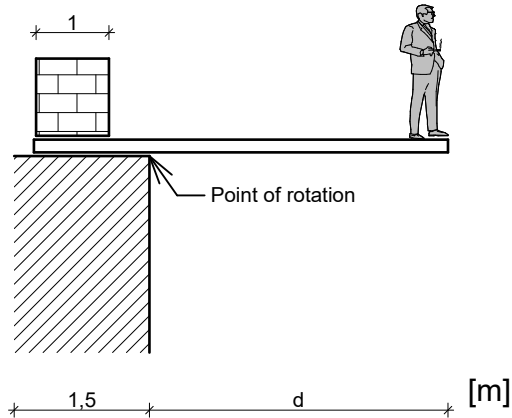
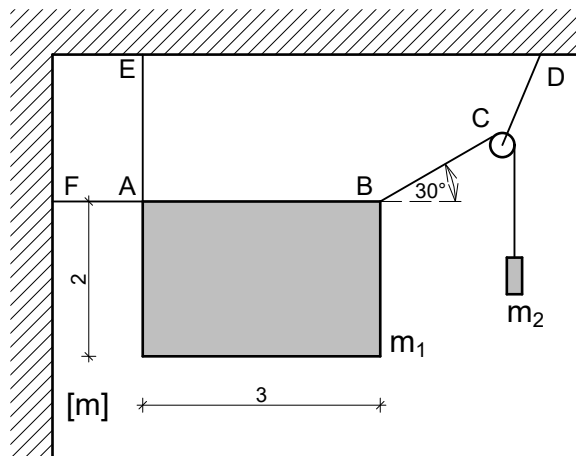


Statics practice problems, vol.2



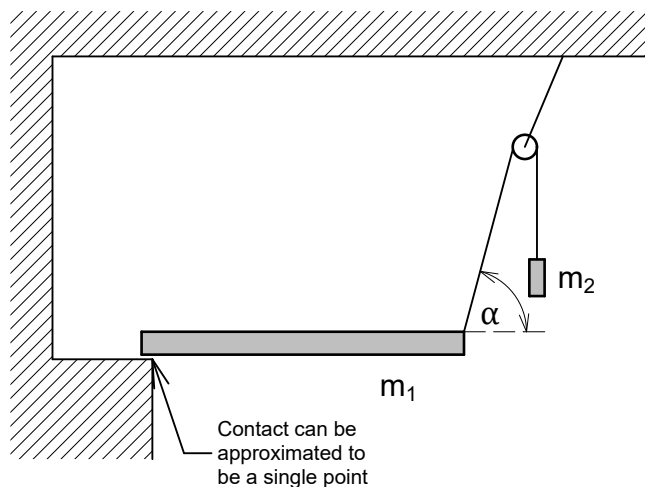
The weight of the bricks is 1500 N. How far can a man of 50 kg go out without flipping the plank?

$$d = 0.33 \text{ m}$$



Determine m_2 if the system is in equilibrium and $m_1 = 20 \text{ kg}$! What are the forces in the strings?

$$\begin{aligned} m_2 &= 20 \text{ kg} \\ S_{AF} &= 173,2 \text{ N} \\ S_{AE} &= 100 \text{ N} \\ S_{BC} &= 200 \text{ N} \\ S_{CD} &= 346,41 \text{ N} \end{aligned}$$



The system is in equilibrium and $m_1 = 20 \text{ kg}$.

- Determine m_2 if $\alpha = 75^\circ$!
- Determine m_2 as a function of α !
- What is the minimal coefficient of friction required for the equilibrium of the system if $\alpha = 75^\circ$?

$$\begin{aligned} \text{a) } m_2 &= 10,35 \text{ kg} \\ \text{b) } m_2 &= 10/\sin(\alpha) \text{ kg} \\ \text{c) } \mu_{\min} &= 0,268 \end{aligned}$$