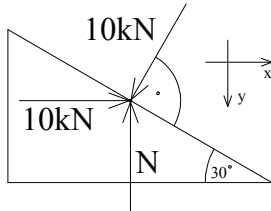
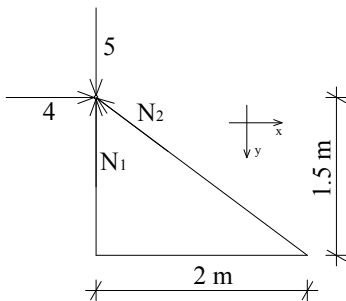


Equilibrium

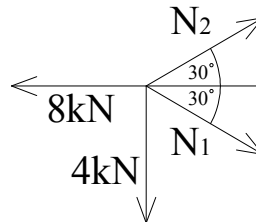
- 1) Concurrent force system. Determine the size and the direction of N such that the forces are in equilibrium!



- 2) $N_1 = ?$, $N_2 = ?$ if the forces are in equilibrium?

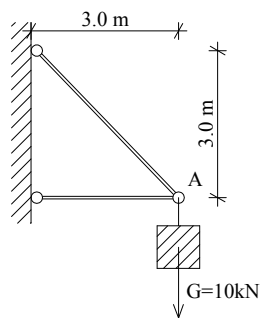


a)

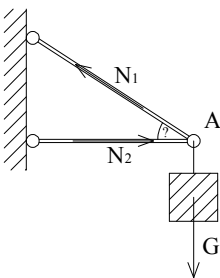


b)

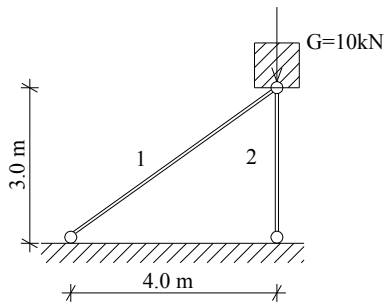
- 3) Determine the forces in the bars by using that all forces acting at point A are in equilibrium!



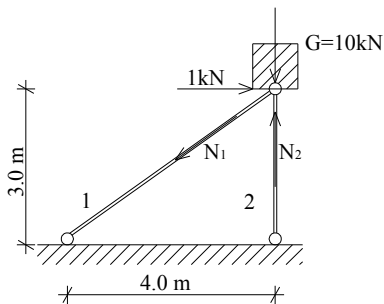
- 4) How do the forces N_1 and N_2 depend on α ?



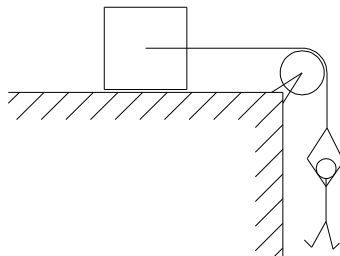
5) Determine the forces in the bars! Would the structure be OK without bar '1'? Why?



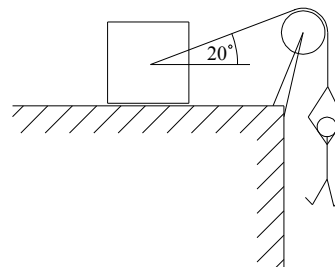
6) Determine the forces in the bars!



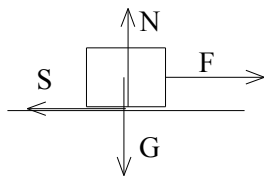
7) The friction coefficient is $\mu = 0.5$; the weight of the box is 2 kN. What is the maximum weight of the person that does not make the box slip? (Assume that the box does not slip! Rule of friction: $S \leq \mu \cdot N$)



a)



b)



Hint: