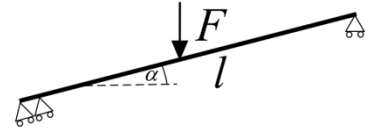


Equilibrium of planar, rigid bodies - 5.

1. Consider the beam shown on the figure. Its length is denoted by l and the degree of its slope is denoted by α . We apply force F on it in the midpoint. The left endpoint of the beam is supported by a special type of support, which produces reaction force in the direction perpendicular to the beam and also reaction moment. **We did not talk about this special type of support in the lecture.**



- Give the system of the equilibrium equations in matrix form, using the parameters F, l, α !
- Determine the support reactions in the case of $l=3,0$ m, $\alpha=30^\circ$ and $F=10$ kN! Draw a final figure which indicates the beam, the loads and the support reactions (i.e. the balancing forces)!