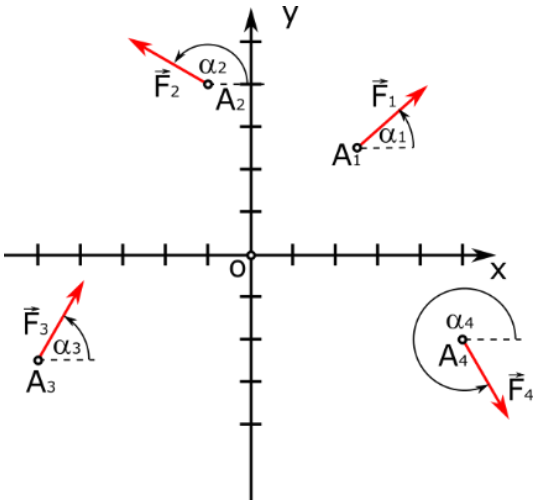
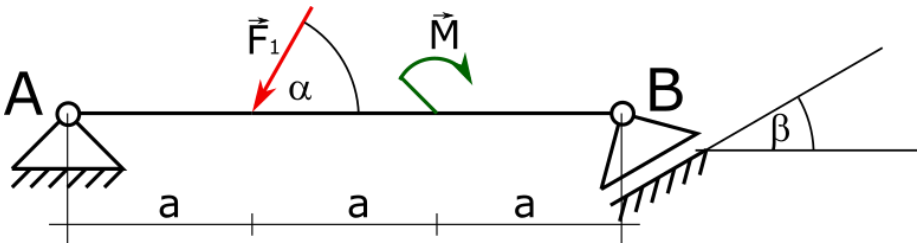
Moment of the force. Divergent system of forces. - problems

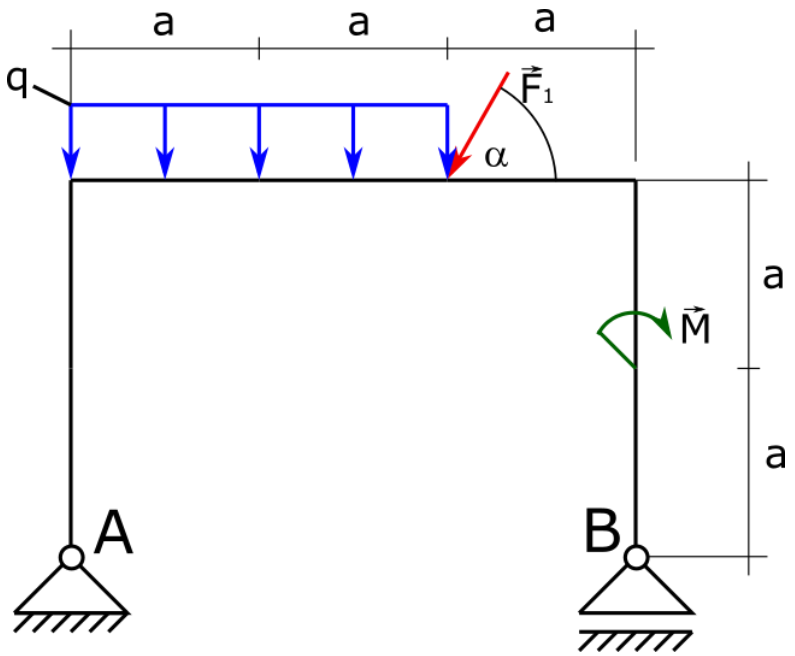
1. Make a reduction of a given system of forces and define the resultant force. Data: F_1=100N, F_2=200N, F_3=150N, F_4=300N; points where forces are attached: A_1(5,5), A_2(-2,8), A_3(-10,-5), A_4(10,-4); angles between positive part of axis X and direction of force: α_1=45°, α_2=150°, α_3=60°, α_4=300°.



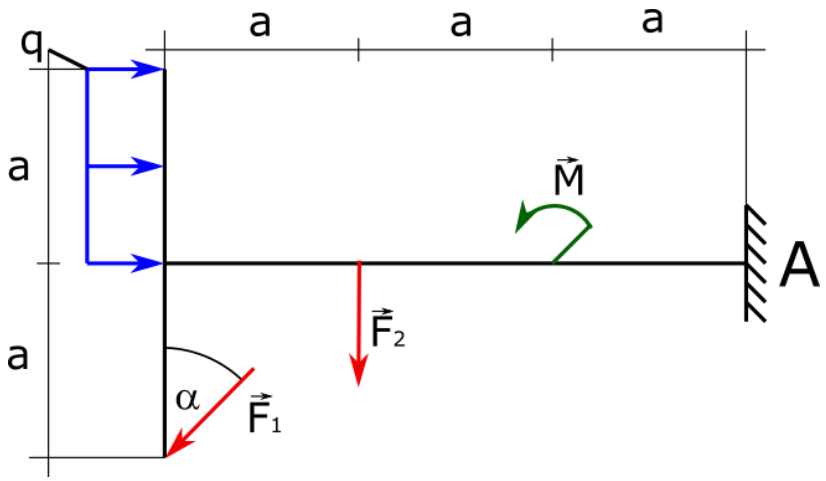
2. Find reactions in supports. Data: F_1=10N, M=10Nm, α=60°, β=30°, a=2m.



3. Find reactions in supports. Data: F_1=16N, M=6Nm, q=2N/m α=60°, a=2m.



4. Find reactions in supports. Data: F_1=20N, F_2=10N, M=8Nm, q=1N/m α=60°, a=2m.



5. Find reactions in supports. Data: F_1=18N, F_2=10N, M=6Nm, q=2N/m α=60°, a=2m.