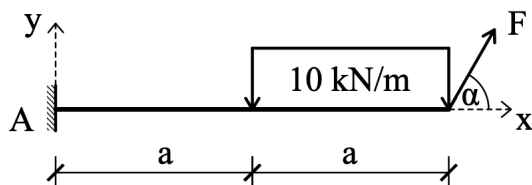


HW3a. Calculate the horizontal A_x [kN] vertical A_y [kN] support reaction forces and the M_A [kNm] moment reaction! Determine their sign: positive directions for the forces are indicated in the figure, and clockwise is the positive moment direction.

[30 points]



HW3b. We examine the equilibrium of a given simply supported beam. The unknown support reaction are denoted by A_x, A_y, B_y . The equilibrium equations take the following form:

$$(1) A_x - b = 0$$

$$(2) A_y + B_y - c = 0$$

$$(3) -2c \cdot A_y + d = 0$$

Write the equilibrium equations in a matrix form! (You can rearrange the equations but must not multiply them by scalar!) Find the absolute value D of the determinant of this matrix!

[10 points]