

HW6. The three-hinged structure below is loaded by the distributed loads p_1 [kN/skew! meter] and p_2 [kN/horizontal projection meter] and the concentrated load F [kN].

a) Determine the resultant of load p_1 ($R_1=?$ [kN]) and the components of this resultant ($R_{1x}=?$ [kN] and $R_{1y}=?$ [kN])! Also calculate the resultant of load p_2 ($R_2=?$ [kN])! (Give them in absolute value!)

b) Compute the support reactions A_x [kN], A_y [kN], B_x [kN], B_y [kN]! Determine the support reactions with their signs (the positive directions are shown in the figure)!

c) Indicate all the loads support reactions, and connection forces acting on the structure in a free body diagram! Also make a so-called “result-figure” in which you indicate all these items with their real magnitude and direction (for example for A_x : 10 kN $\rightarrow$)

[40 points]

