

Resultate Baustatik I, Hausübung 8

1 a)  $w = \frac{qL^2}{8GA^*} + \frac{5 qL^4}{384 EI}$

b)  $\varphi = -\frac{\alpha_T \cdot l}{h} \cdot (T_u - T_o)^\ominus$

c)  $w = \frac{QL}{4GA^*} + \frac{QL^3}{48EI} + \frac{Q}{4} \cdot c_f$

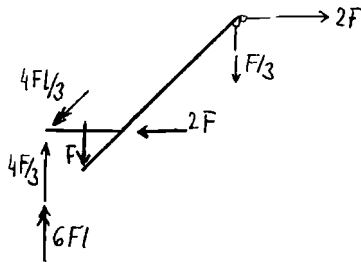
2)  $w_1 = \frac{QL}{EA} \cdot [\frac{1}{2} + \sqrt{2}]$

$w_2 = \frac{QL}{EA}$

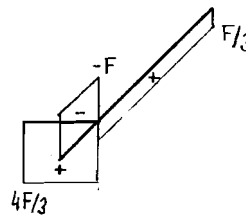
3)  $w = \frac{8QL^3}{3EI} + \frac{4QL}{3GA^*}$

$\varphi = \frac{4QL^2}{3EI} + \frac{Q}{GA^*}$

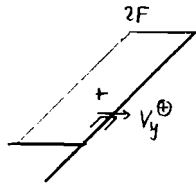
4) SKD:



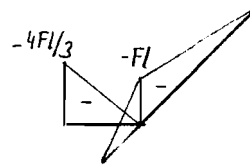
$V_z$ :



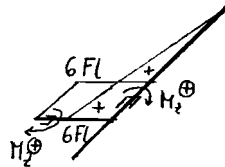
$V_y$ :



$M_y$ :



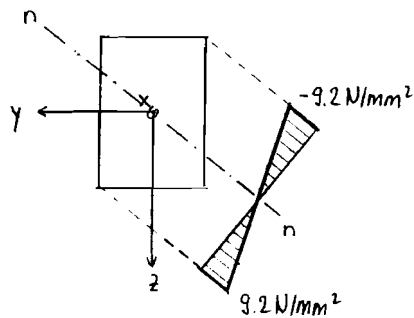
$M_z$ :



$W_z = \frac{52 FL^3}{27 EI_y} \left( + \frac{28 FL}{9 GA^*} \right) \quad (I_y = \frac{bh^3}{12})$

$W_x = \frac{42 FL^3}{EI_z} \left( + \frac{6 FL}{GA^*} \right) \quad (I_z = \frac{hb^3}{12})$

5)



$\sigma_{x \max} = 9.2 \text{ N/mm}^2$

$\sigma_{x \min} = -9.2 \text{ N/mm}^2$