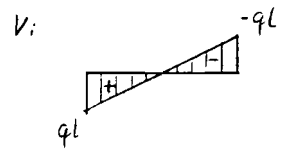
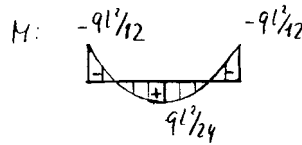
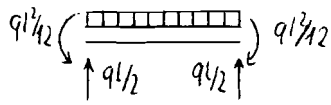
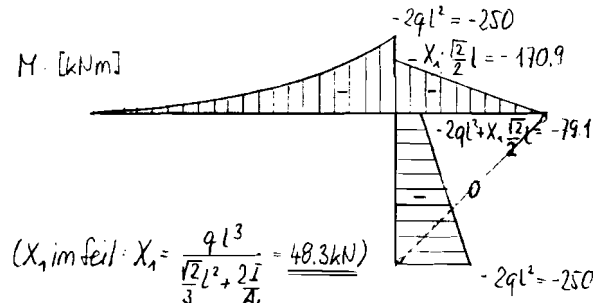
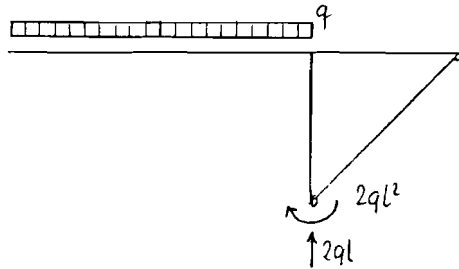


Resultate Baustatik I, Hausübung 10

1) SKD

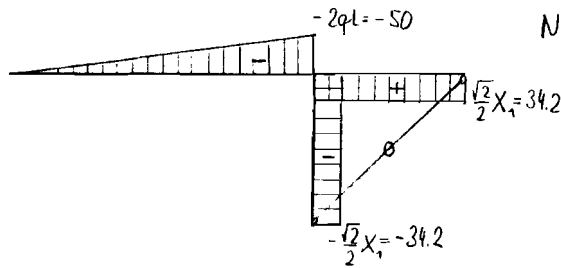


2 a) SKD

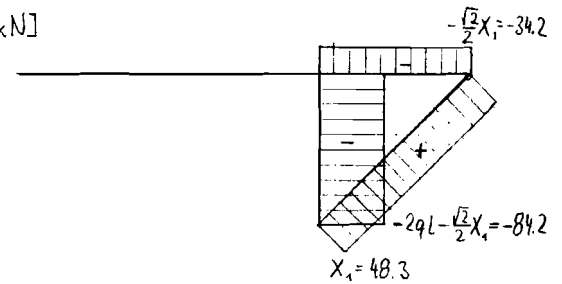


$$(X_1 \text{ im Feil: } X_1 = \frac{q l^3}{\frac{\sqrt{2} l^2}{3} + 2 \frac{I}{A_1}} = 48.3 \text{ kN})$$

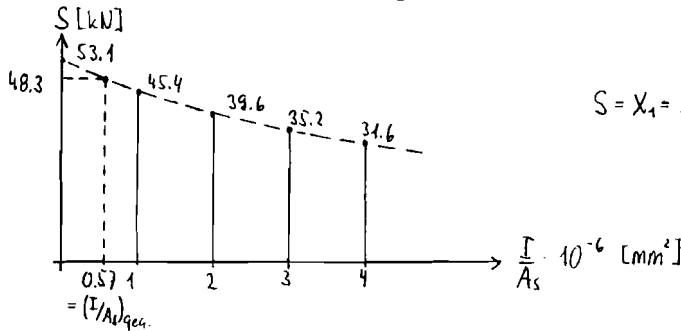
V: [kN]



N: [kN]



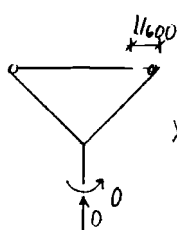
b)



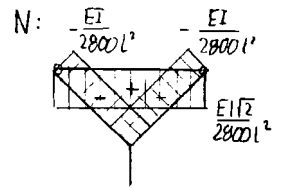
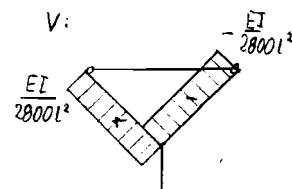
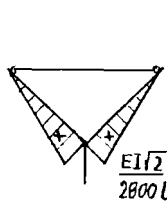
$$S = X_1 = \frac{q l^3}{\frac{\sqrt{2} l^2}{3} + 2 \frac{I}{A_s}}$$

c) $\delta = \frac{l^2}{EI} (6q - \frac{\sqrt{2}}{2} X_1) = 383 \text{ mm}$

3a) SKD:



$$X_1 (\text{im Stab}) = \frac{EI \sqrt{2}}{2800 l^2}$$



b) $\sigma_{\text{Stab}} = \frac{E}{2100} = 100 \text{ N/mm}^2$; $\delta_A = \delta_B = \frac{L}{2800}$

c) $P = \frac{EI \sqrt{2}}{2400 l^2}$

d) $N_{AB} = \frac{EI \sqrt{2}}{2400 l^2}$