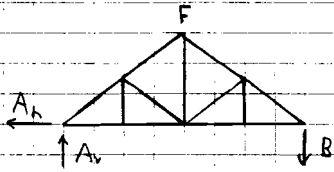


Baustatik I + II

Lösung der Fertigungsprüfung

Winter 07/08

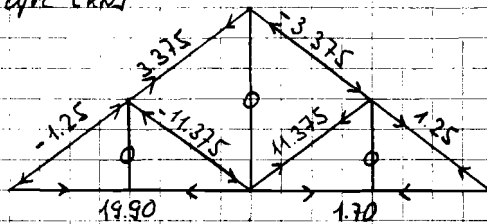
1 a)



$$A_v = B = 5.55 \text{ kN}$$

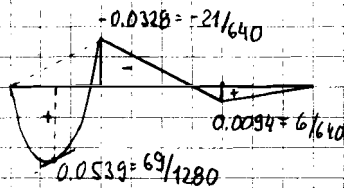
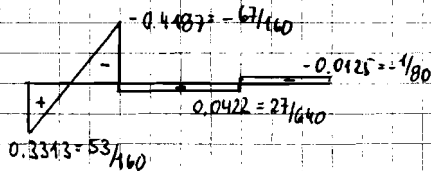
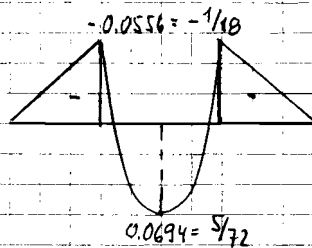
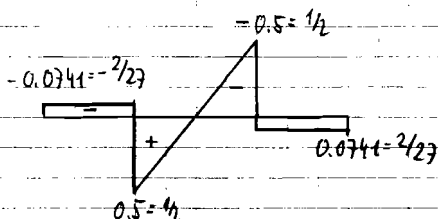
$$A_h = 21.6 \text{ kN}$$

b) Stabkräfte [kN]

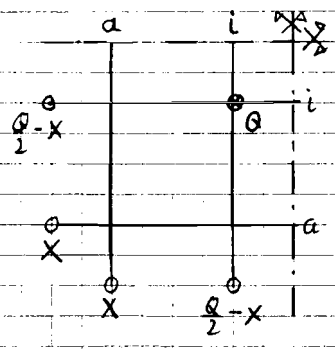


$$c) \delta_{F_h} = 0.997 \text{ mm}$$

$$\delta_{F_v} = 1.152 \text{ mm}$$

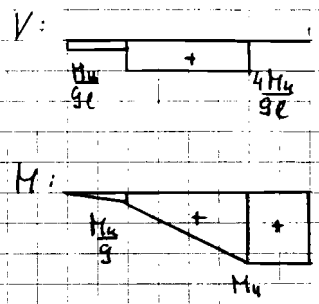
2 a) $M(q_1)$:[q₁l²] $V(q_1)$:[q₁l]b) $M(q_2)$:[q₂l²] $V(q_2)$:[q₂l]

3a)

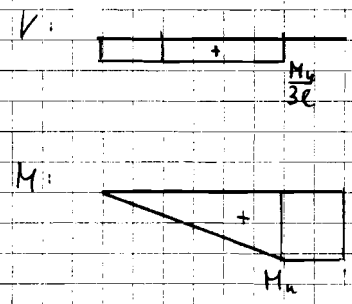


UGW-Satz: $Q_n \geq \frac{8M_u}{9l}$

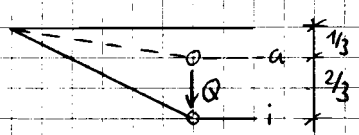
Innenbägel i:



Außenbägel a:



b) Bruchmechanismus



OGW-Satz: $Q_n \leq \frac{8M_u}{9l}$

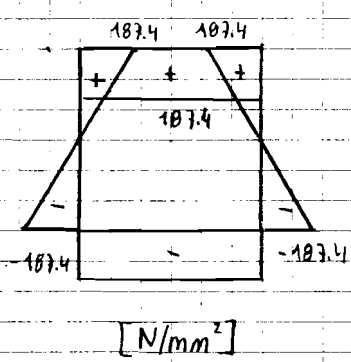
c) Traglast: $Q_n = \frac{8M_u}{9l}$

4a) $F_{cr} \approx \frac{96EI}{5l^2} = 19.2 \frac{EI}{l^2}$

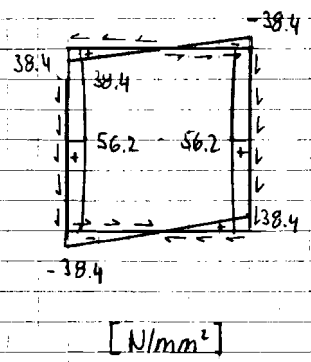
(exakte Lösung $F_{cr} = 18.666 \frac{EI}{l^2}$)

b) $F_E = \frac{\pi^2 EI}{l^2}$ → Knicklast aus Fall a) etwa doppelt so groß

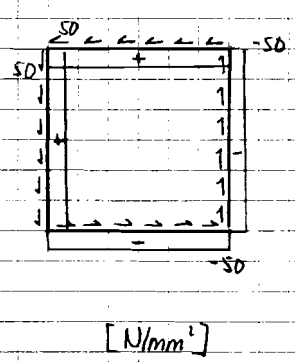
5a) $\sigma(M)$:



$\tau(V_2)$:



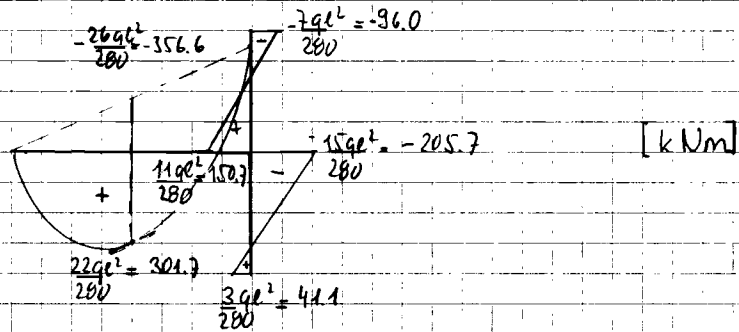
$\tau(T)$:



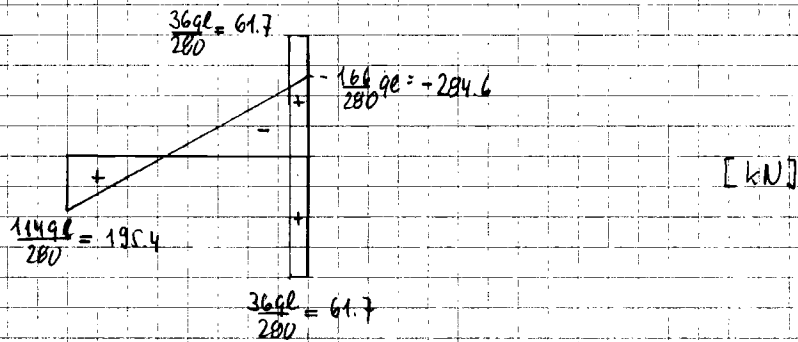
$$b) \delta(M) = 1.52 \text{ mm}$$

$$c) \varphi_x(T) = 3.17 \cdot 10^{-3} \text{ rad}$$

6. M:



V:



N:

