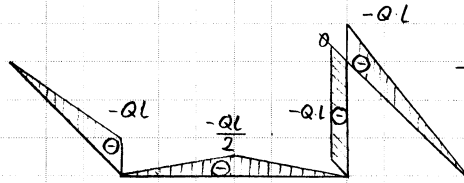
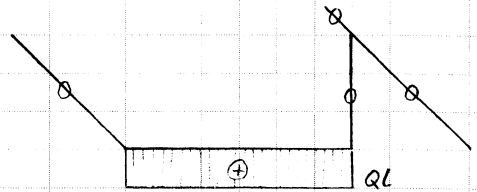


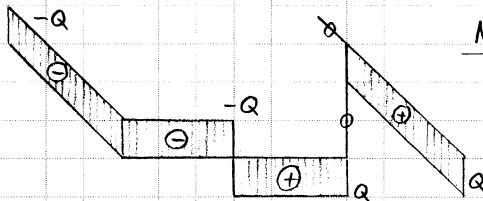
1) a) M_y :



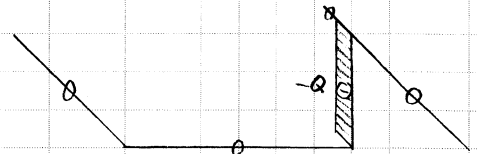
T:



V_z :



N:



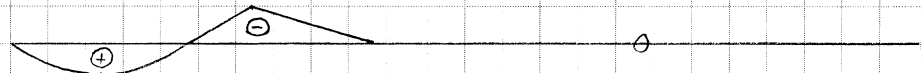
b) $\varphi_{xG} = \frac{53 QL^2}{16 EI}$

c) $P = \frac{106 Q}{45}$

2) a) $M_{I,max}^+ = 18 q L^2$; $M_{I,max}^- = -\frac{39 q L^2}{2}$

b) $V_{E,max} = 6 q L$

c) η_{φ_B} :

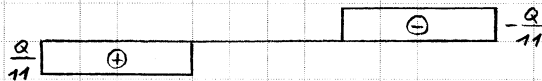


$\varphi_{B,max} = -\frac{11 q L^3}{2 EI}$

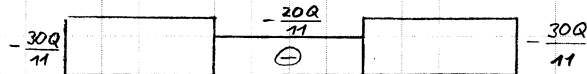
3) a) M :



V :



N :

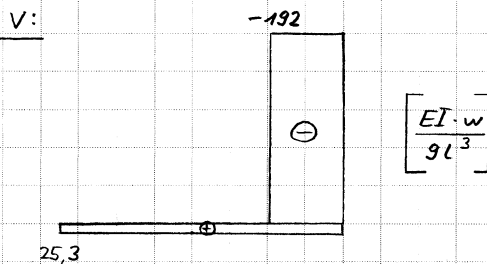
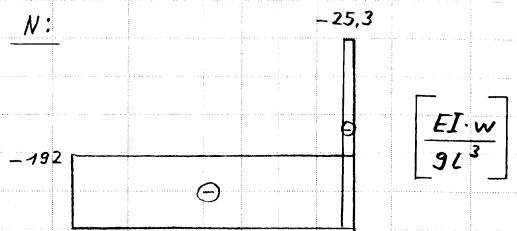
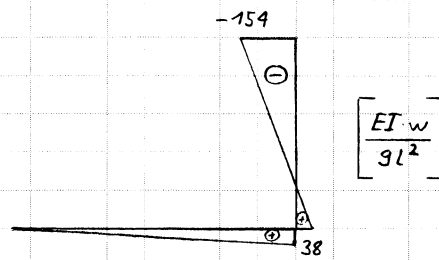


b) $2\alpha_{max} = 9,21^\circ$

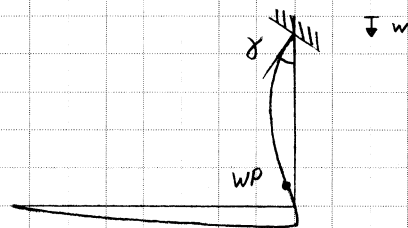
4) a) $s=0 : F_k = 2,47 \frac{EI}{L^2}$; $s \rightarrow \infty : F_k = 20,1 \frac{EI}{L^2}$

b) $s=1 : F_k = 2,67 \frac{EI}{L^2}$

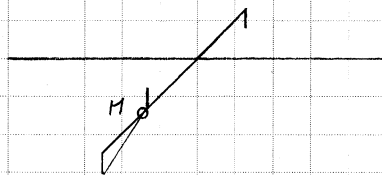
5) a) M:



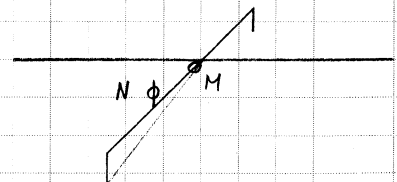
b)



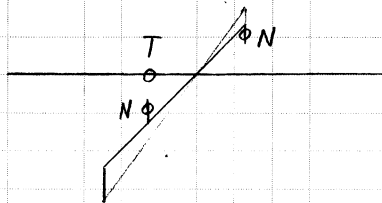
6) a) 1:



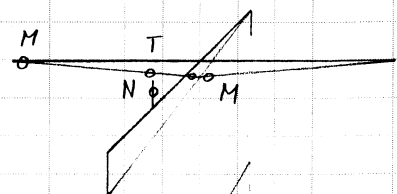
2:



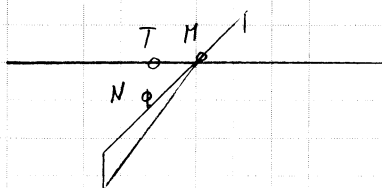
3:



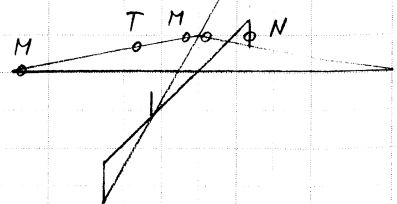
4:



5:



6:



$$Q_1 \leq \frac{4M_u}{L} ; Q_2 \leq \frac{5M_u}{2L} ; Q_3 \leq \frac{3M_u}{2L} ; Q_4 \leq \frac{2M_u}{L} ; Q_5 \leq \frac{3M_u}{L} ; Q_6 \leq \frac{6M_u}{L}$$

b) Traglast $Q_u = \frac{3M_u}{2L}$