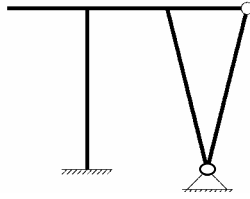
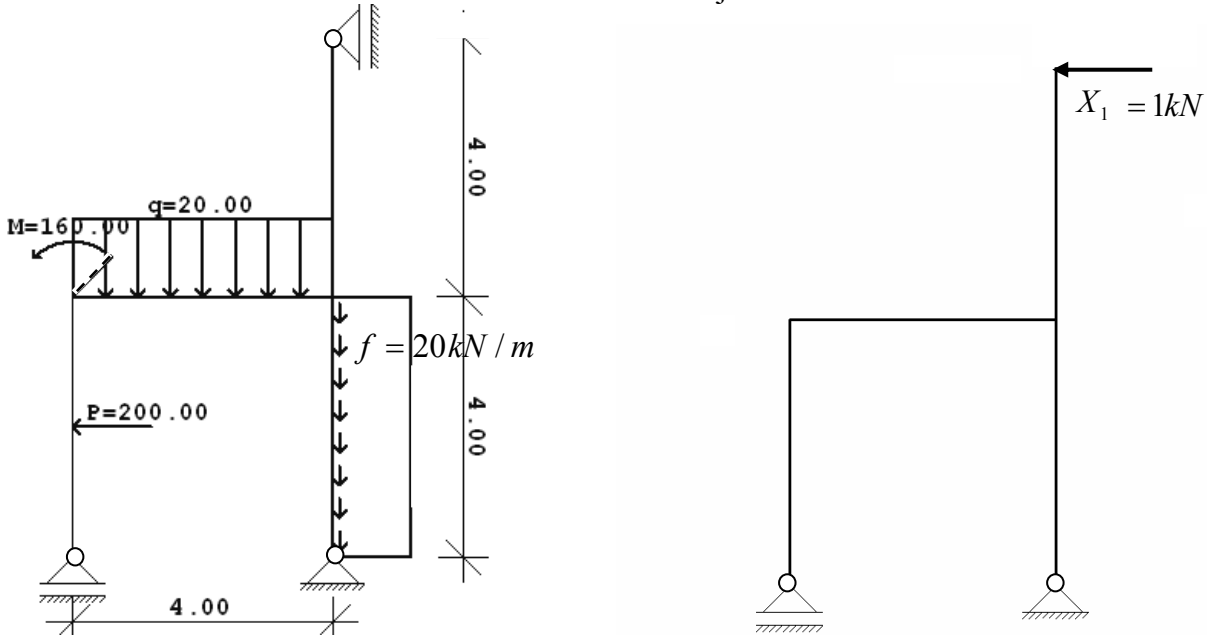


1. Odrediti stupanj statičke neodređenosti zadanog sustava te presijecanjem unutarnjih i vanjskih veza nacrtati dva statički određena sustava. (10 bodova)

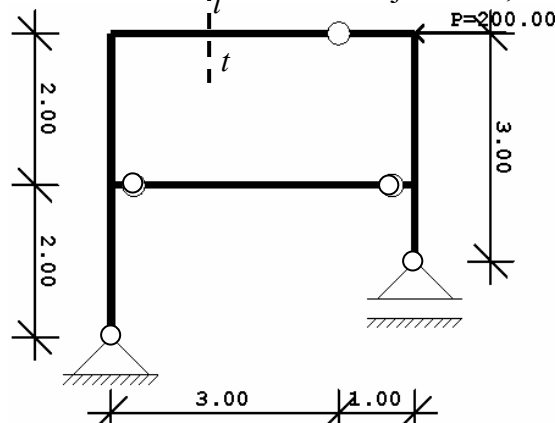


2. Za sustav na slici **METODOM SILA** odrediti dijagrame unutarnjih sila (M_K , T_K i N_K). Pri izračunu koeficijenta fleksibilnosti uzeti u obzir utjecaj **SAMO momenata savijanja** na deformiranje sustava. EI je konstantan za cijeli sustav. (50 bodova). ($m_I=10; M_v=10; M_K, T_K, N_K=3*5=15; a_{II}=6; a_{IV}=6; X_I=3$)
Za izračunavanje koristiti **zadani osnovni sustav**.



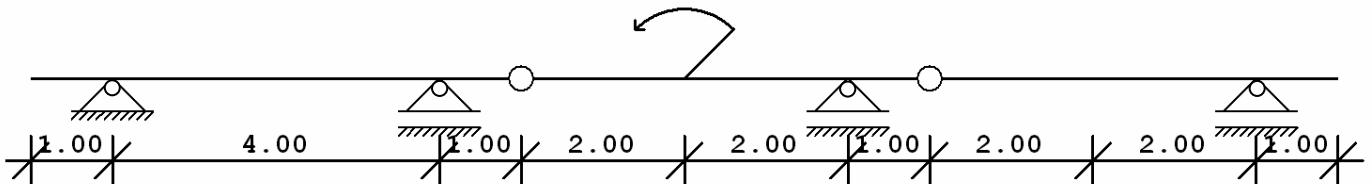
osnovni sustav za rješavanje

3. Za zadani trozglojni okvir **GRAFIČKI** treba odrediti unutarnje sile M, T i N u presjeku t-t. (15 bodova)



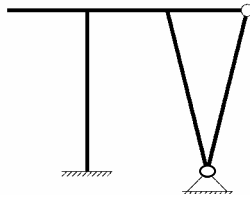
4. Za zadani Gerberov nosač odredite M i T dijagrame. (25 bodova)

$M=100.00$



NAPOMENA: ZA PROLAZ NA USMENI DIO ISPITA TREBA SAKUPITI 50 I VIŠE BODOVA ALI ZADATAK IZ METODE SILA MORA BITI BODOVAN S NAJMANJE 25 BODOVA!!!!

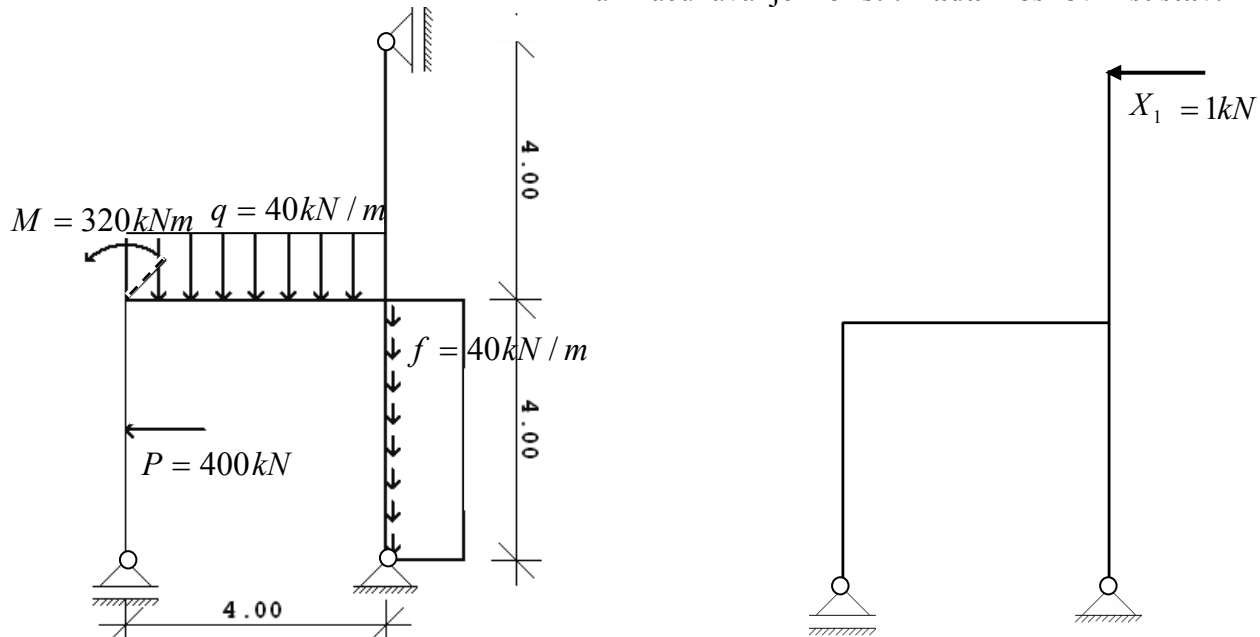
1. Odrediti stupanj statičke neodređenosti zadanog sustava te presijecanjem unutarnjih i vanjskih veza nacrtati dva statički određena sustava. (10 bodova)



2. Za sustav na slici **METODOM SILA** odrediti dijagrame unutarnjih sila (M_K , T_K i N_K). Pri izračunu koeficijenta fleksibilnosti uzeti u obzir utjecaj **SAMO momenata savijanja** na deformiranje sustava.

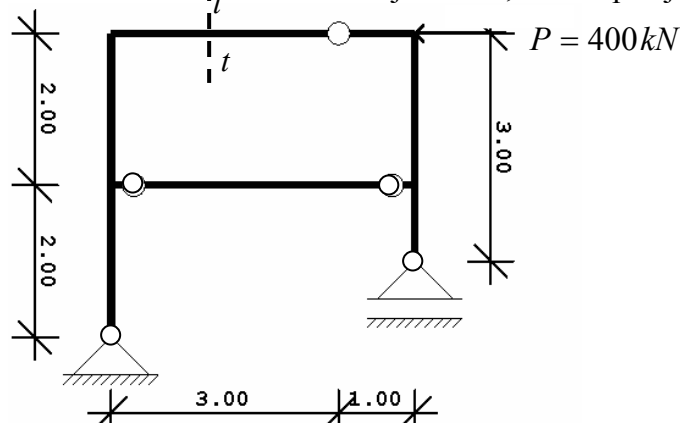
EI je konstantan za cijeli sustav. (50 bodova). ($m_I=10; M_v=10; M_K, T_K, N_K=3*5=15; a_{II}=6; a_{IV}=6; X_I=3$)

Za izračunavanje koristiti **zadani osnovni sustav**.

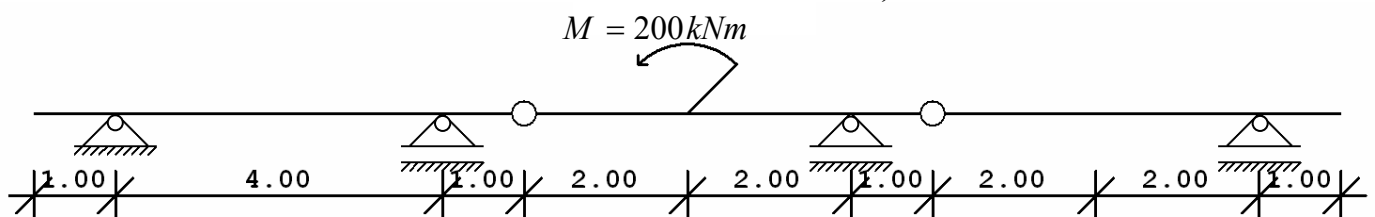


osnovni sustav za rješavanje

3. Za zadani trozglojni okvir **GRAFIČKI** treba odrediti unutarnje sile M, T i N u presjeku t-t. (15 bodova)



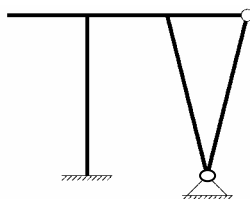
4. Za zadani Gerberov nosač odredite M i T dijagrame. (25 bodova)



NAPOMENA: ZA PROLAZ NA USMENI DIO ISPITA TREBA SAKUPITI 50 I VIŠE BODOVA ALI ZADATAK IZ METODE SILA MORA BITI BODOVAN S NAJMANJE 25 BODOVA!!!!

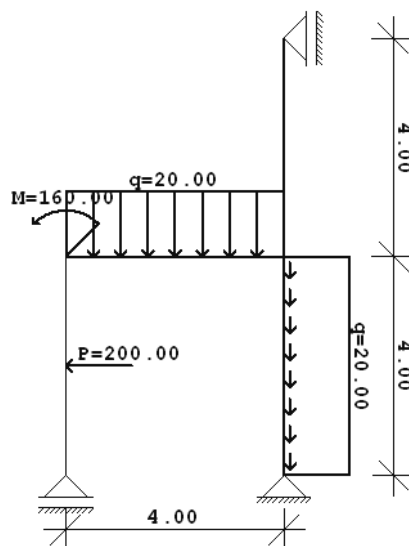
PRORAČUN KONSTRUKCIJA
6. prosinca 2006. godine

1. zadatak - neodređenost



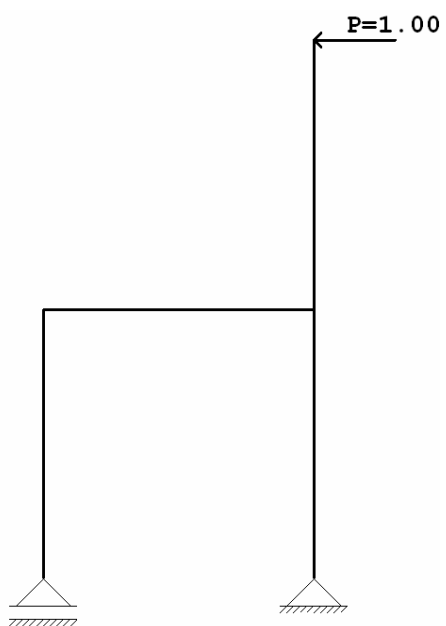
3 puta neodređen

2. Zadatak METODA SILA

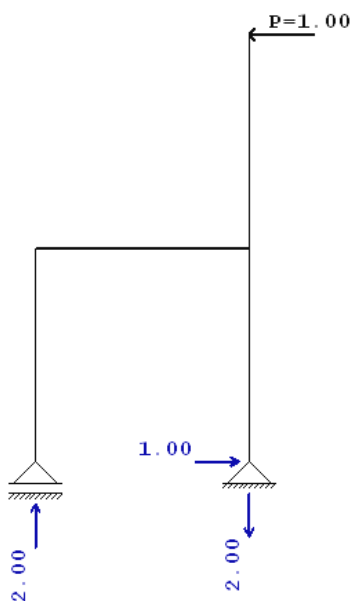


OSNOVNI SUSTAV

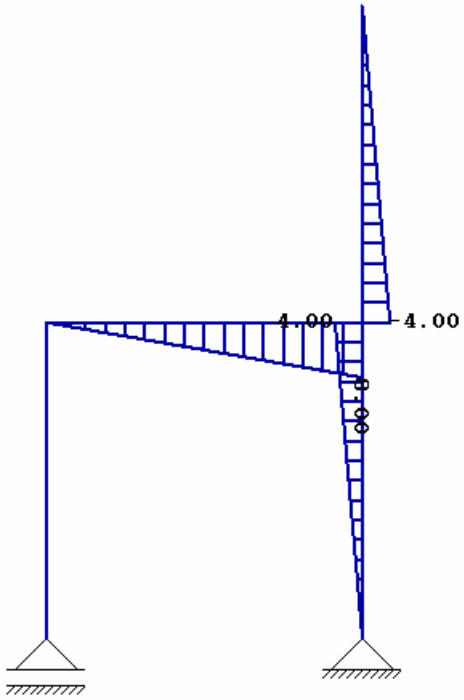
Osnovni sustav



Reakcije

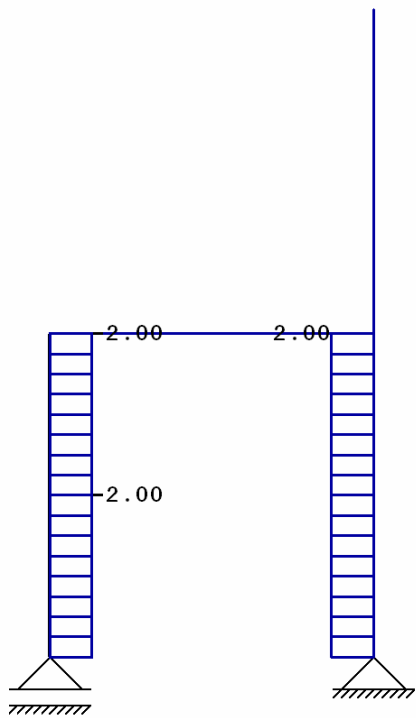
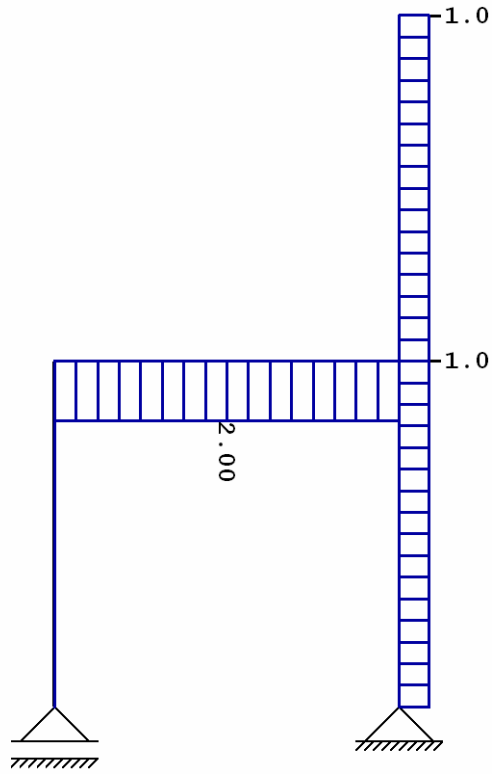


m1



n1

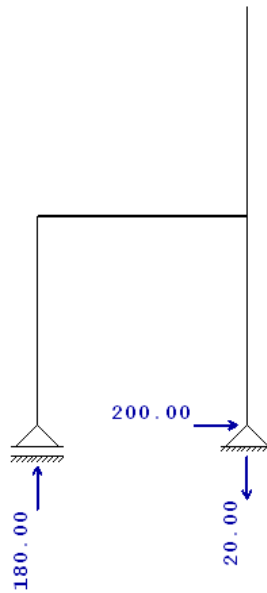
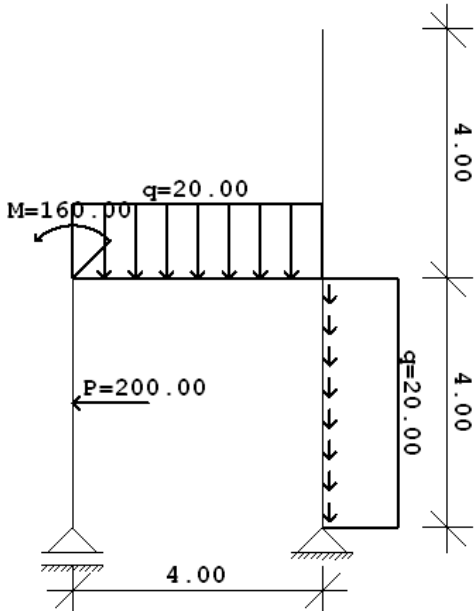
t1



$a_{11} = 128/EI$

VANJSKO OPTEREĆENJE

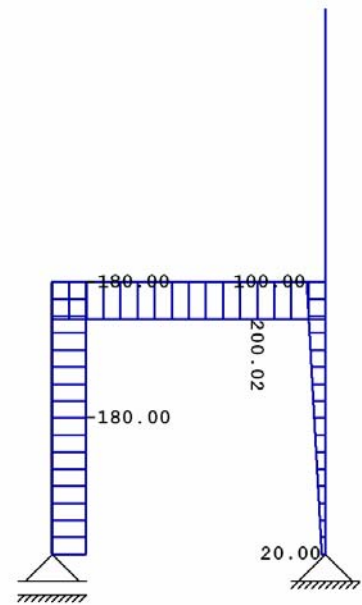
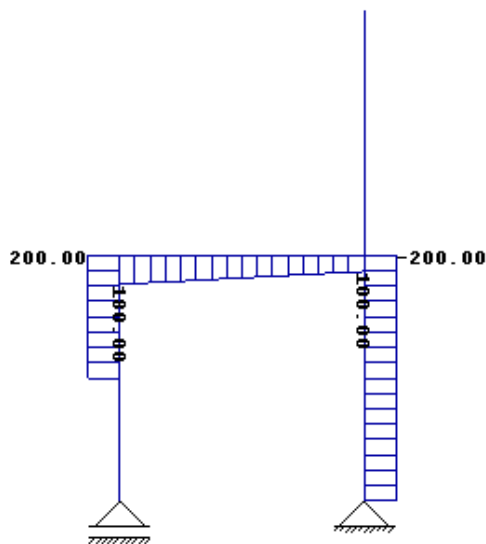
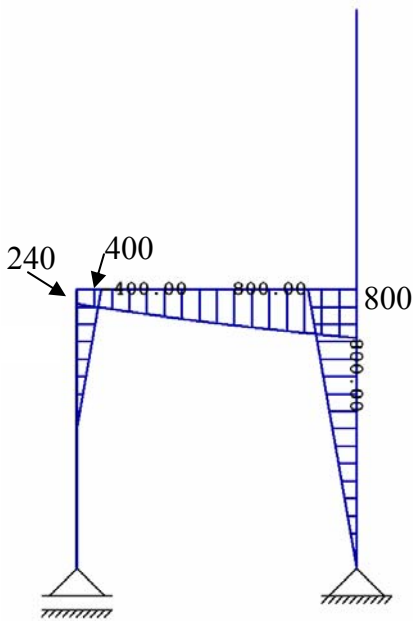
REAKCIJE



M_v

T_v

N_v

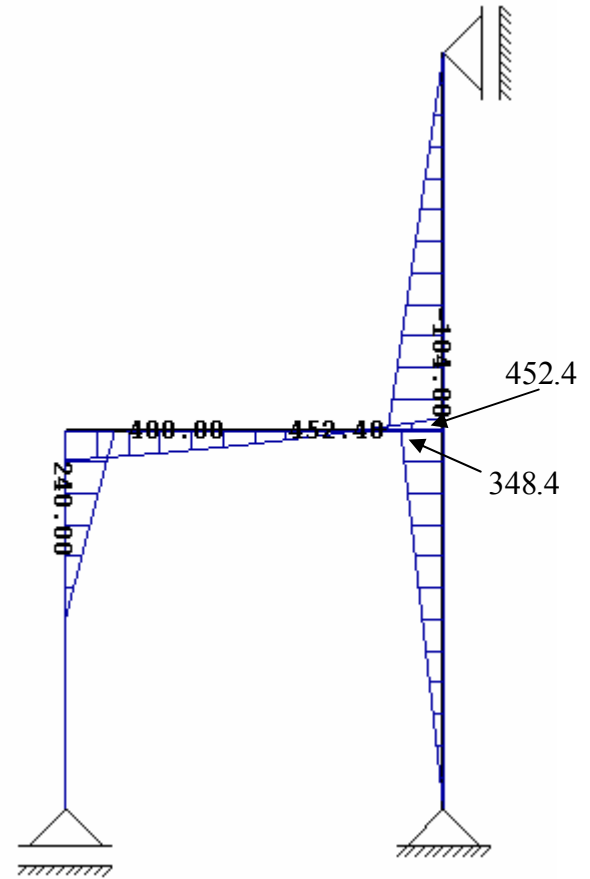
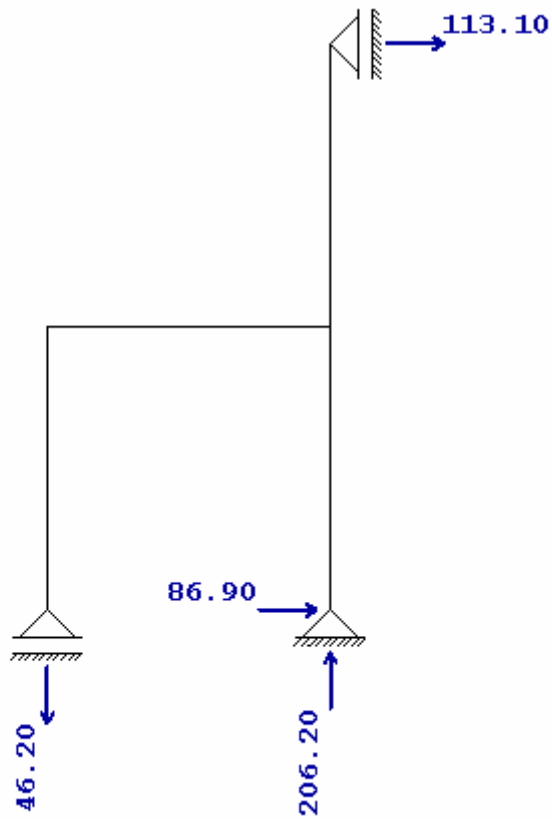


$$a_{1v} = 14506.67/EI$$

$$X_1 = -113,3 \text{ kN}$$

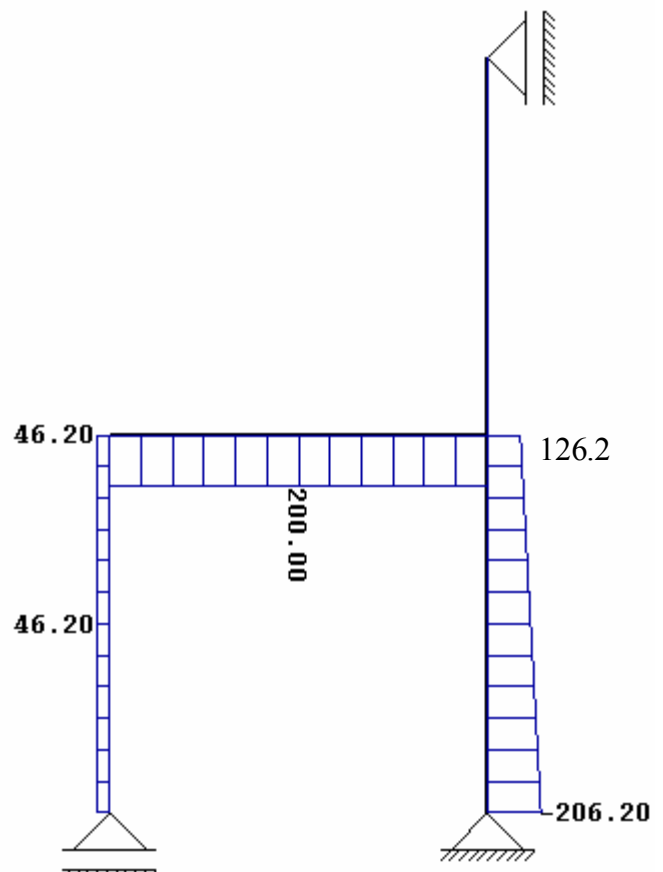
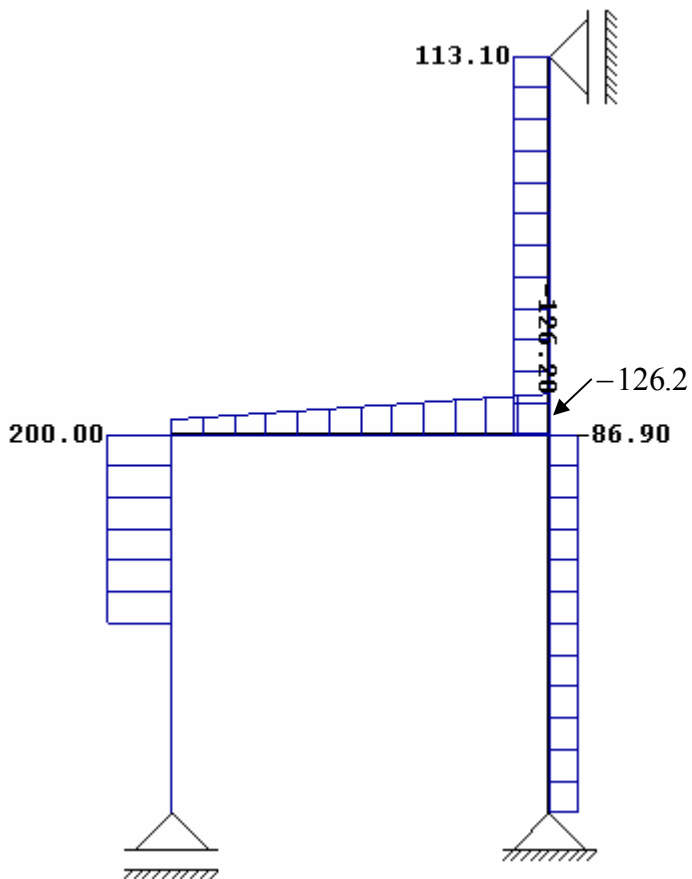
KONAČNI DIJAGRAM

Konačne reakcije

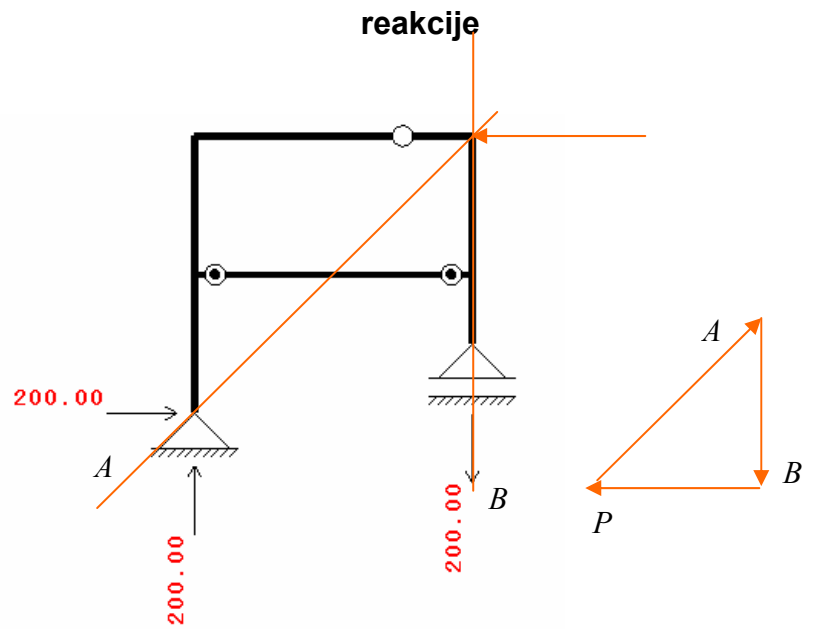
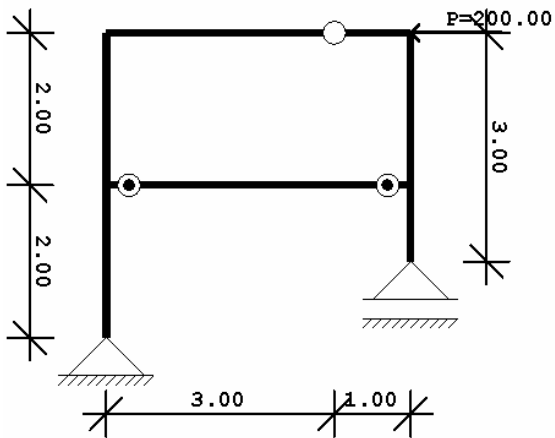


Tk

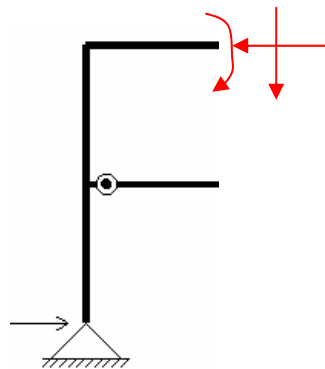
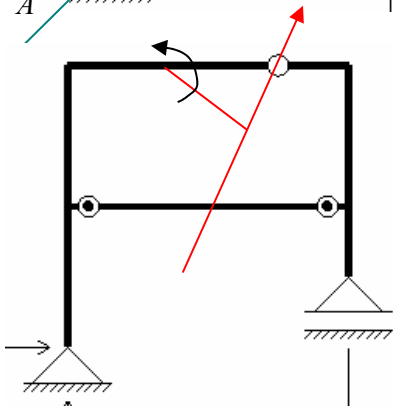
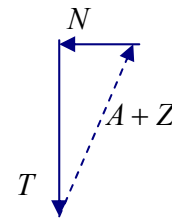
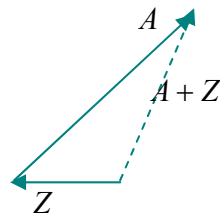
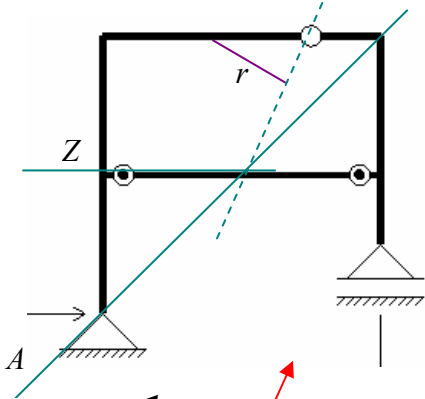
Nk



3. Zadatak -trozglobni



$M=300 \text{ kNm}$ (gore), $T=200 \text{ kN}$, $N=-100 \text{ kN}$



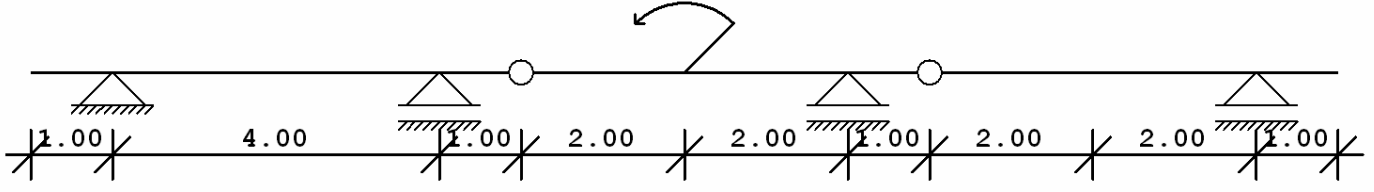
Stvarni smjer unutarnjih sila

$$M_{tt} = (A+Z) \cdot r \text{ (vlak gore)}$$

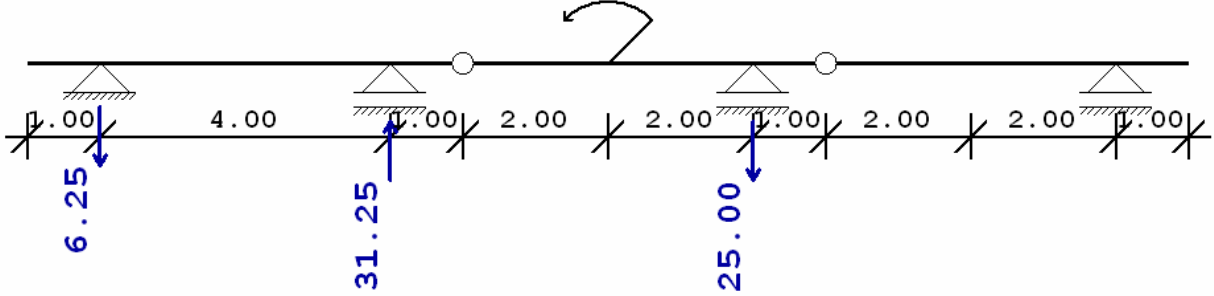
3. Za zadani Gerberov nosač odredite vrijednosti M_{tt} i T_{tt} u presjeku t-t. (20 bodova)

$M=100.00$

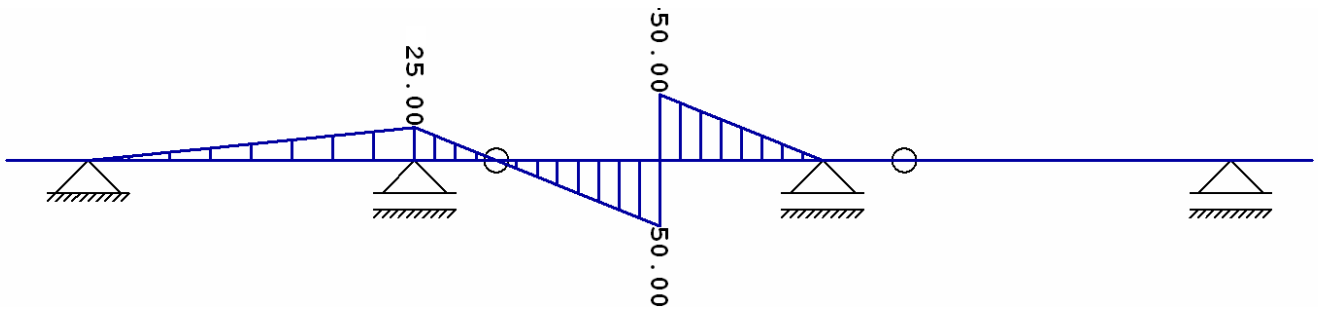
Reakcije



$M=100.00$



M dijagram



T dijagram

