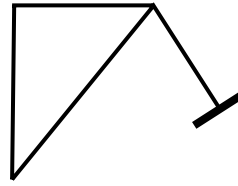
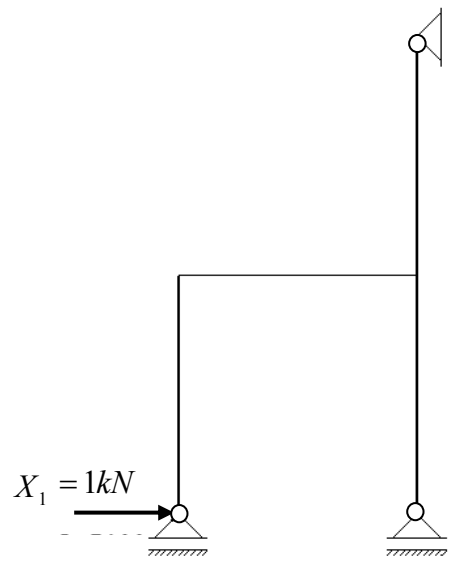
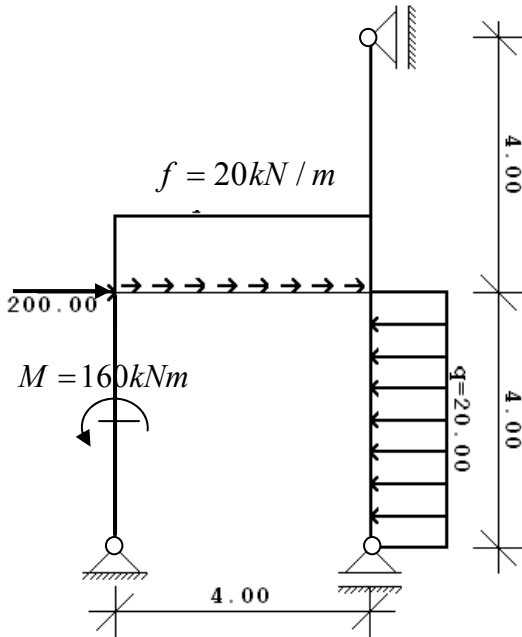


1. Odrediti stupanj statičke neodređenosti zadanog sustava te presijecanjem unutarnjih i vanjskih veza nacrtati dva statički određena sustava. (10 bodova)

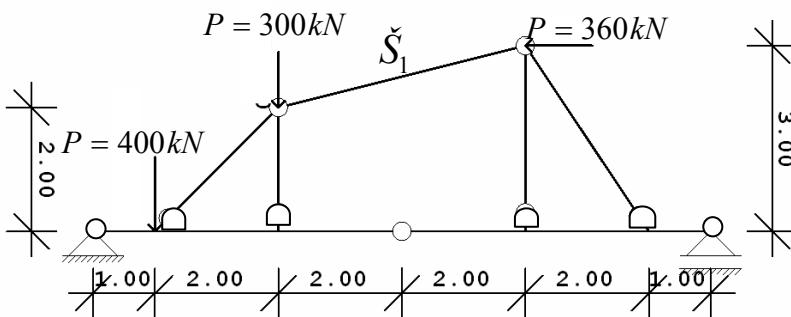


2. Za sustav na slici **METODOM SILA** odrediti dijagrame unutarnjih sila (M_K , T_K i N_K). Pri izračunu koeficijenta fleksibilnosti uzeti u obzir utjecaj **SAMO momenata savijanja** na deformiranje sustava. EI je konstantan za cijeli sustav. (50 bodova). ($m_I=10; M_v=10; M_K, T_K, N_K=3*5=15; a_{II}=6;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

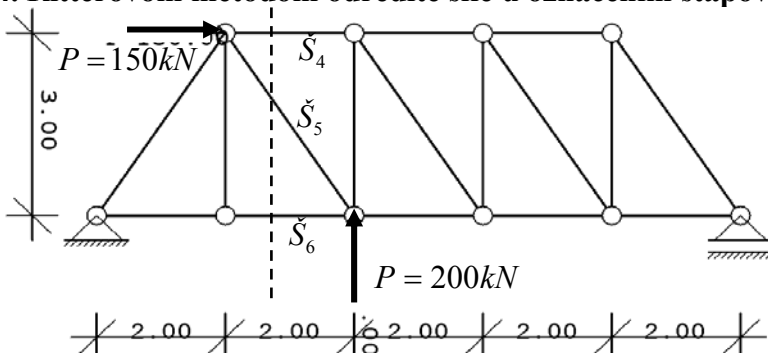


osnovni sustav za rješavanje

3: Odredite vrijednost sile u zadanom štapu! (20 bodova)



4. Ritterovom metodom odredite sile u označenim štapovima! (20 bodova)

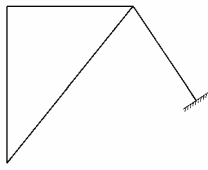


NAPOMENA: ZA PROLAZ NA USMENI DIO ISPITA

TREBA SAKUPITI 50 I VIŠE BODOVA ALI ZADATAK IZ METODE SILA MORA BITI BODOVAN S NAJMANJE 25 BODOVA!!!!

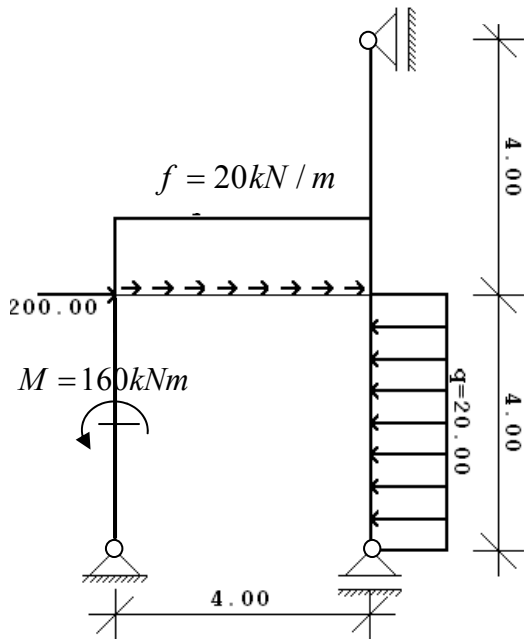
PRORAČUN KONSTRUKCIJA
20. veljače 2007. godine

1. zadatak - neodređenost



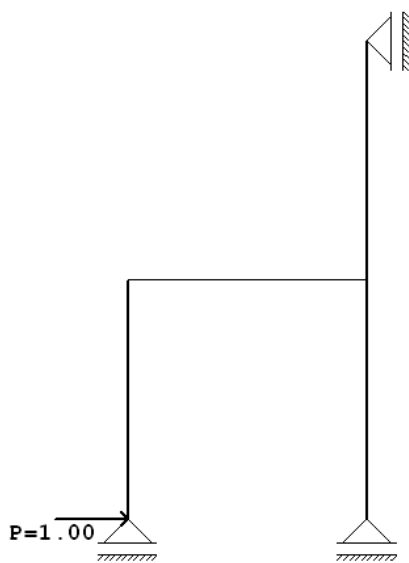
3 puta neodređen

2. Zadatak METODA SILA

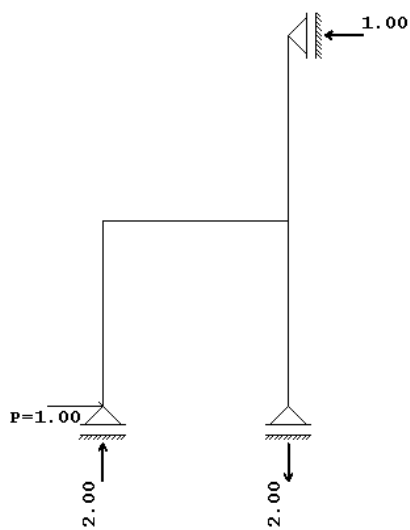


OSNOVNI SUSTAV

Osnovni sustav

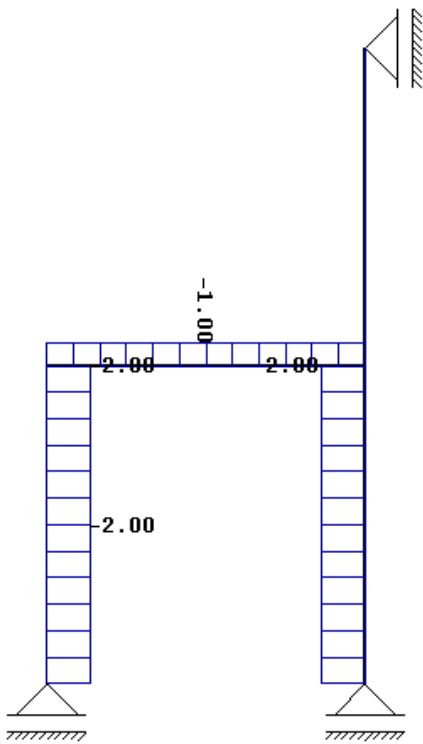
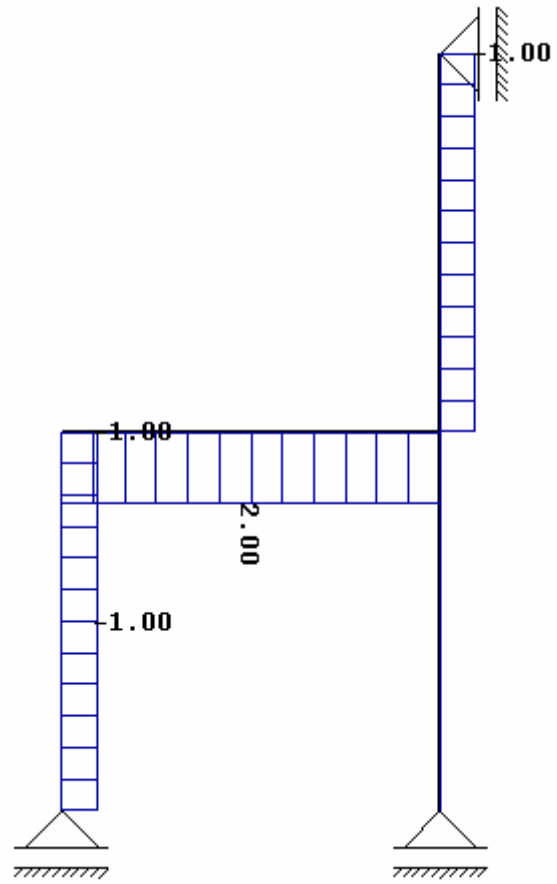
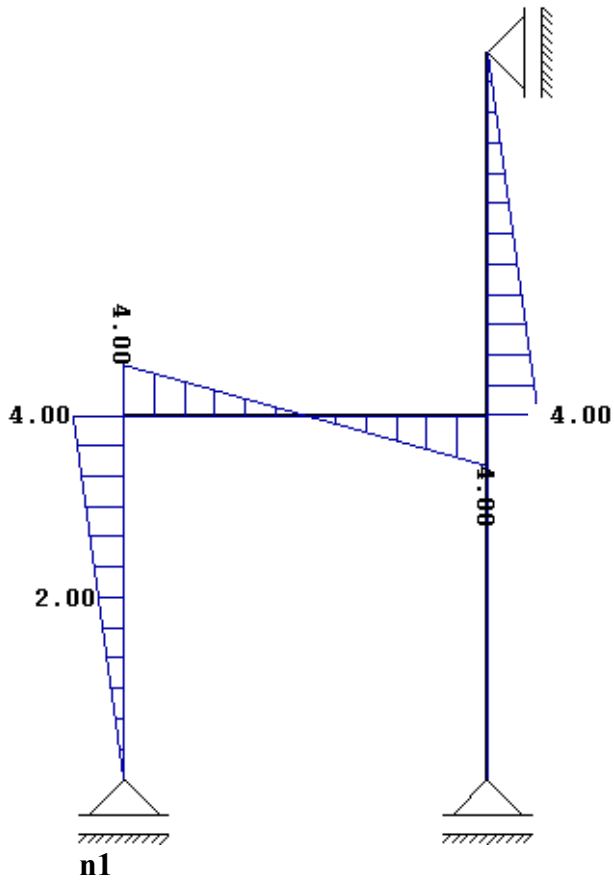


Reakcije



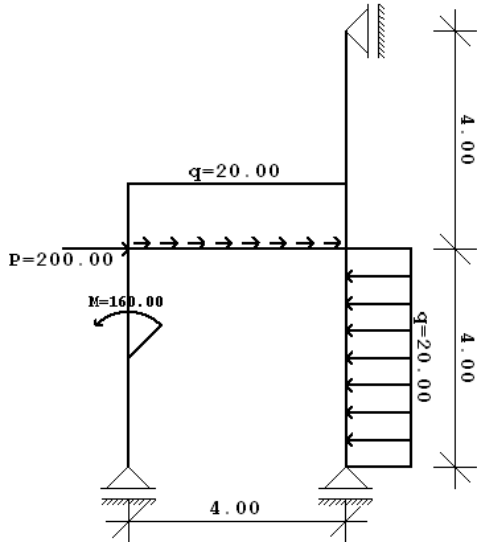
m1

t1



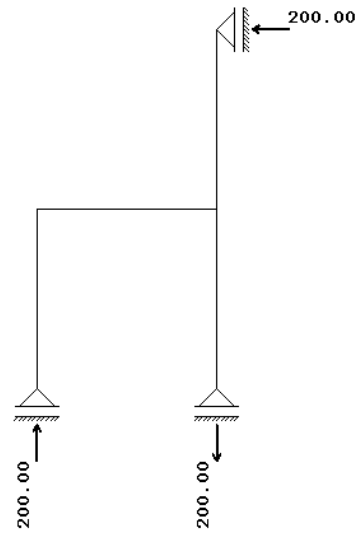
$a_{11} = 64/EI$

VANJSKO OPTEREČENJE

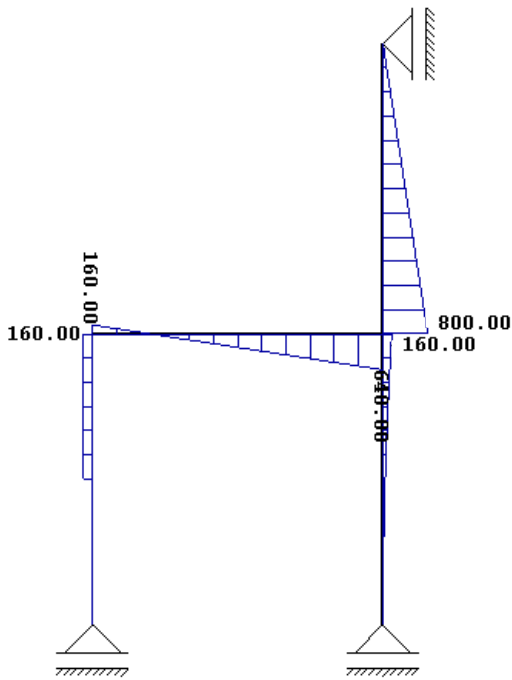


M_v

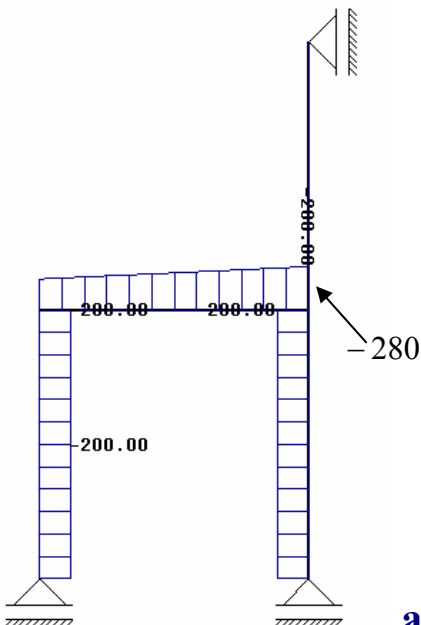
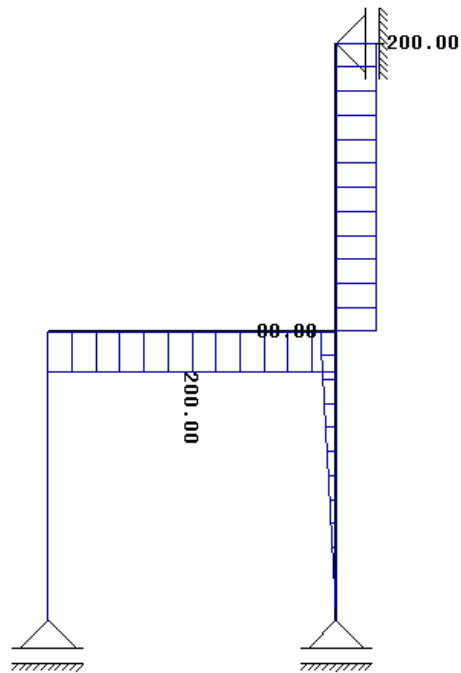
REAKCIJE



T_v



N_v

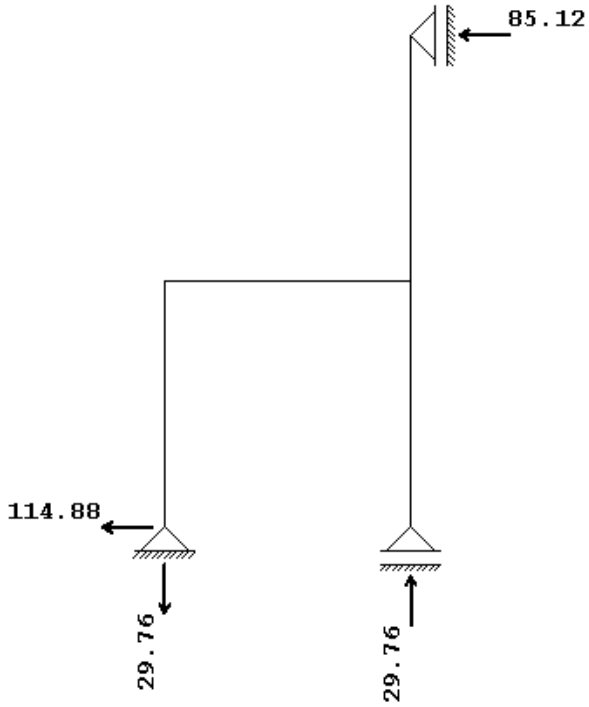


$a_{1v} = 7360/EI$

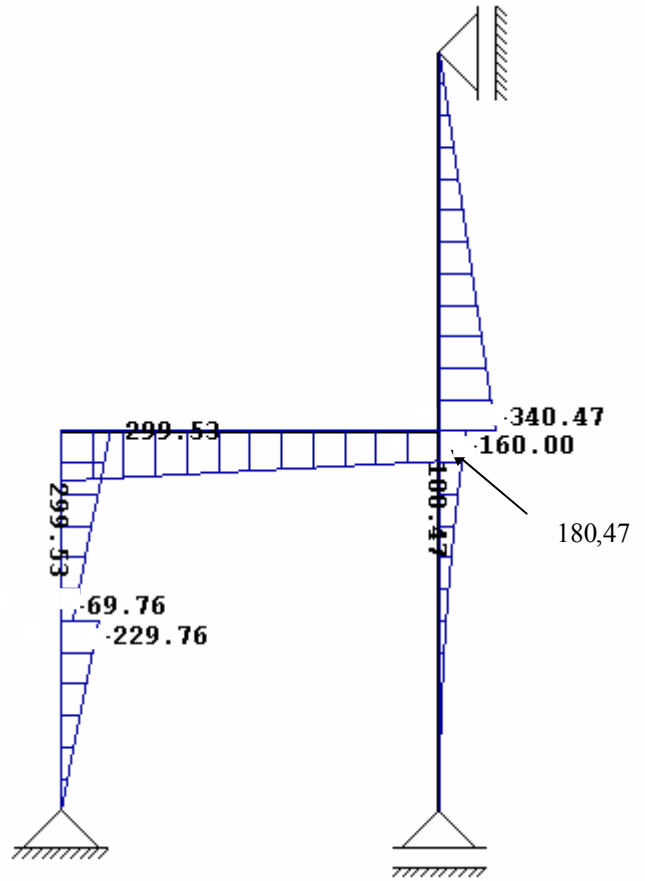
$X_1 = -114,99 = -115 \text{ kN}$

KONAČNI DIJAGRAM

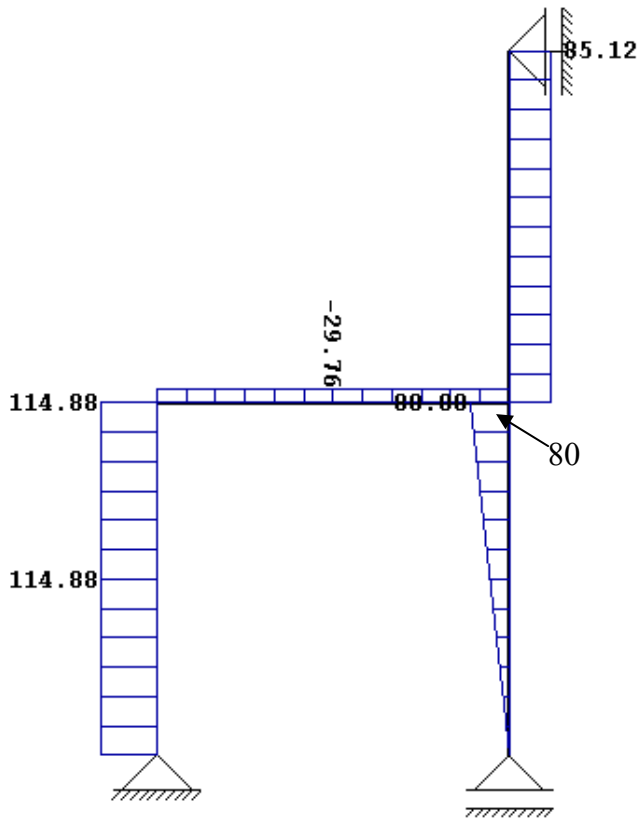
Konačne reakcije



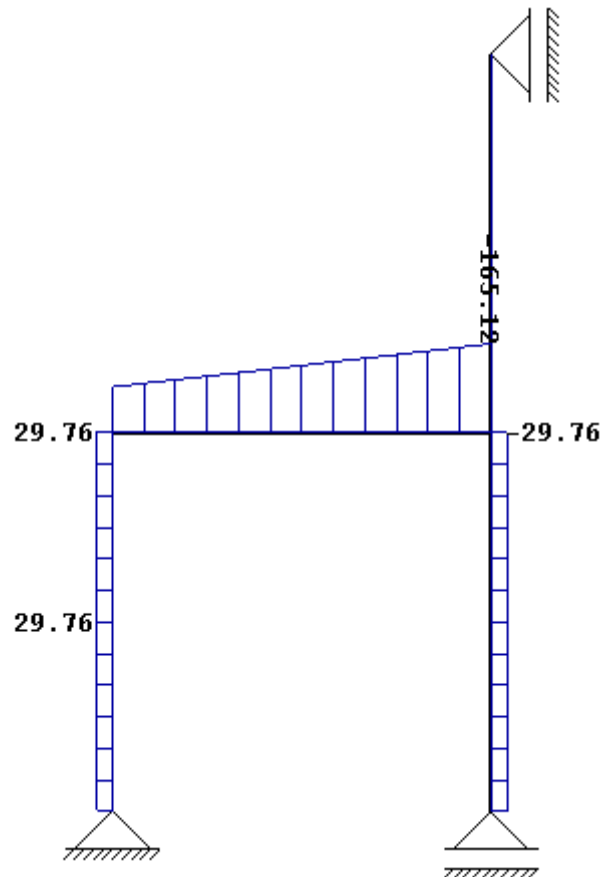
Mk



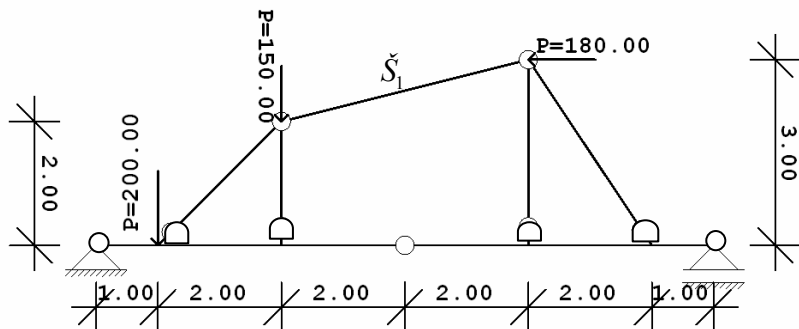
Tk



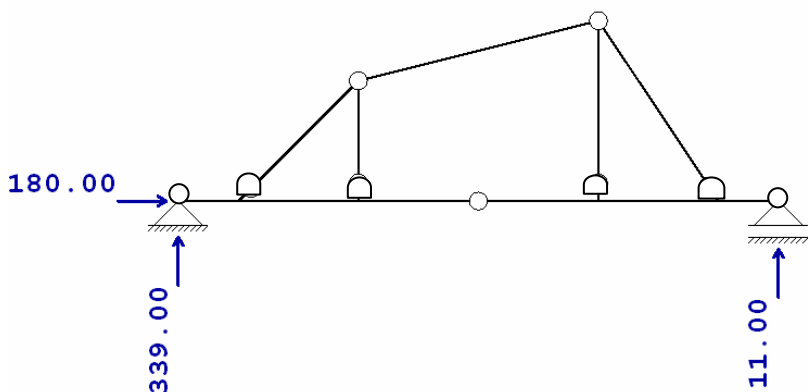
Nk



3: Odredite vrijednost sile u zadanom štapu!

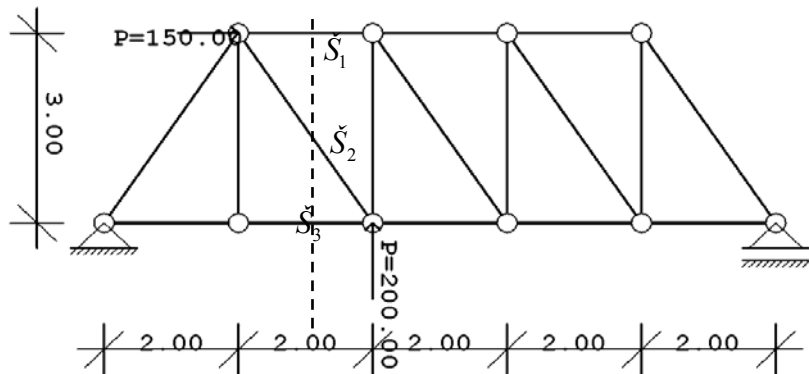


Rješenje:
reakcije



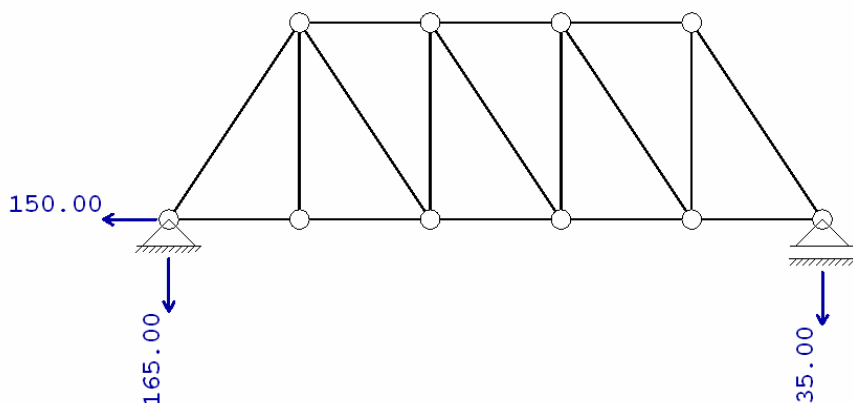
Vrijednost sile u $\check{S}_1 = -245.3$ kN

4. Ritterovom metodom odredite sile u označenim štapovima!



Rješenje:

reakcije



$\check{S}_1 = 70$ kN; $\check{S}_2 = -198.3$ kN; $\check{S}_3 = 40$ kN;