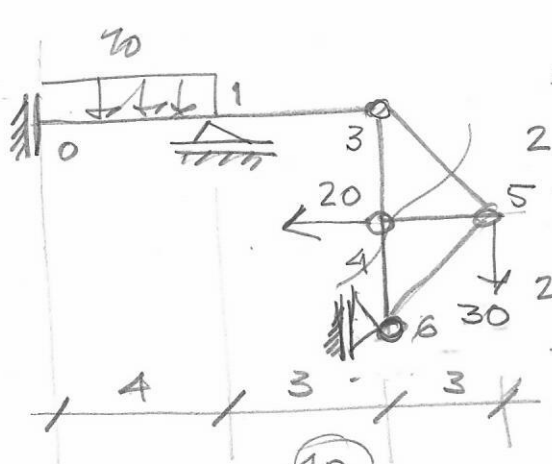


25.05.2020.

## TEHNIČKA MEHANIKA I

ZA NOSAČ I OPTEREĐENJE NA SKICI TREBA:



a) ODREĐITI REAKCIJE  
OSLOMAČAJ I SILE  
VEZA

b) NABRZATI DIJAGRAME  
SILA U PRESEKU

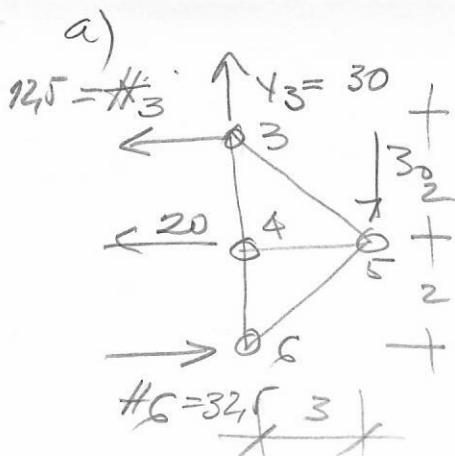
c) NA DEGU 0-1 ISPISATI  
IZRAZE ZA SILE U  
PRESEKU

d) METODAMA PRESEKA ODREĐITI SILE U STA-  
POVIMA  $S_{35}$ ,  $S_{45}$  I  $S_{46}$

e) VIRTUELNIM RADOM ODREĐITI  $V_1$

(10)

REJEKICA



$$\sum V = V_3 - 30 = 0 \quad V_3 = 30 \text{ kN}$$

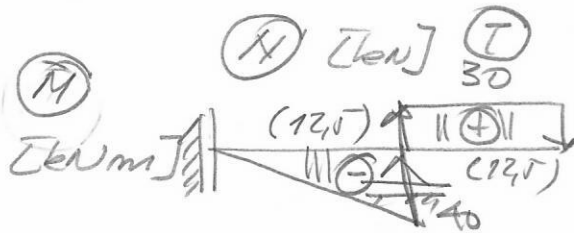
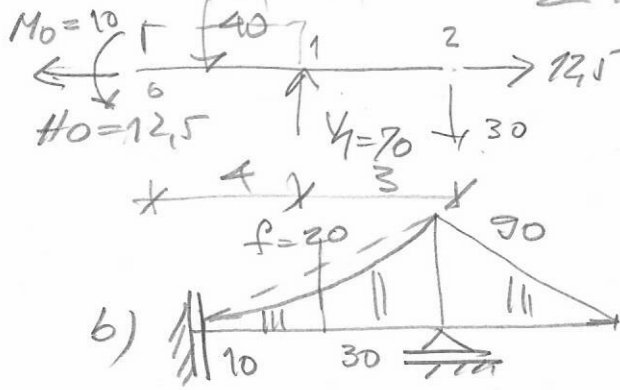
$$\sum M_3 = 4H_0 - 3 \cdot 30 - 2 \cdot 20 = 0 \quad H_0 = 32,5 \text{ kN}$$

$$\sum H = H_3 + 20 - 32,5 = 0 \quad H_3 = 12,5 \text{ kN}$$

PUNI NOSAC

$$\sum H = H_0 - 12,5 = 0 \quad H_0 = 12,5 \text{ kN}$$

$$\sum V = V_1 - 40 - 30 = 0 \quad V_1 = 70 \text{ kN}$$

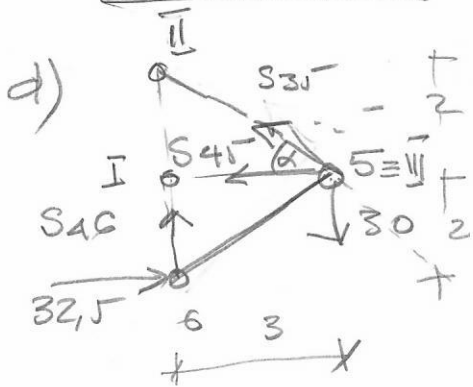


$$c) \quad M_x(z) = -10 - 10 \frac{z^2}{2} = -10 - 5z^2$$

$$M_x(0) = -10 \quad M_x(4) = -10 - 5 \cdot 4^2 = -90$$

$$T_y(z) = -10z \quad T_y(0) = 0 \quad T_y(4) = -40$$

$$N(z) = -12,5$$



$$\text{tg } \alpha = \frac{2}{3} \quad \sin \alpha = 0,667 \quad \cos \alpha = 0,741$$

$$\sum M_I = 3(S_{35} \cdot 0,667 + 30) + 2 \cdot 32,5 = 0$$

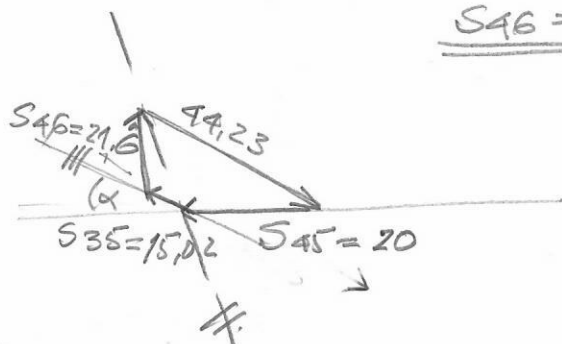
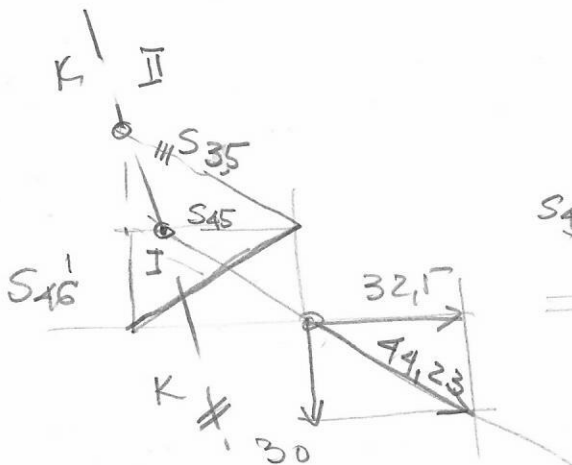
$$S_{35} = 15,02 \text{ kN}$$

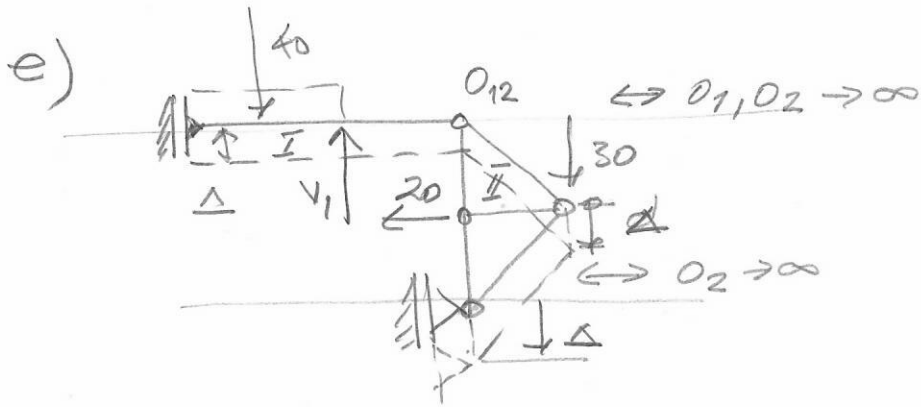
$$\sum M_{II} = 2 \cdot S_{45} + 3 \cdot 30 - 4 \cdot 32,5 = 0$$

$$S_{45} = 20 \text{ kN}$$

$$\sum M_{III} = 3 \cdot S_{46} - 2 \cdot 32,5 = 0$$

$$S_{46} = 21,6 \text{ kN}$$





$$(40 + 30 - Y_1) \cdot \Delta = 0$$

$$\underline{\underline{Y_1 = 70 \text{ kN}}}$$