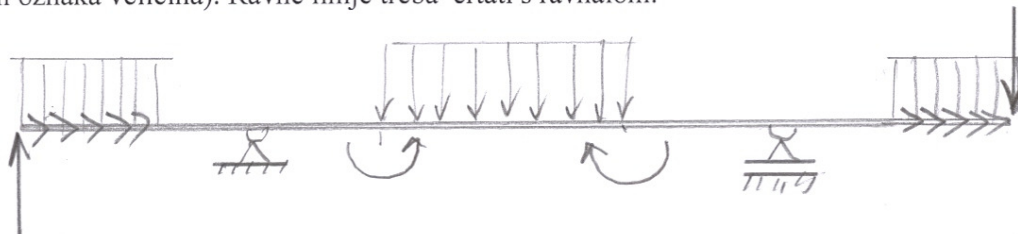
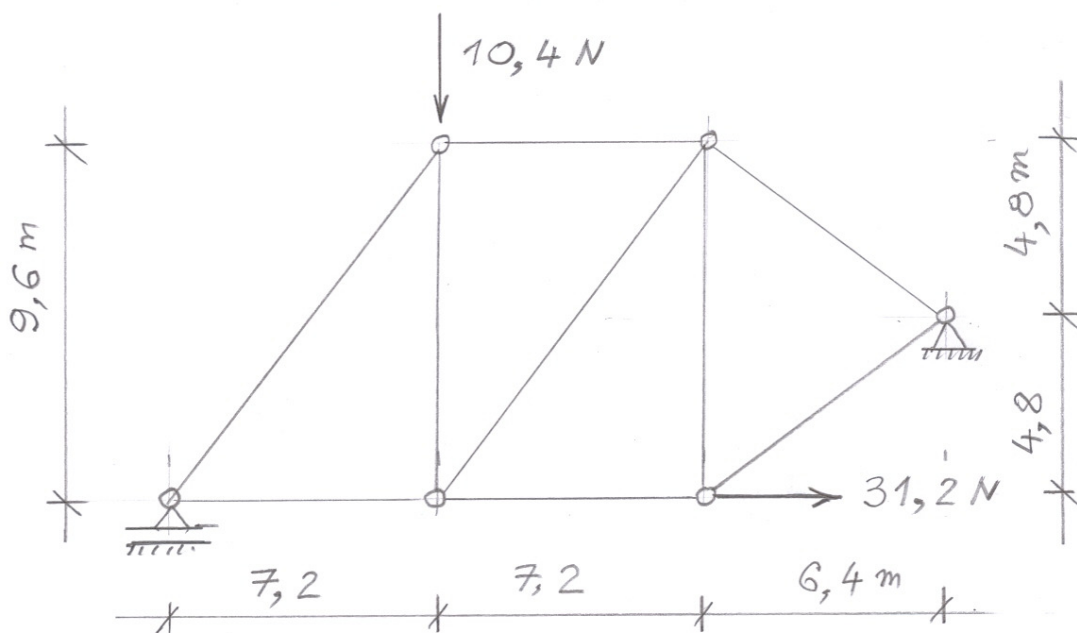


UVAŽIT ĆE SE SAMO RADOVI ČIJA PROVEDBA ODGOVARA PRISTUPU I NAČINU PRIKAZIVANJA KORIŠTENOM U DOSTUPNIM MATERIJALIMA S OVOG PREDMETA.

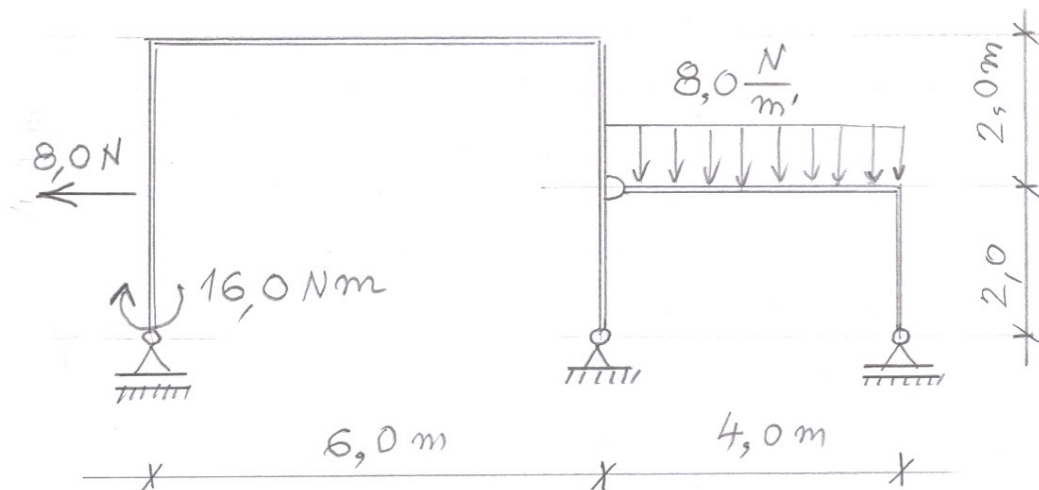
1. Treba samo kvalitativno, bez proračuna prikazati M dijagram. Na osnovi odabranog M dijagrama i opterećenja, treba skicirati T dijagram. Analogno skicirati i N dijagram. Na osnovi svih dijagrama treba skicirati statičku shemu s ucrtanim stvarnim orijentacijama djelovanja u svim spojevima (bez ikakvih oznaka veličina). Ravne linije treba crtati s ravnalom.



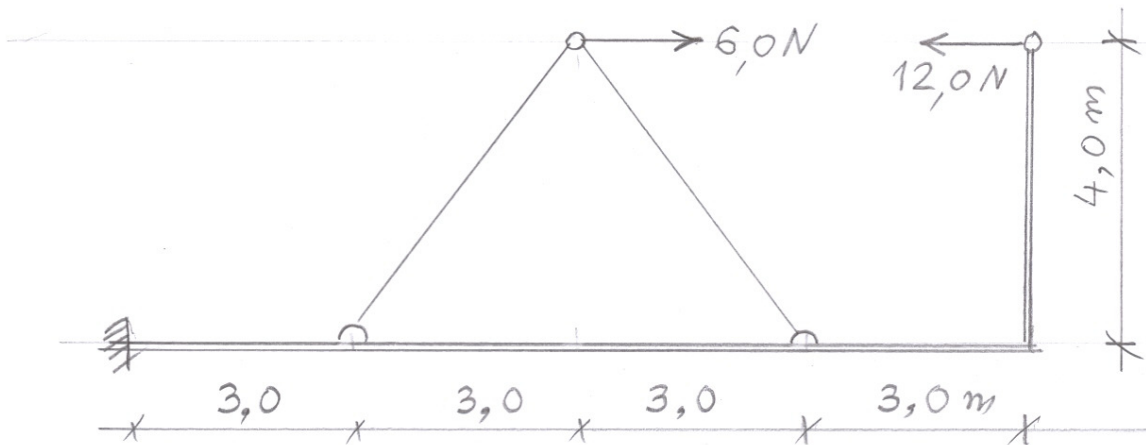
2. Treba na standardni način potpuno riješiti prikazani ravninski rešetkasti sustav.



3. Treba na standardni način odrediti djelovanja u svim spojevima prikazanog ravninskog štapnog sustava i prikazati M,T,N dijagrame. Podaci za M,T,N boduju se samo ako su prikazani na dijagramu.



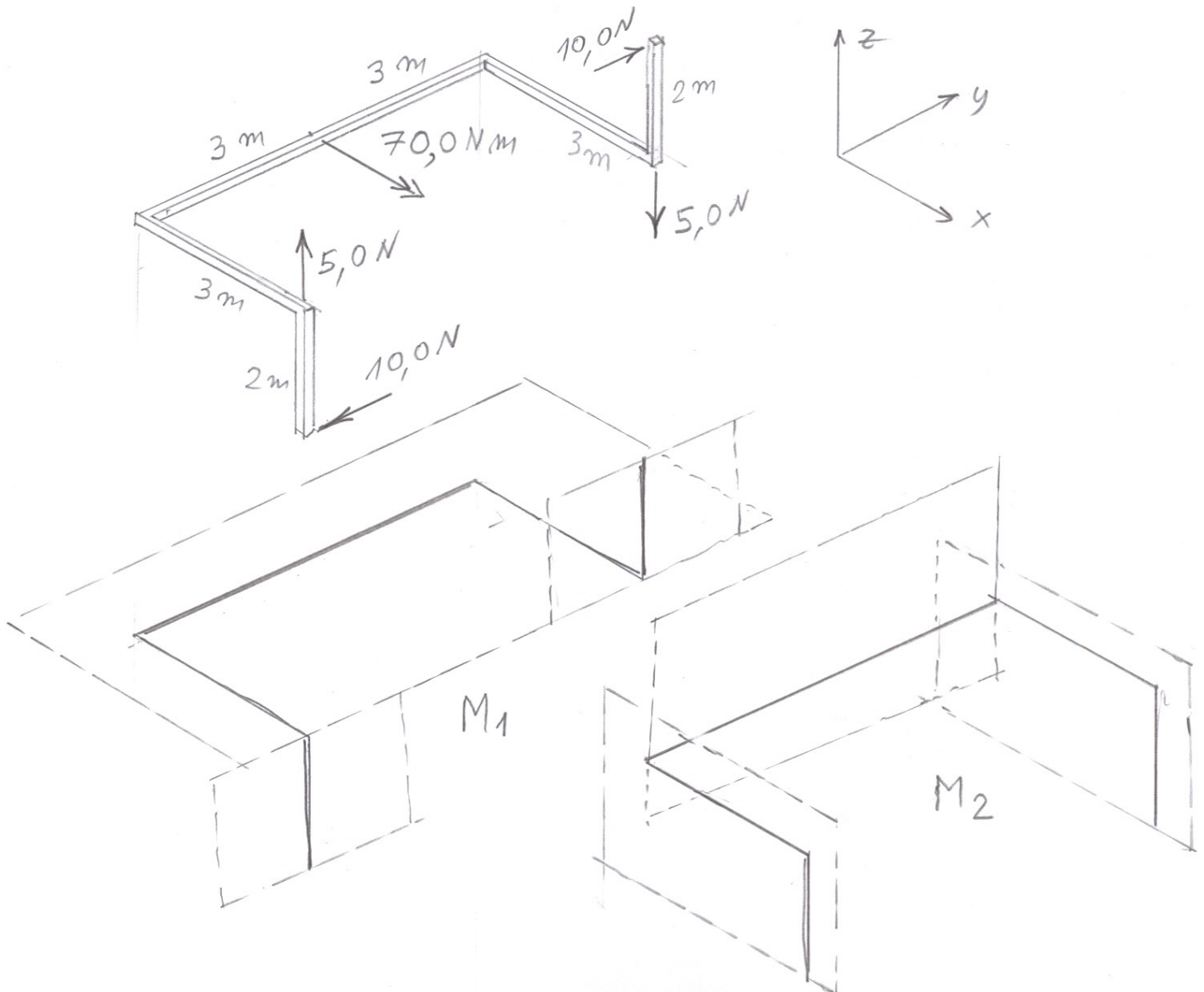
4. Treba na standardni način odrediti djelovanja u svim spojevima prikazanog ravninskog štapnog sustava i prikazati M,T,N dijagrame. Podaci za M,T,N boduju se samo ako su prikazani na dijagramu.



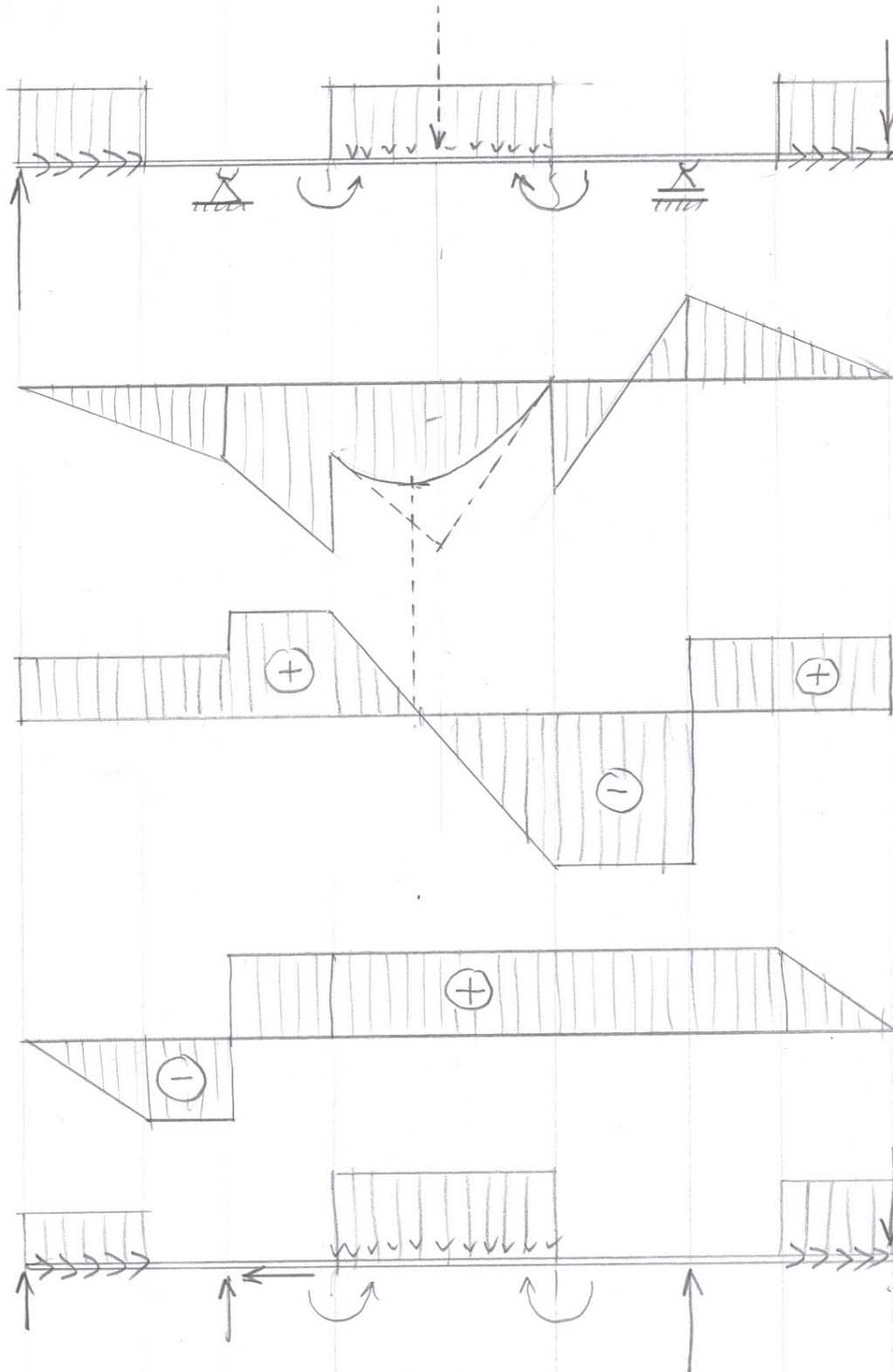
5. Promatra se prostorni štapni element koji se nalazi u stanju ravnoteže i koji je prikazan aksonometrijski.

Na dvije daljnje skice prikazana je os štapa i uz nju ravnine savijanja; na prvoj za M_1 , a na drugoj za M_2 . Prema toj uputi treba skicirati dijagrame momenata savijanja (zategnuta strana!). Pripadne ordinate trebaju ležati u odgovarajućim ravninama.

Nadalje treba skicirati dijagram N (predznak!) i dijagram M_t (predznak!).



1)



M

7

T

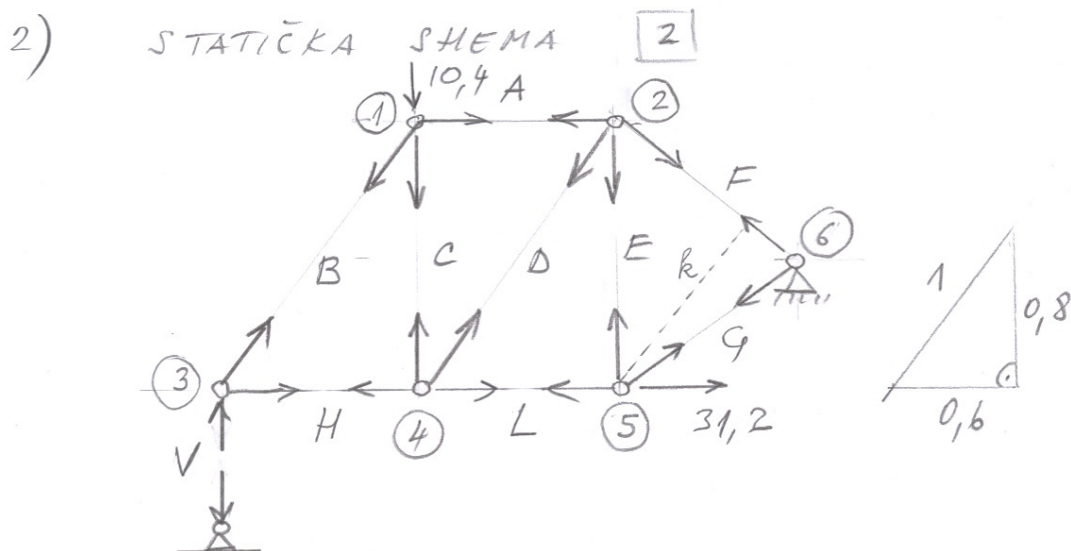
6

N

4

3

UKUPNO	20
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PRAVNOTEŽA REŠETKE (1, 2, 3, 4, 5)

$$\Sigma M(6) = \phi; \quad V = \frac{1}{20,8} (13,6 \cdot 10,4 + 4,8 \cdot 31,2) = 14,0 \text{ N} \quad \boxed{2}$$

$$\Sigma M(5) = \phi; \quad F = \frac{1}{7,68} (-14,4 \cdot 14 + 7,2 \cdot 10,4) = -16,5 \text{ N} \quad \boxed{2}$$

$$\Sigma M(2) = \phi; \quad G = \frac{1}{7,68} (-7,2 \cdot 10,4 + 14,4 \cdot 14 - 9,6 \cdot 31,2) = -22,5 \text{ N} \quad \boxed{2}$$

$$\text{KONTROLA } \Sigma F_{yi} = -10,4 + 16,5 \cdot 0,6 - 22,5 \cdot 0,6 + 14 = 0 \quad \boxed{1}$$

ČVOR 3

$$\Sigma F_{yi} = \phi; \quad B = -\frac{1}{0,8} V = -17,5 \text{ N} \quad \boxed{1}$$

$$\Sigma F_{xi} = \phi; \quad H = -0,6 \cdot B = +10,5 \text{ N} \quad \boxed{1}$$

ČVOR 1

$$\Sigma F_{xi} = \phi; \quad A = 0,6 \cdot B = -10,5 \text{ N} \quad \boxed{1}$$

$$\Sigma F_{yi} = \phi; \quad C = -10,4 - 0,8 \cdot B = +3,6 \text{ N} \quad \boxed{1}$$

ČVOR 4

$$\Sigma F_{yi} = \phi; \quad D = -\frac{1}{0,8} C = -4,5 \text{ N} \quad \boxed{1}$$

$$\Sigma F_{xi} = \phi; \quad L = H - 0,6 \cdot D = +13,2 \text{ N} \quad \boxed{1}$$

ČVOR 5

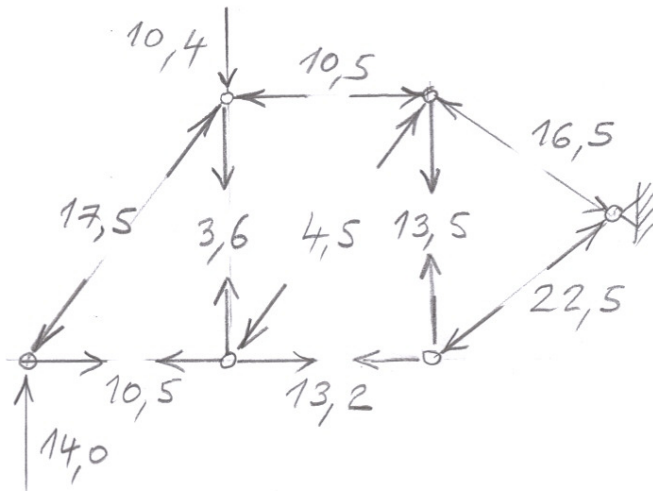
$$\Sigma F_{yi} = \phi; \quad E = -0,6 \cdot G = +13,5 \text{ N} \quad \boxed{1}$$

KONTROLA: ČVOR 2

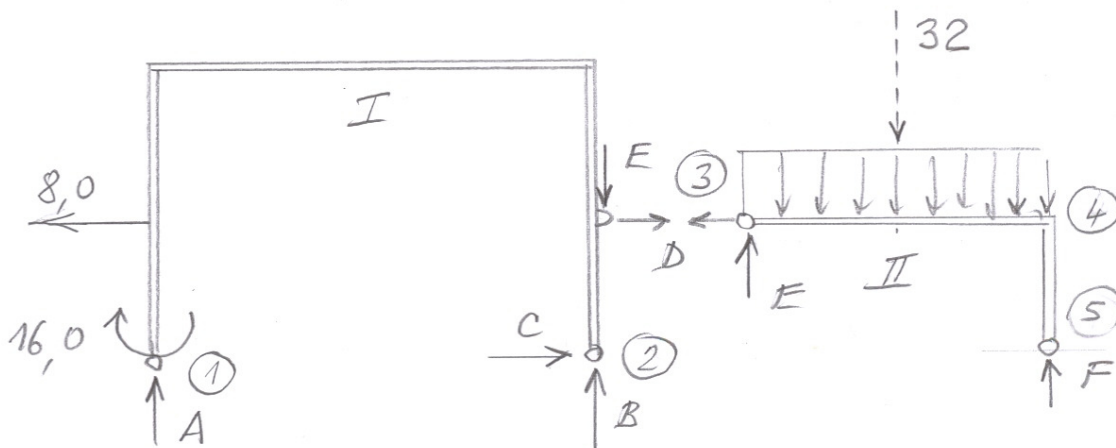
$$\sum F_{xi} = -A - 0,6 \cdot D + 0,8 \cdot F = 0 \quad [1]$$

$$\sum F_{yi} = -0,8 \cdot D - E - 0,6 \cdot F = 0 \quad [1]$$

SKICA STVARNIH DJELOVANJA [2]



3) STATIČKA SCHEMA [2]



RAVNOTEŽA II

$$\sum M(3) = 0; \quad F = \frac{1}{4} (2 \cdot 32) = +16,0 \quad [1]$$

$$\sum M(4) = 0; \quad E = \frac{1}{4} (2 \cdot 32) = +16,0 \quad [1]$$

KONTROLA $\sum F_{yi} = 16 - 32 - 16 = \phi$

$$\sum F_{xi} = \phi; \quad D = \phi$$

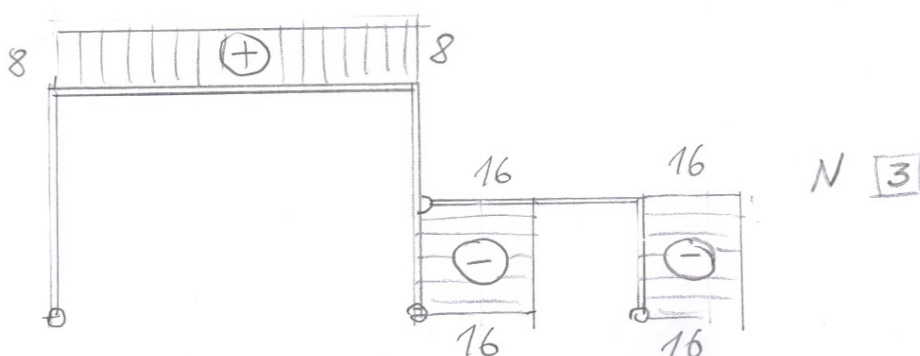
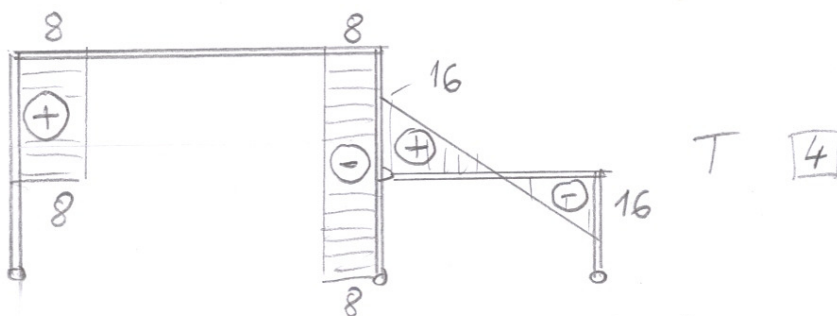
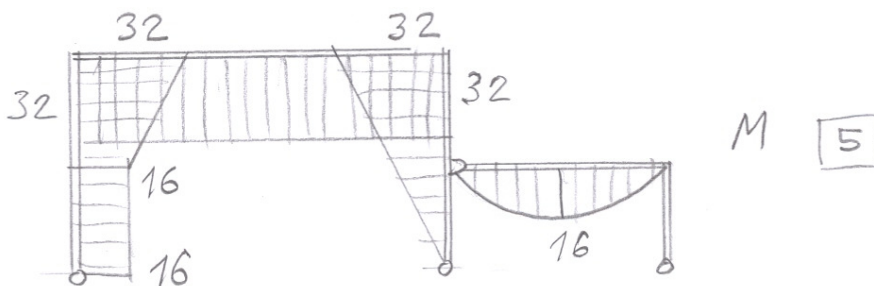
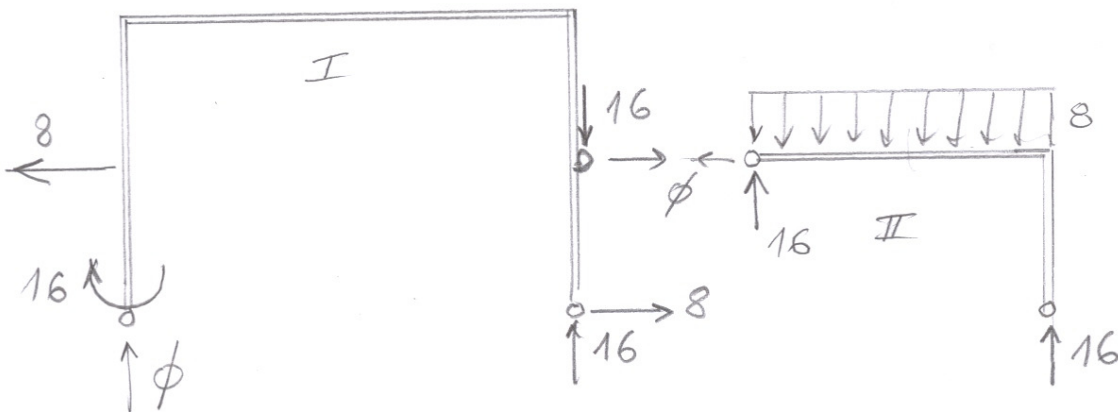
RAVNOTEŽA I

$$\Sigma M(2) = \phi; \quad A = \frac{1}{6} (2 \cdot 8 - 16) = \phi$$

$$\Sigma M(1) = \phi; \quad B = \frac{1}{6} (-2 \cdot 8 + 16 + 6 \cdot E) = 16,0 \text{ N} \quad \boxed{1}$$

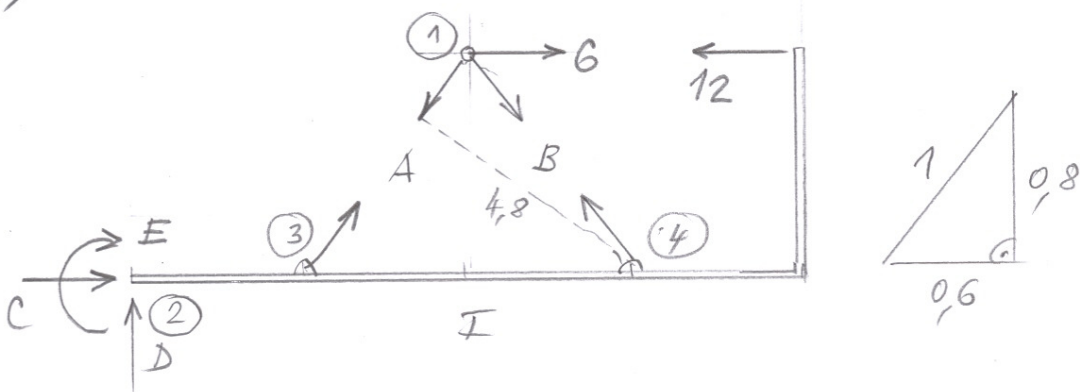
$$\Sigma F_{xi} = \phi; \quad C = 8,0 \text{ N} \quad \boxed{1}$$

SKICA STVARNNIH DJELOVANJA 2



UKUPNO 20

4) STATIČKA SCHEMA 2



RAVNOTEŽA (I+1)

$$\sum F_{xi} = \phi; C = -6 + 12 = 6,0 \text{ N} \quad \boxed{1}$$

$$\sum F_{yi} = \phi; D = \phi$$

$$\sum M(C) = \phi; E = 4(-6 + 12) = 24,0 \text{ N} \quad \boxed{1}$$

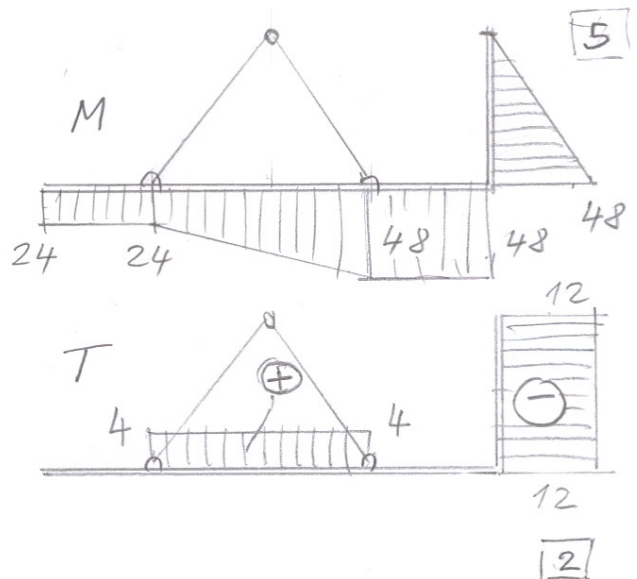
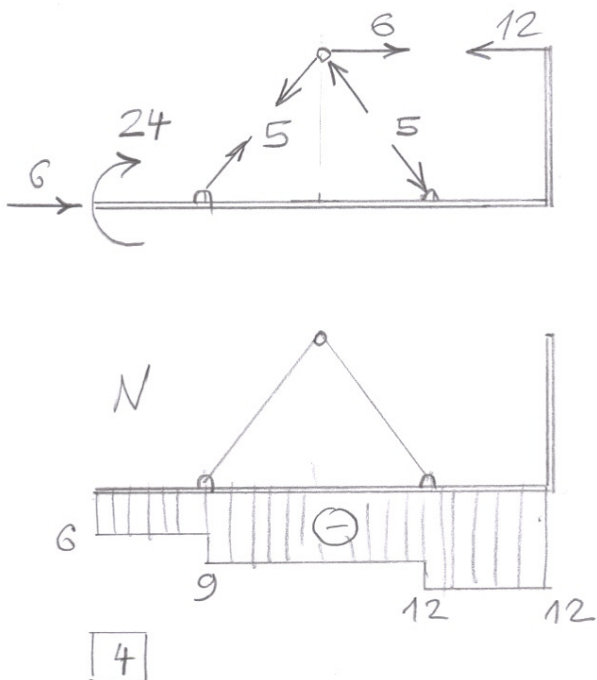
RAVNOTEŽA 1

$$\sum M(4) = 0; A = \frac{1}{4,8}(4 \cdot 6) = 5 \quad \boxed{1}$$

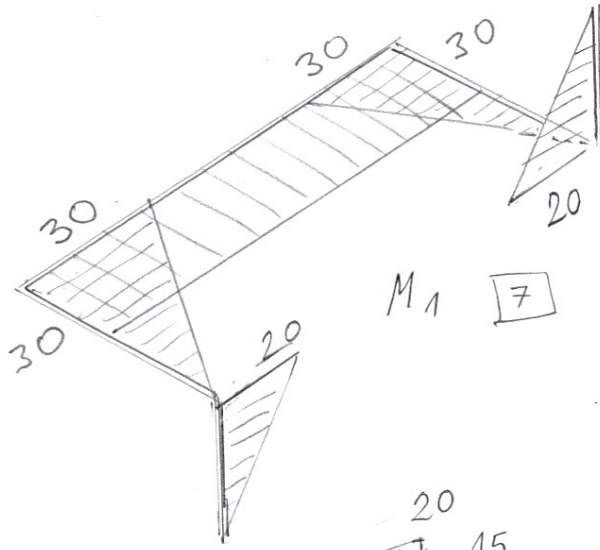
$$\sum M(3) = \phi; B = -\frac{1}{4,8}(4 \cdot 6) = -5 \quad \boxed{1}$$

$$\text{KONTROLA } \sum F_{xi} = -0,6 \cdot 5 + 0,6 \cdot (-5) + 6 = \phi \quad \boxed{1}$$

SKICA STVARNIH DJELOVANJA



5)



6

