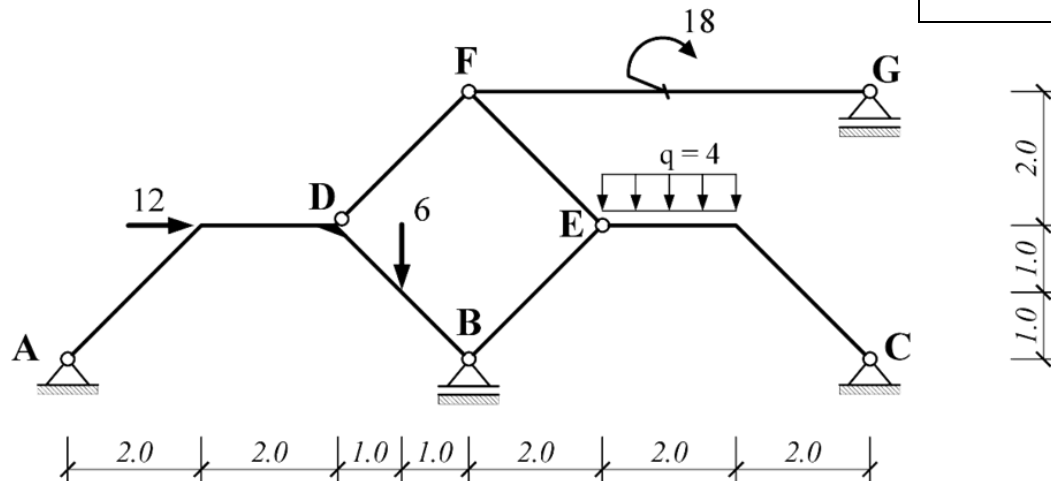


НАЦРТАТИ ДИЈАГРАМЕ СИЛА У ПРЕСЕКУ ЗА ПРИКАЗАНЕ НОСАЧЕ

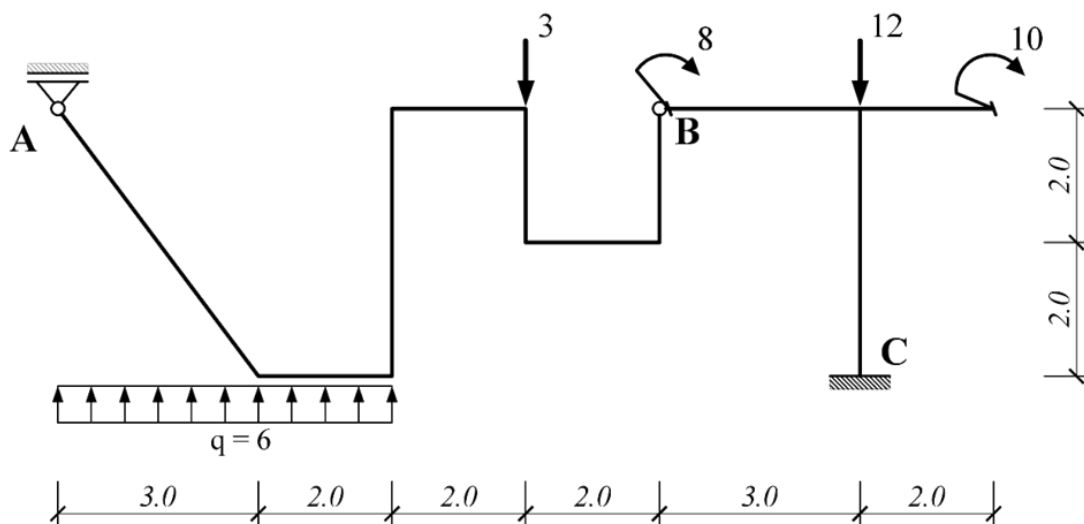
ГРУПА **A**

Време предвиђено
за израду испита:
2 сата и 15 минута

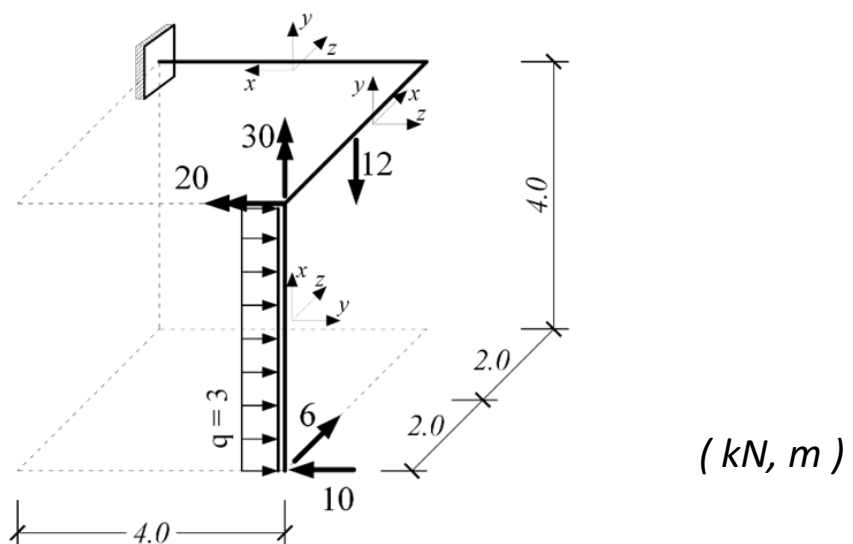
1.
(45%)



2.
(34%)



3.
(21%)



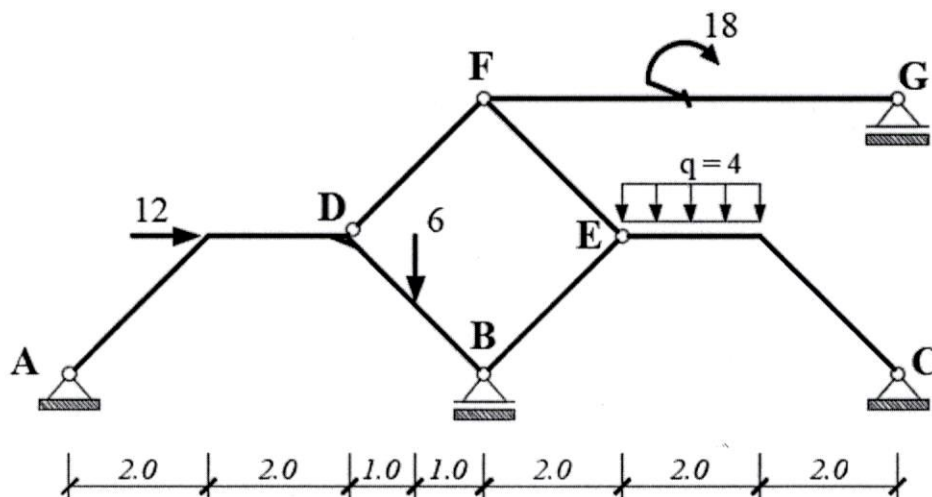
(kN, m)

НАПОМЕНА: Услов за полагање писменог дела испита је: » минимум 50% укупног броја поена,

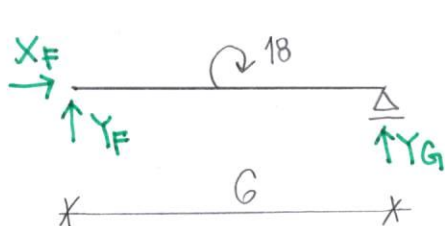
» минимум 50% тачан дијаграм момената у 1. или 2 зад.

ГРУПА А

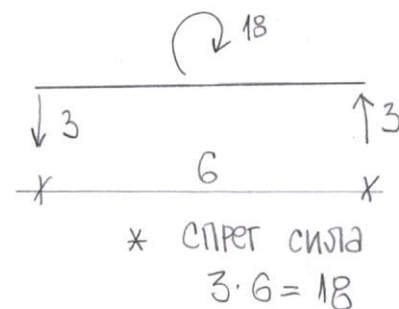
1.



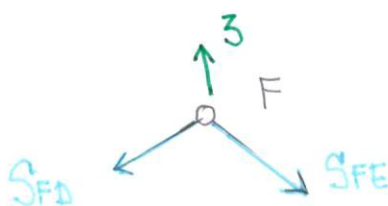
F-G



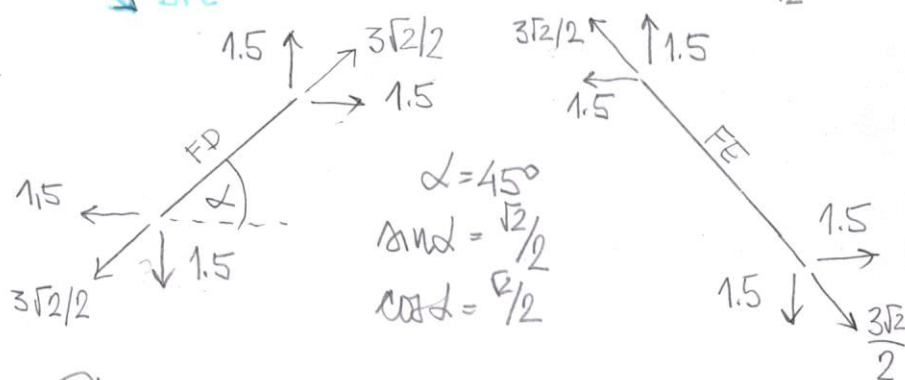
$$\begin{aligned} \sum F_x = 0 &\Rightarrow X_F = 0 \\ \sum M_F = 0 &\Rightarrow Y_G = 3 \\ \sum F_y = 0 &\Rightarrow Y_F = -3 \end{aligned}$$



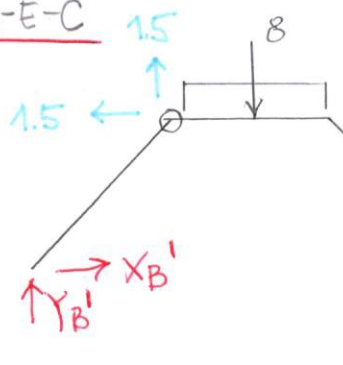
РАВНОТЕЖА ЧВОРА F



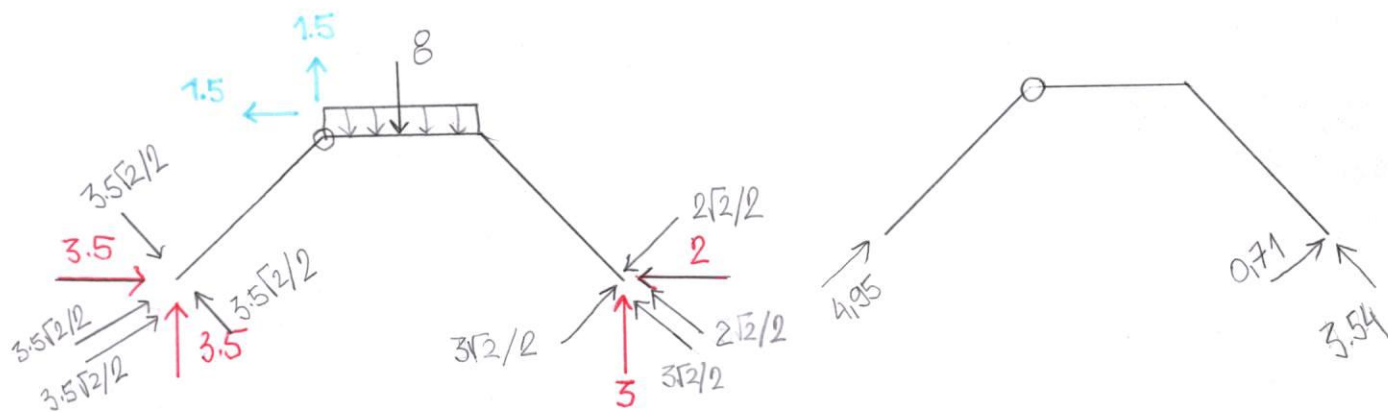
$$\begin{aligned} \sum F_x = 0 &\Rightarrow S_{FD} = S_{FE} \\ \sum F_y = 0 &\Rightarrow 2 \cdot S_{FD} \frac{\sqrt{2}}{2} = 3 \Rightarrow S_{FD} = \frac{3}{\sqrt{2}} = S_{FE} \end{aligned}$$



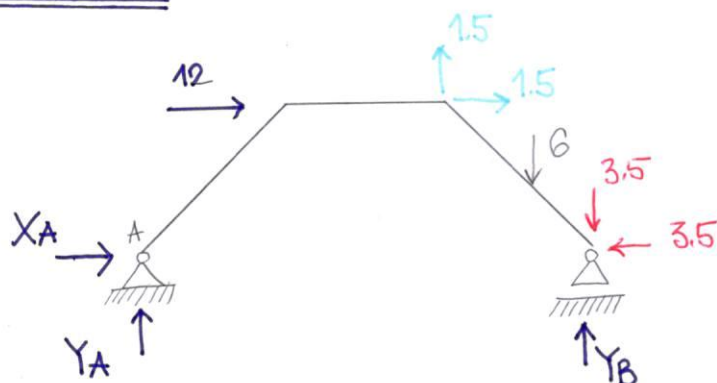
ЧЕО B-E-C



$$\begin{aligned} \sum M_B = 0 &\Rightarrow 3 \cdot 8 - 2 \cdot 1.5 - 2 \cdot 1.5 - 6 Y_C = 0 \Rightarrow Y_C = 3 \\ \sum F_y = 0 &\Rightarrow Y_B = 3.5 \\ \sum M_E = 0 &\Rightarrow Y_B \cdot 2 - 2 X_B = 0 \Rightarrow X_B = Y_B = 3.5 \\ \sum F_x = 0 &\Rightarrow X_C = 2 \end{aligned}$$



ΔEO A-D-B



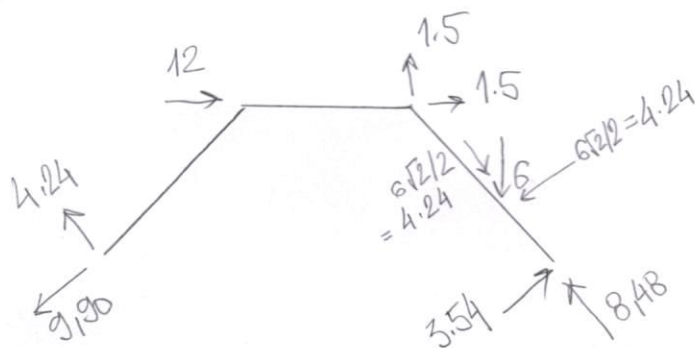
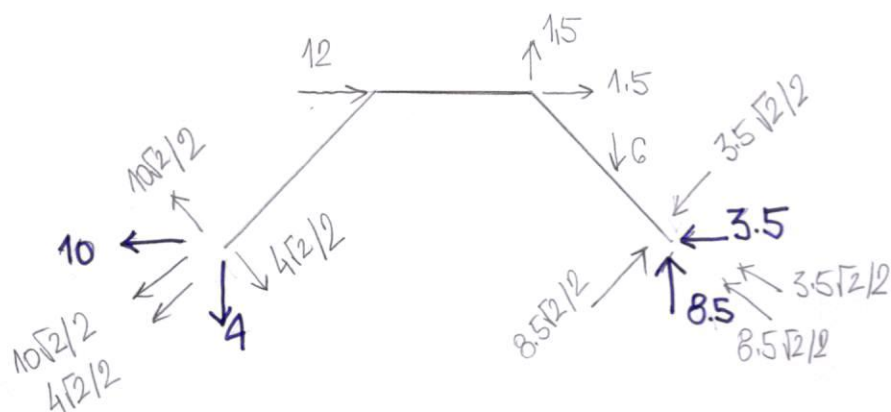
$$\sum F_x = 0: 12 + 1.5 + X_A - 3.5 = 0$$

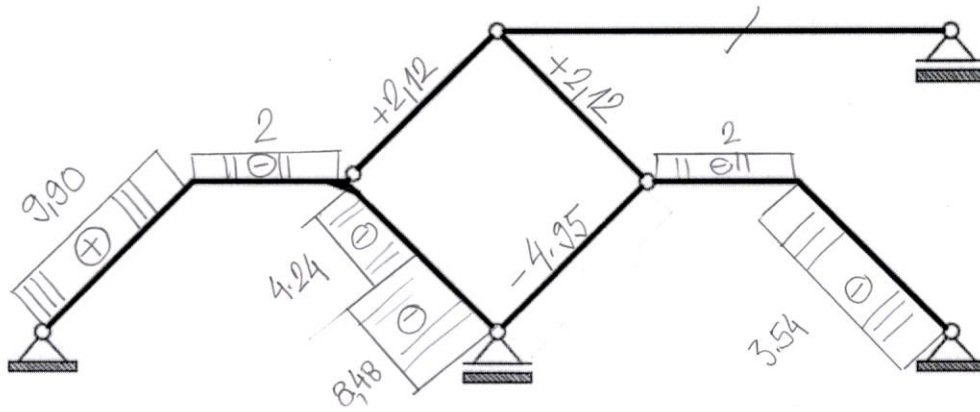
$$X_A = -10$$

$$\sum M_B = 0: -6 \cdot 1 + 1.5 \cdot 2 + 1.5 \cdot 2 + 12 \cdot 2 + 6Y_A = 0 \Rightarrow Y_A = -4$$

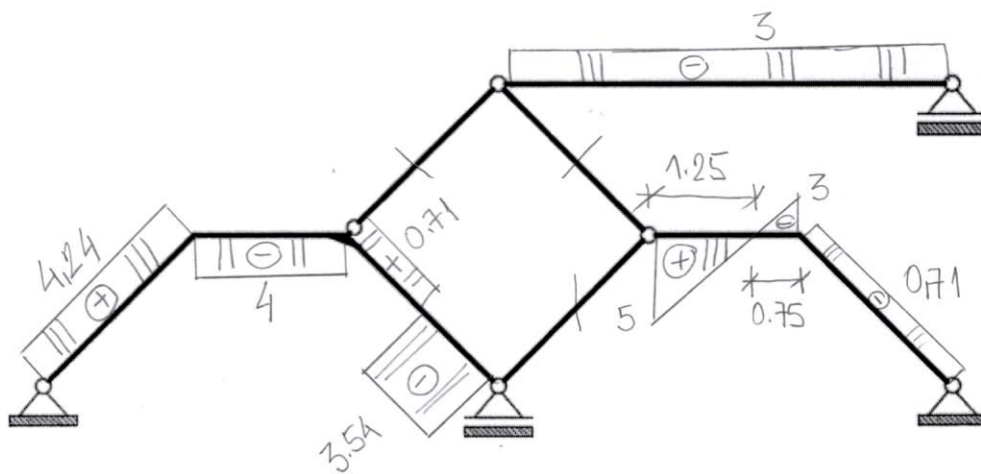
$$\sum F_y = 0: Y_A + Y_B - 6 - 3.5 + 1.5 = 0$$

$$-4 + Y_B = 9 \Rightarrow Y_B = 12$$

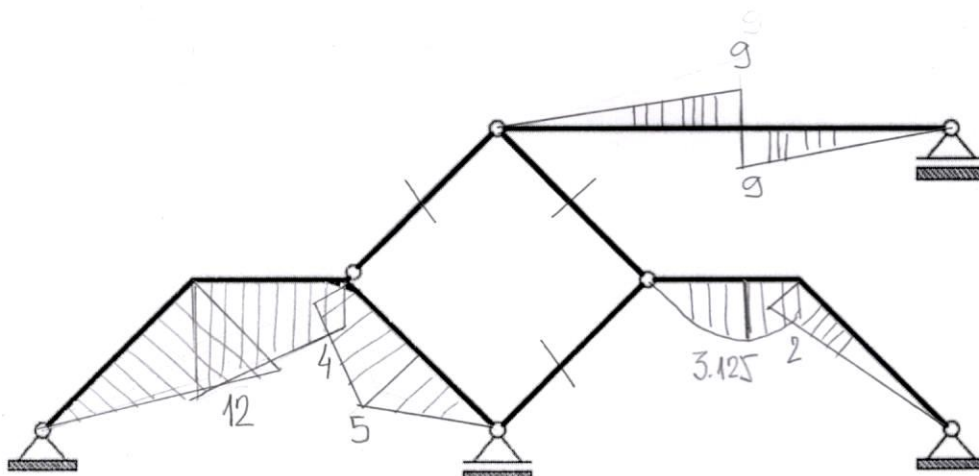




N 7



T 7



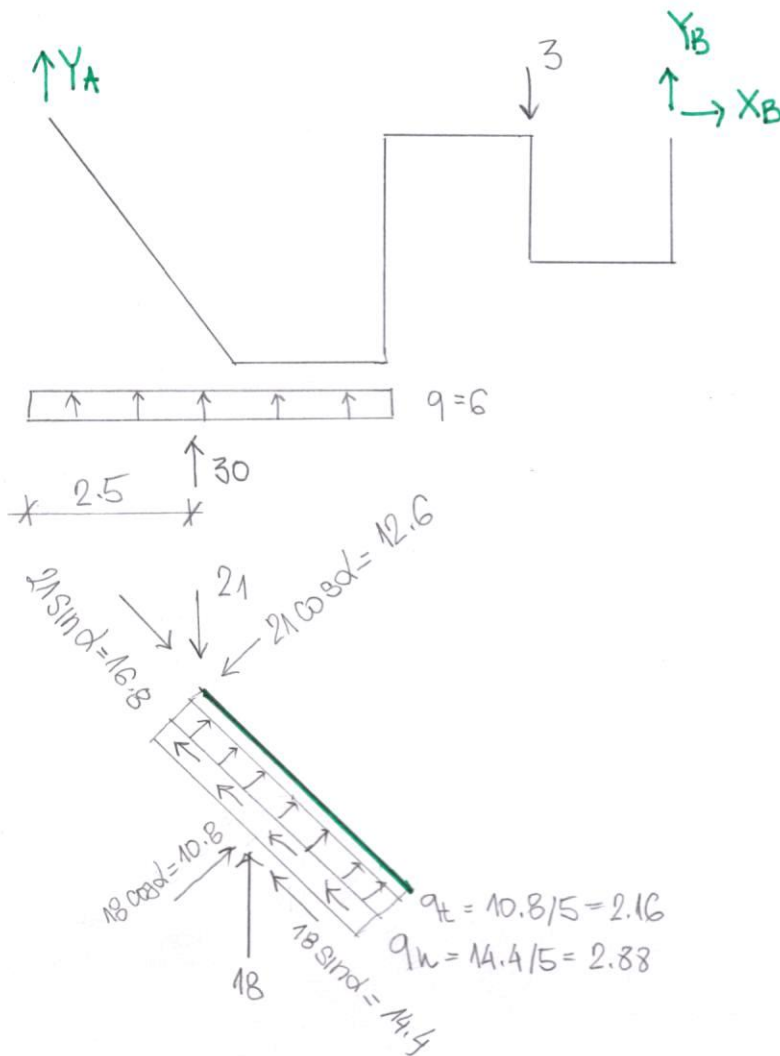
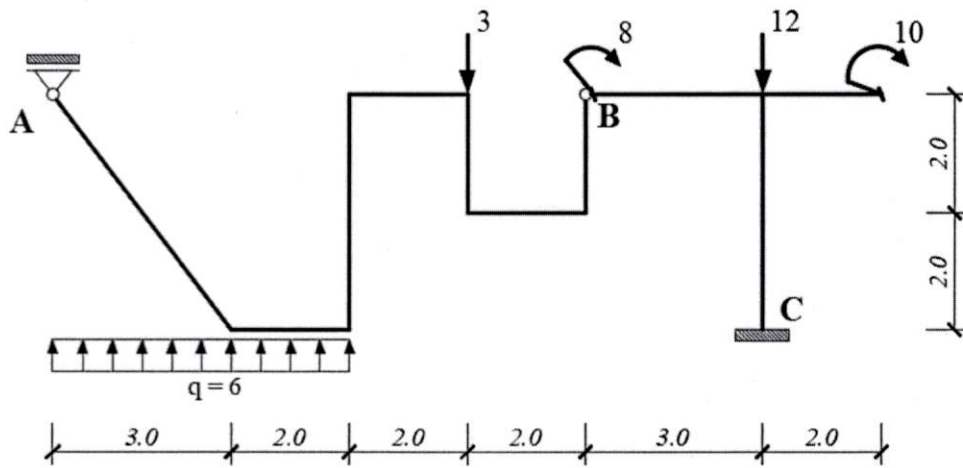
16

M

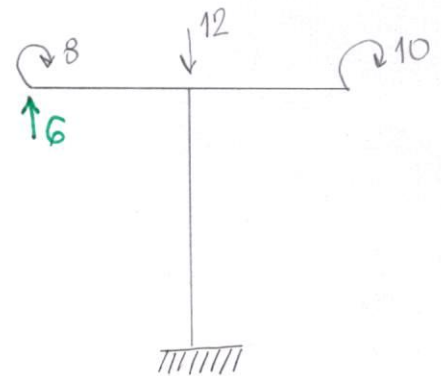
$$M_{ext} = 3 \cdot 2.75 - 2 \cdot 2 - 4 \cdot \frac{0.75^2}{2}$$

$$= 3.125$$

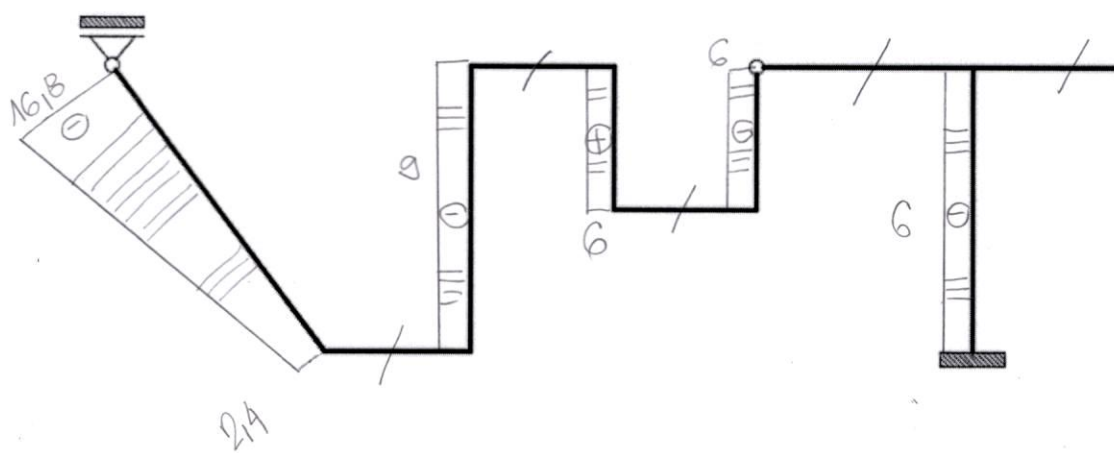
2.



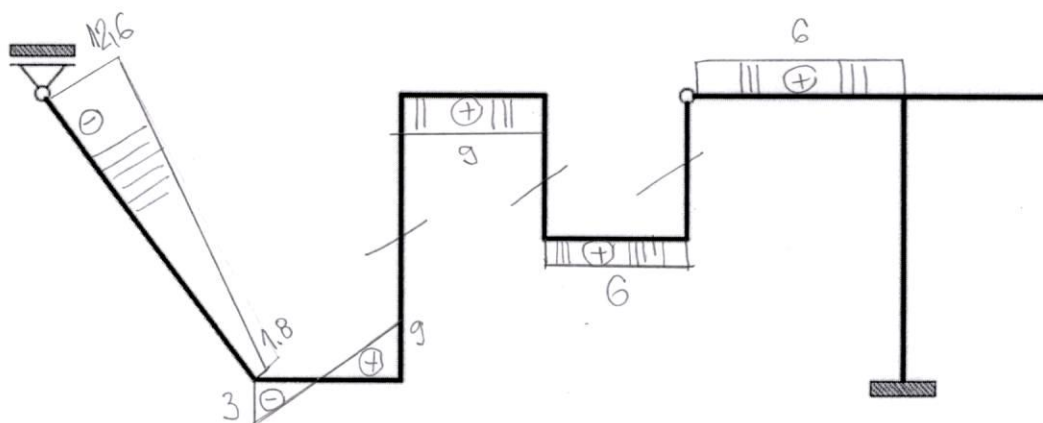
$$\begin{aligned} \sum F_x = 0 &\Rightarrow X_B = 0 \\ \sum M_A = 0: & \\ -30 \cdot 21.5 + 3 \cdot 7 - 9Y_B &= 0 \\ Y_B &= -6 \\ \sum F_y = 0: & Y_A + 30 - 3 - 6 = 0 \\ Y_A &= -21 \end{aligned}$$



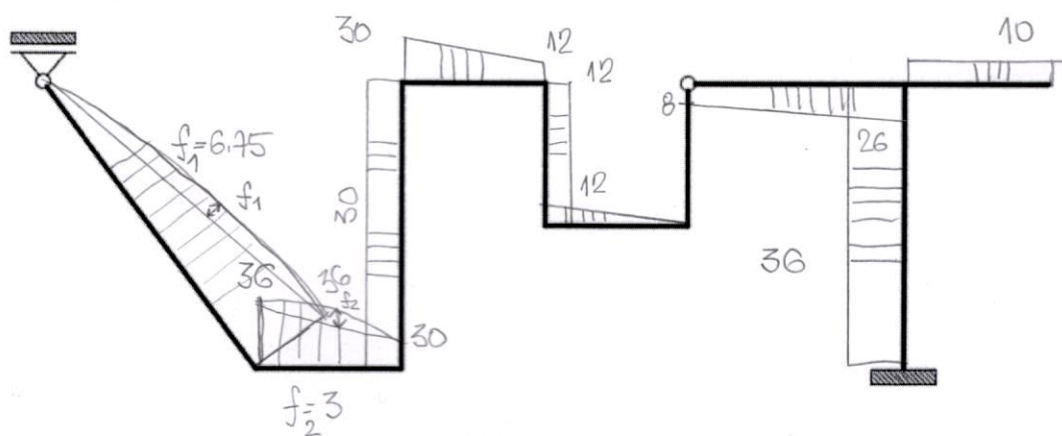
7



N
5

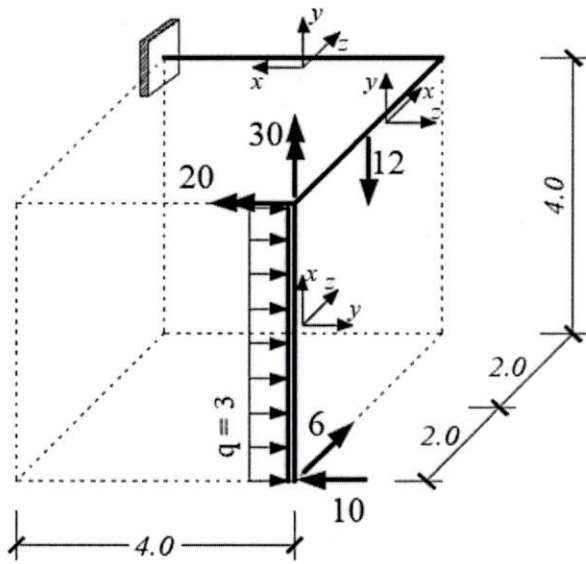


T
5

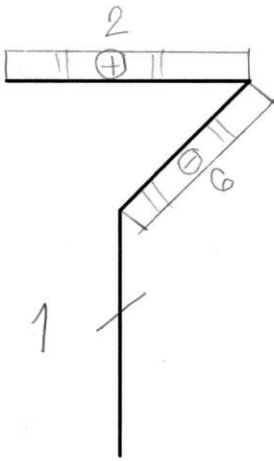


M
17

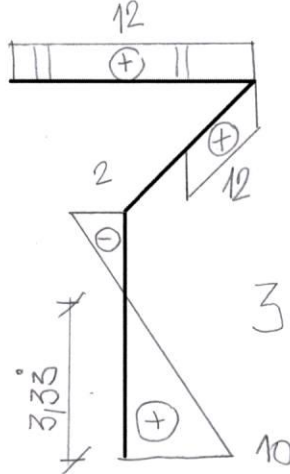
3.



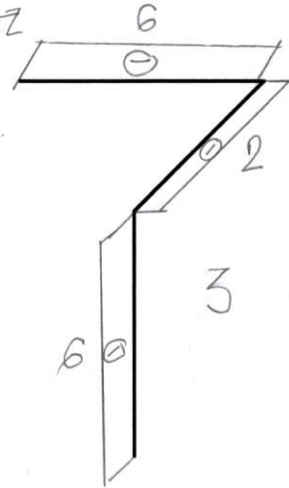
N



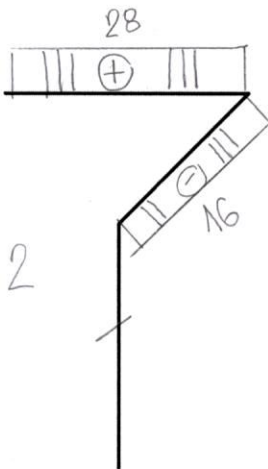
T_y



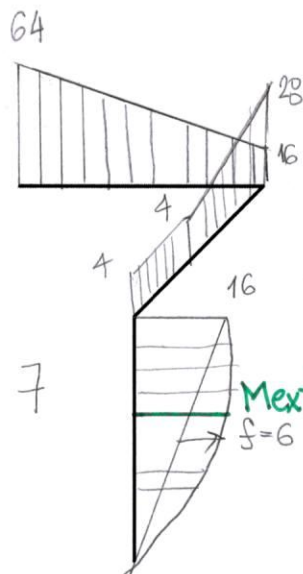
T_z



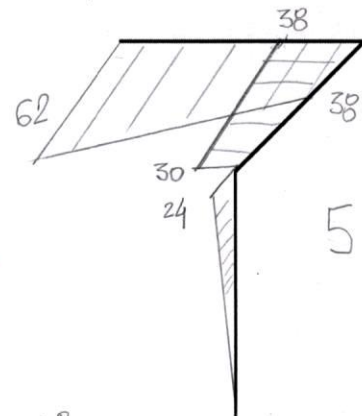
M_t



M_z



M_y



$$M_{ext} = 16 \cdot 3.33 - 3 \cdot \frac{3.33^2}{2} = 16.67$$