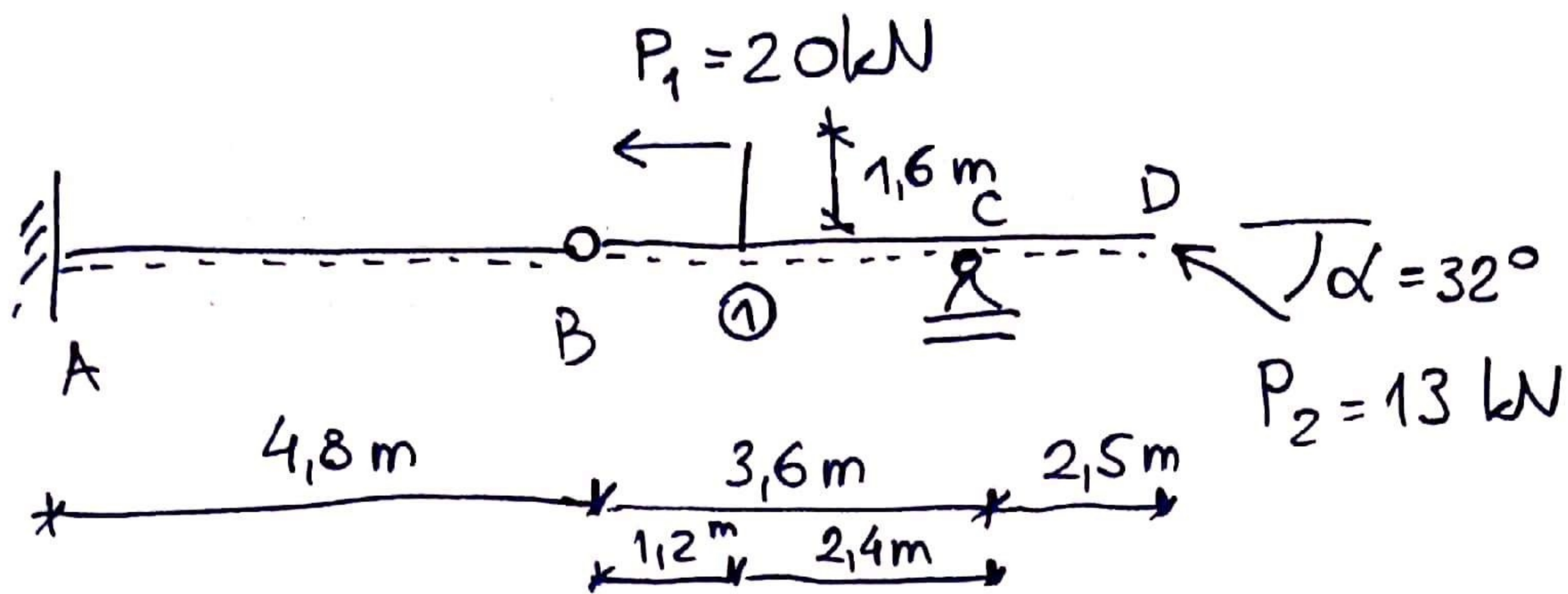
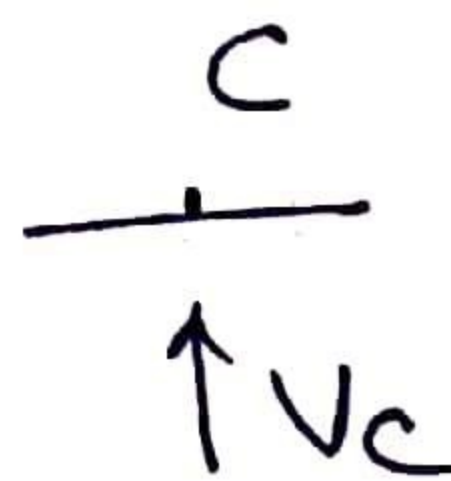
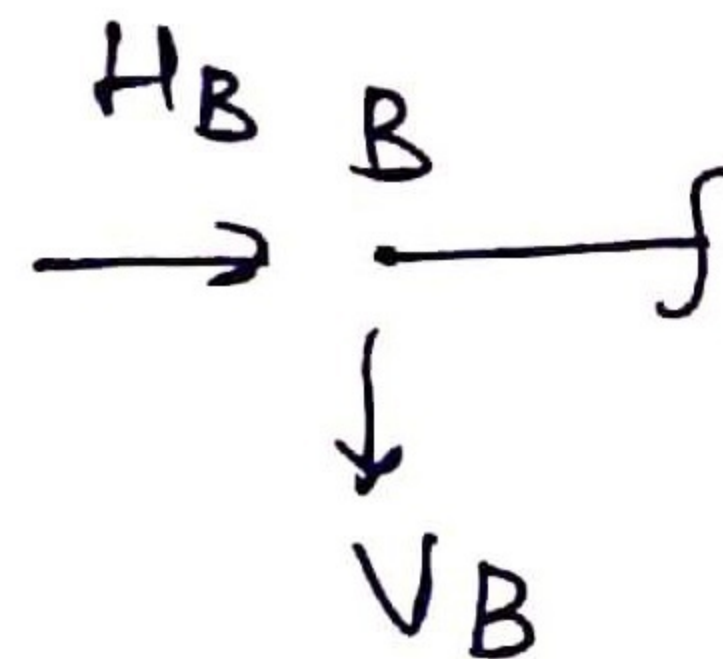
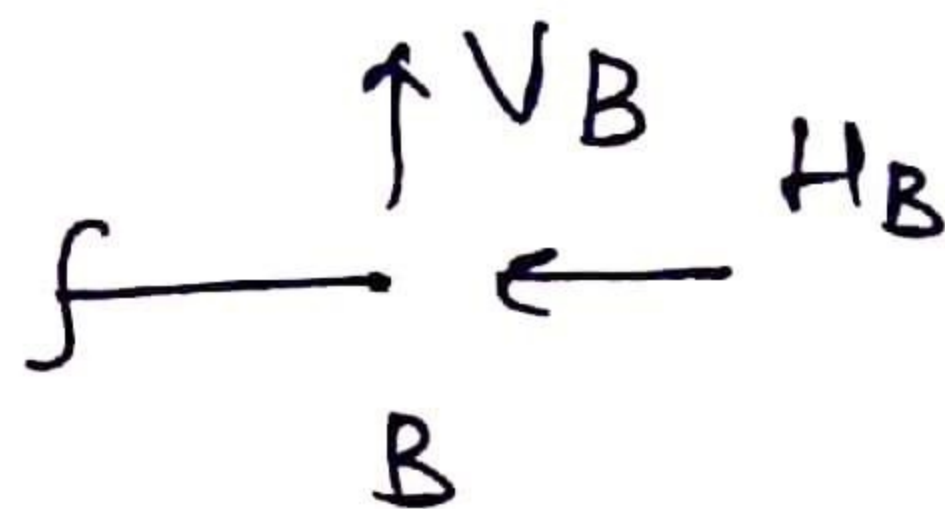
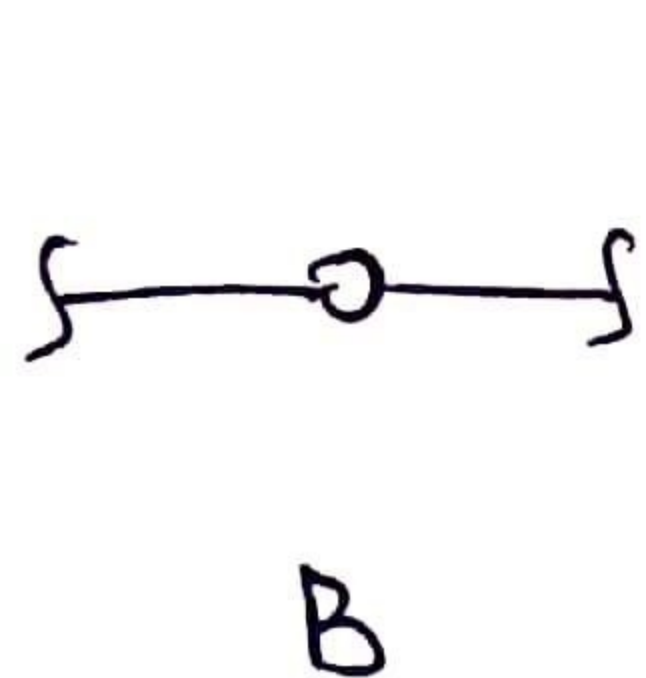
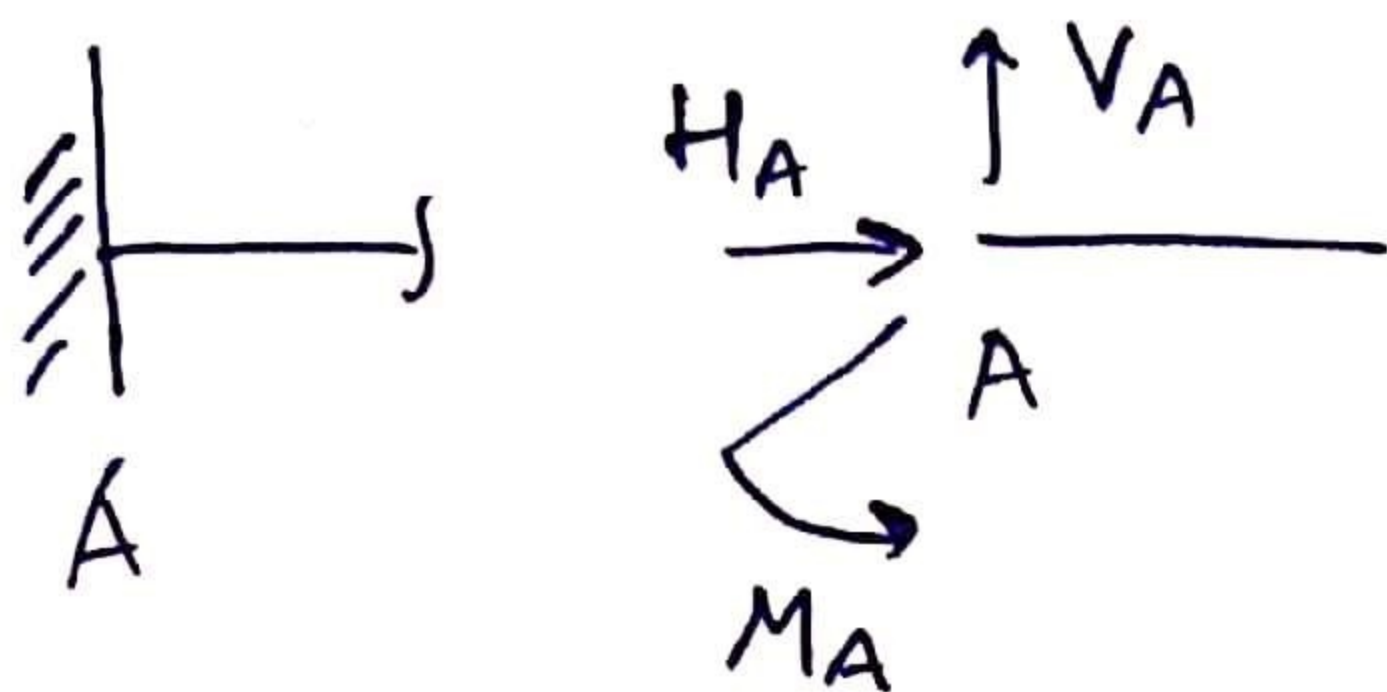


а) ОДРЕЂИВАЊЕ СТАТИЧКЕ ОДРЕЂЕНОСТИ



БРОЈ ТЕЛА: $t = 2$

БРОЈ НЕПОЗНАТИХ:

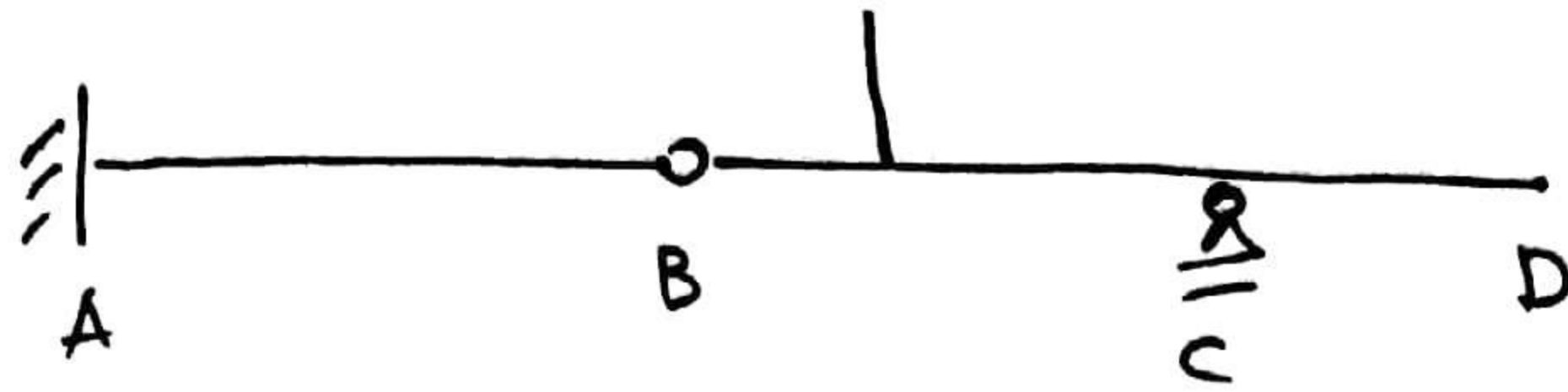


$H_A, V_A, M_A, H_B, V_B, V_C$ — 6 НЕПОЗНАТИХ
 $r = 6$

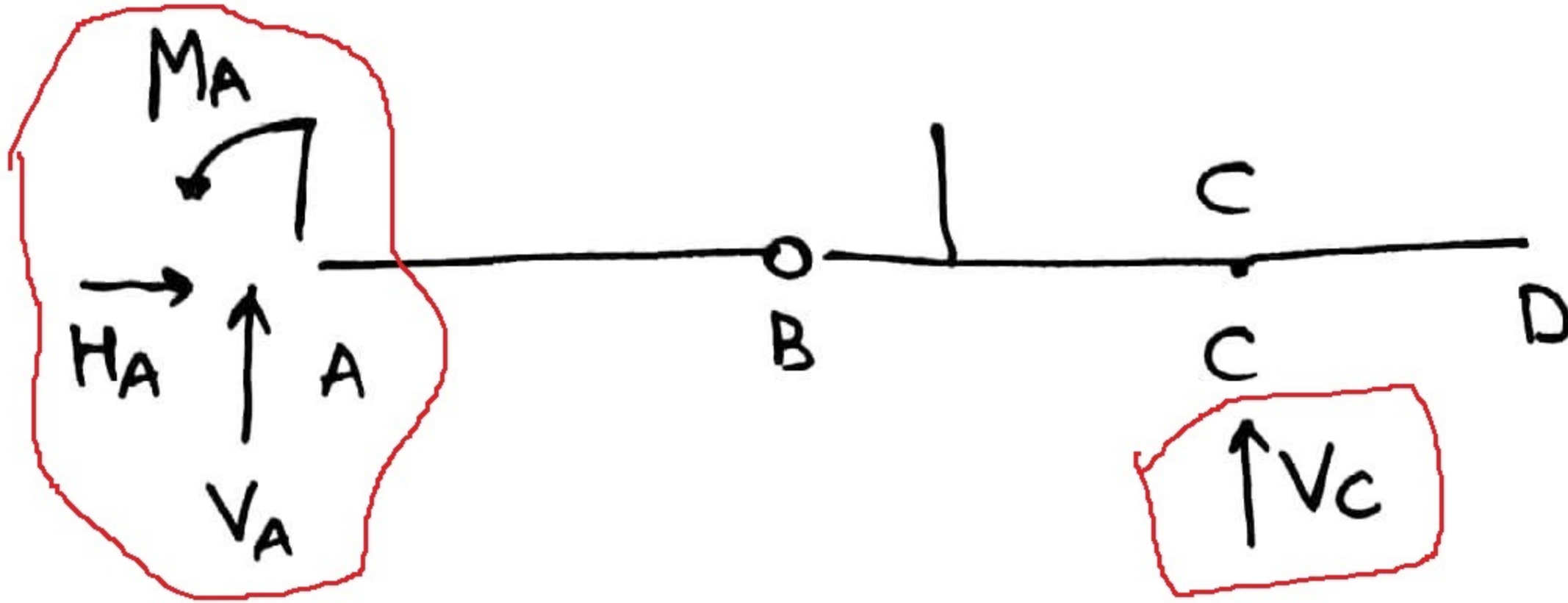
$$n = 3 \cdot t - r = 3 \cdot 2 - 6 = 0$$

$n = 0$ СИСТЕМ ЈЕ СТАТИЧКИ ОДРЕЂЕН

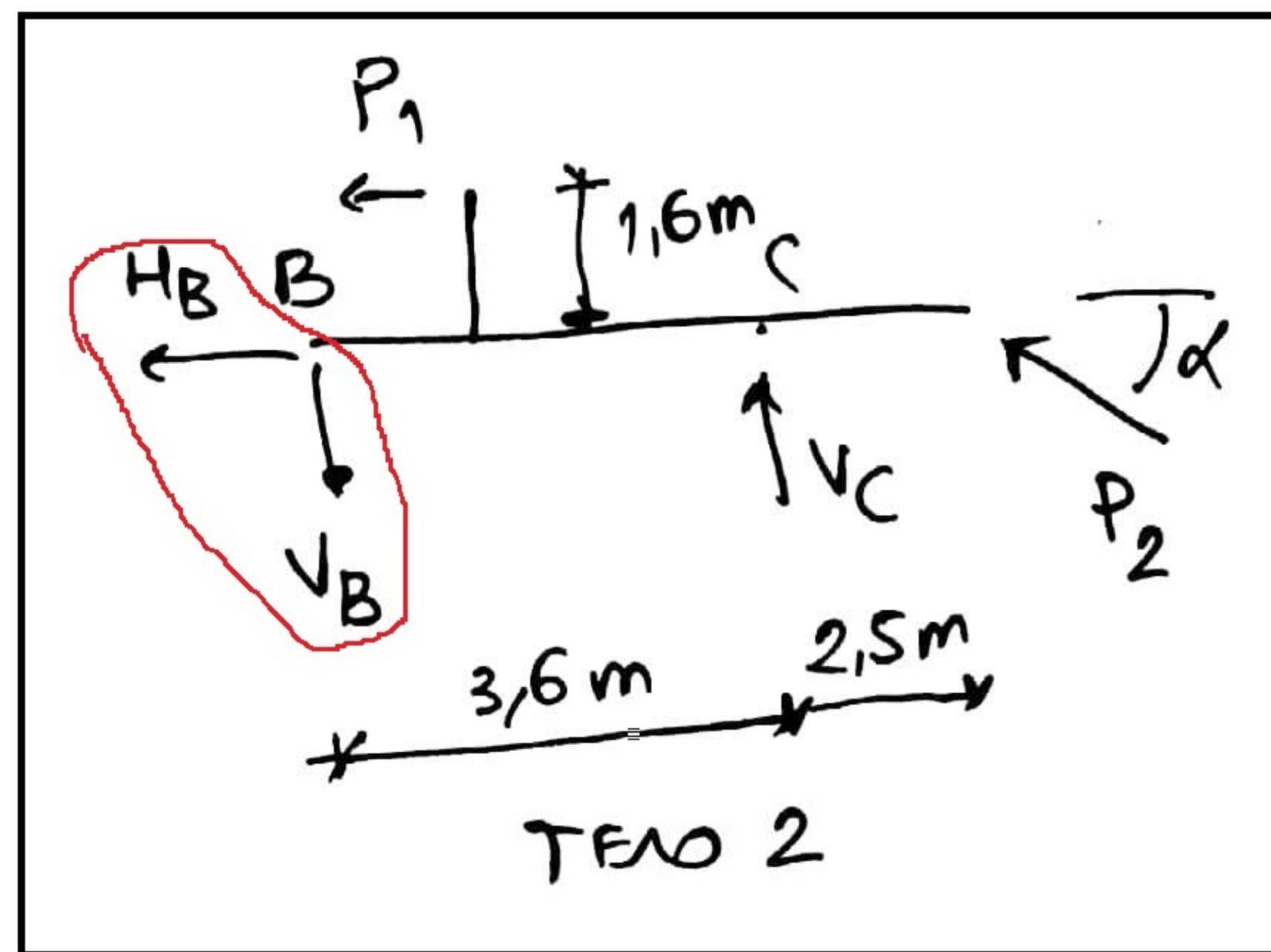
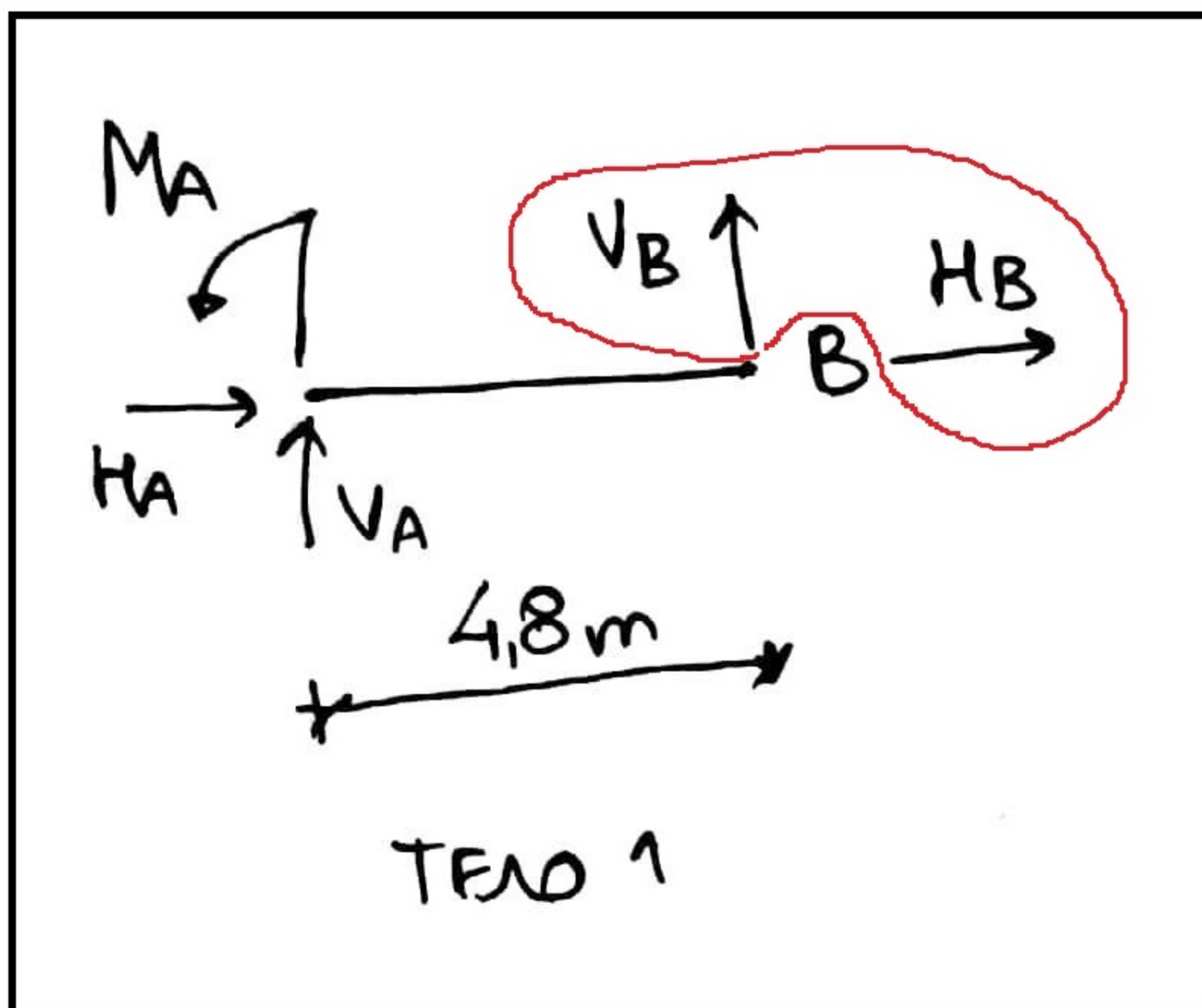
b)



СПОЛЪЩИТЕ СЪЛЪ ВЪЗДЕ:



УЧВТРАВИТЕ СЪЛЪ ВЪЗДЕ:



ТЕЛО 2

$$\frac{\Sigma X = 0}{-H_B - P_1 - P_2^x = 0}$$

$$H_B = -P_1 - P_2^x$$

$$H_B = -20 - 6,8889$$

$$H_B = -26,8889 \text{ kN}$$

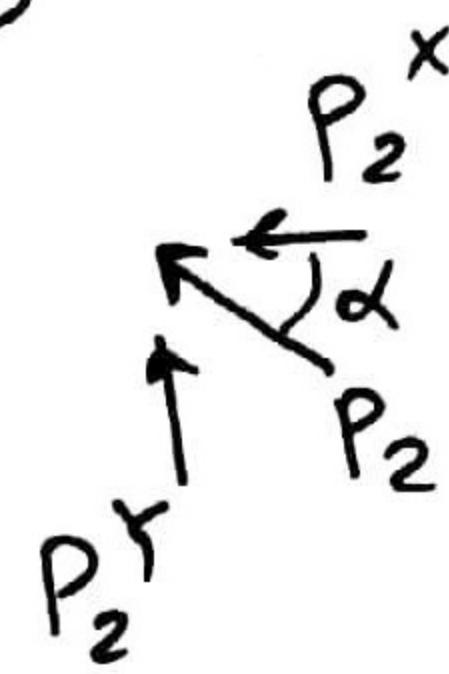
$$\frac{\Sigma Y = 0}{-V_B + V_C + P_2^y = 0}$$

$$-V_B + V_C + P_2^y = 0$$

$$\frac{\Sigma M_B = 0}{1,6 \cdot P_1 + 3,6 \cdot V_C + (3,6 + 2,5) \cdot P_2^y = 0}$$

$$1,6 \cdot P_1 + 3,6 \cdot V_C + (3,6 + 2,5) \cdot P_2^y = 0$$

СИЛА P_2 РАЗЛАЖЕ СЕ НА ХОРИЗОНТАЛНА И ВЕРТИКАЛНА КОМПОНЕНТА



$$\sin \alpha = \frac{P_2^y}{P_2}$$

$$\cos \alpha = \frac{P_2^x}{P_2}$$

$$\sin \alpha = \sin 32^\circ = 0,529919$$

$$\cos \alpha = \cos 32^\circ = 0,848048$$

$$P_2^x = P_2 \cdot \sin \alpha = 13 \cdot 0,529919 = 6,888947 \text{ kN}$$

$$P_2^y = P_2 \cdot \cos \alpha = 11,024624 \text{ kN}$$

$$1,6 \cdot 20 + 3,6 \cdot V_c + 6,1 \cdot 11,0246 = 0$$

$$36 + 3,6V_c + 67,25 = 0$$

$$3,6V_c + 103,25 = 0$$

$$3,6V_c = -103,25$$

$$V_c = -\frac{103,25}{3,6}$$

$$\boxed{V_c = -28,681 \text{ kN}}$$

$$V_B = V_c + P_2^y$$

$$\boxed{V_B = 39,705 \text{ kN}}$$

$$-17,6564$$

ТРЕО 1

$$\underline{\Sigma X = 0}$$

$$H_A + H_B = 0$$

$$H_A = -H_B = -(-26,8889)$$

$$\boxed{H_A = 26,8889 \text{ kN}}$$

$$\underline{\Sigma Y = 0}$$

$$V_A + V_B = 0$$

$$V_A = -V_B = -(-17,6564)$$

$$\boxed{V_A = 17,6564 \text{ kN}}$$

$$\underline{\Sigma M_A = 0}$$

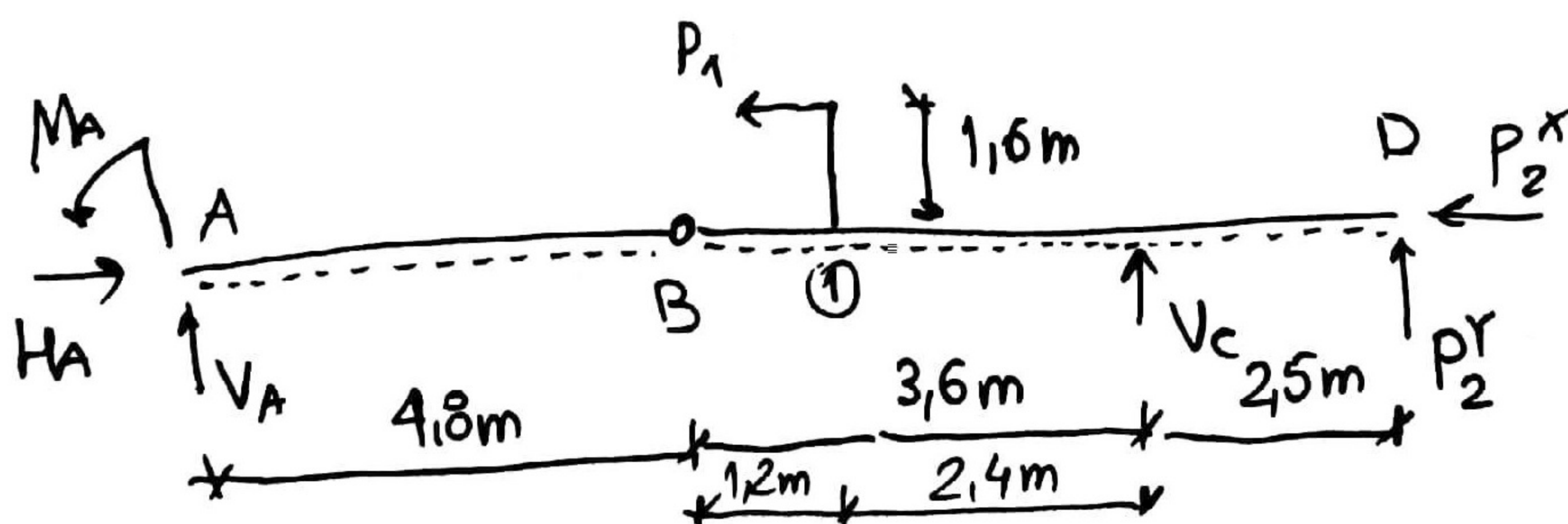
$$M_A + 4,8 \cdot V_B = 0$$

$$M_A + 4,8 \cdot (-17,6564) = 0$$

$$M_A - 84,75072 = 0$$

$$\boxed{M_A = 84,75072 \text{ kNm}}$$

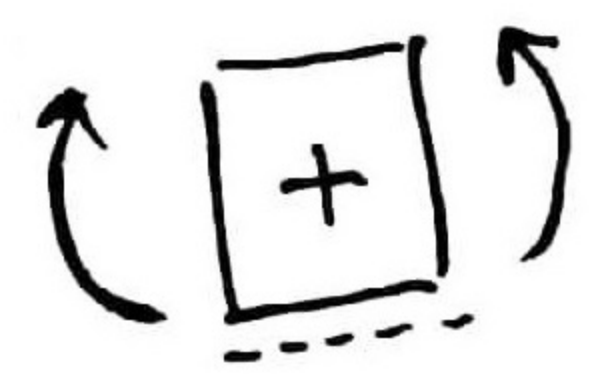
c)



$$M_A = -M_A = -84,75 \text{ kNm} \quad (\text{СМЕР ЛЕВЕ СТРАНЕ ШАБЛОНА})$$

↑
РЕАКЦИЈА

ШАБЛОН
ПОЗИТИВНОГ
МОМЕНТА

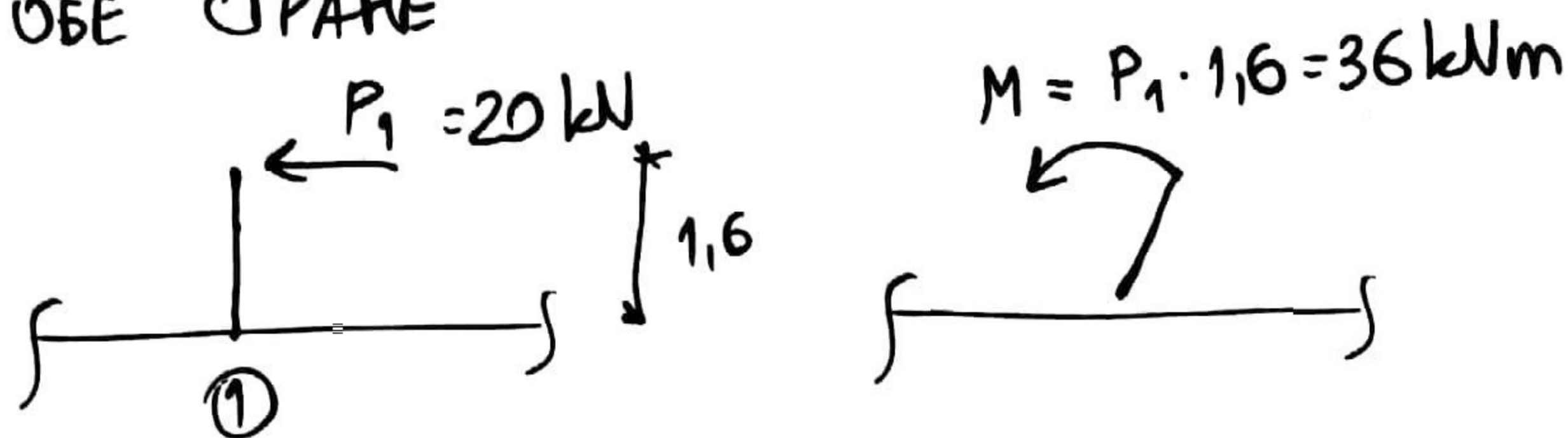


$$M_B = 0$$

$$M_{1B} = (4,8 + 1,2) V_A - M_A = 6V_A - M_A = 6 \cdot 17,6564 - 84,75072 = 21,188 \text{ kNm} \quad (\text{СМЕР ЛЕВЕ СТРАНЕ ШАБЛОНА})$$

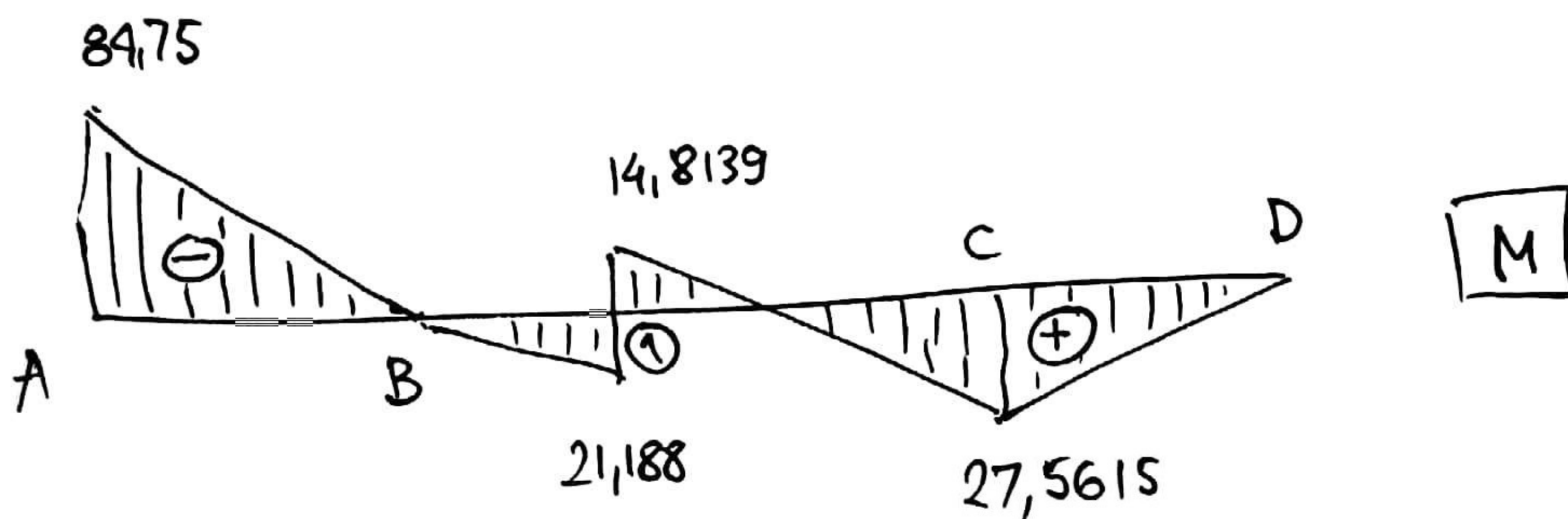
$$M_{1C} = 2,4 \cdot V_c + (2,4 + 2,5) \cdot P_2^y = 2,4 \cdot (-28,681) + 4,9 \cdot 11,0246 = -68,8344 + 54,0205 = -14,8139 \text{ kNm} \quad (\text{СМЕР ДЕСНЕ СТРАНЕ ШАБЛОНА})$$

ПОЛУГА У ТАЧКИ ① СЕ ПОМАША КАО КОНЦЕНТРИСАНИ МОМЕНТ
И ЗБОГ ТОГА СЕ У ТАЧКИ ① МОМЕНТ РАЧУНА СА
ОБЕ СТРАНЕ



$$M_C = 2,5 \cdot P_2^Y = 2,5 \cdot 11,0246 = 27,5615 \text{ kNm}$$

$$M_D = 0$$



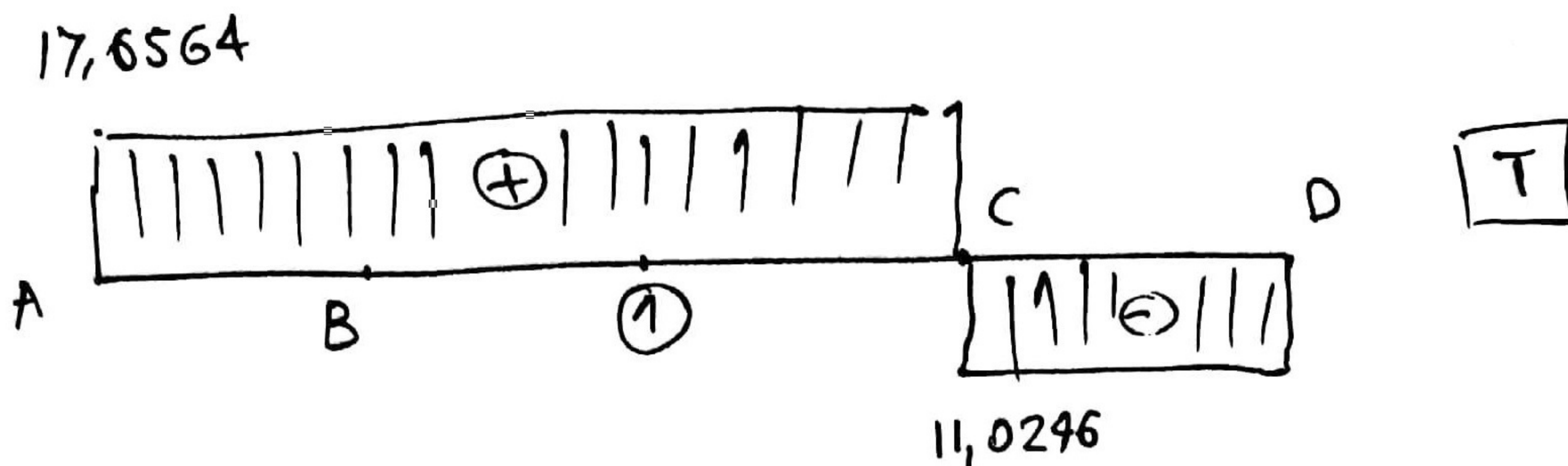
$$T_A = V_A = 17,6564 \text{ kN} \text{ (СМЕР ЛЕВЕ СТРАНЕ ШАБЛОНА)}$$

$$T_{C1} = V_A = 17,6564 \text{ kN} \text{ (СМЕР ЛЕВЕ СТРАНЕ ШАБЛОНА)}$$

$$T_{C_D} = -P_2^Y = -11,0246 \text{ kN} \text{ (СМЕР ДЕСНЕ СТРАНЕ ШАБЛОНА)}$$

$$T_D = -P_2^Y = -11,0246 \text{ kN} \text{ (СМЕР ДЕСНЕ СТРАНЕ ШАБЛОНА)}$$

ШАБЛОН ПОЗИТИВНЕ
ТРАНСВЕРЗАЛНЕ
СИЛЕ

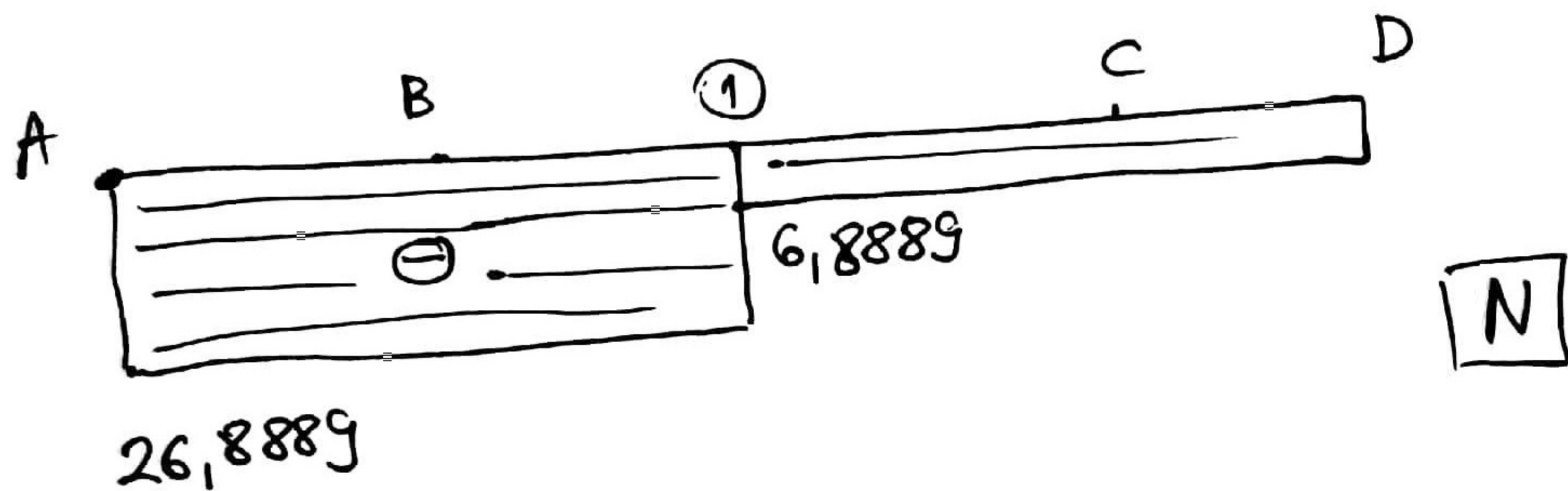


$$N_A = -H_A = 26,8889 \text{ kN (СМЕР ЛЕВЕ СТРАМЕ ШАБЛОНА)}$$

$$N_{AB} = -H_A = 26,8889 \text{ kN (СМЕР ЛЕВЕ СТРАМЕ ШАБЛОНА)}$$

$$N_{AC} = -P_2^x = -6,8889 \text{ kN (СМЕР ДЕСНЕ СТРАМЕ ШАБЛОНА)}$$

$$N_D = -P_2^x = -6,8889 \text{ kN (СМЕР ДЕСНЕ СТРАМЕ ШАБЛОНА)}$$



ШАБЛОН ПОЗИТИВНЕ
НОРМАЛНЕ СИЛЕ

