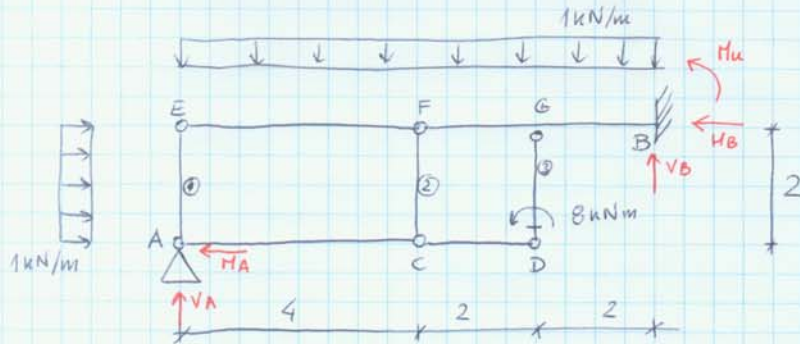
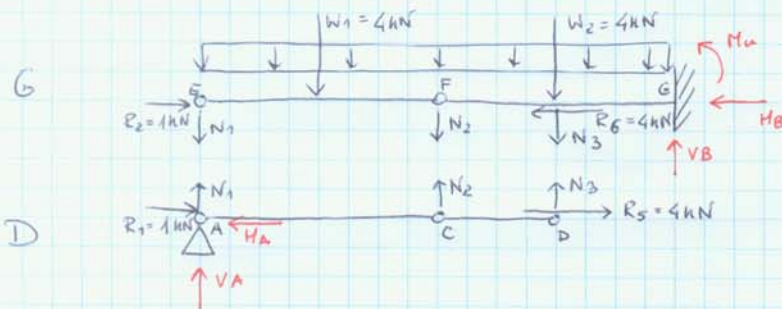
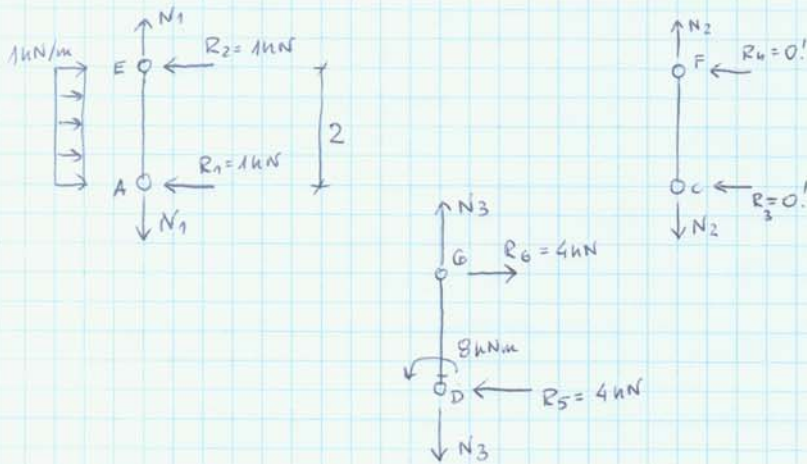


zad 4

Obliczyć reakcje podpor i siły w przeci ~~2~~ ^{wr 2} RR



Wycinamy przęt AE i CF i DG



część D

$$\sum X^D = 0$$

$$1 + 4 - H_A = 0 \quad H_A = 5 \text{ kN}$$

~~$\sum X$~~

część D

$$\sum M_{\text{prawy}}^D = 0$$

$$N_3 = 0 \text{ kN}$$

część G:

$$\sum X^G = 0$$

$$1 - 4 - H_B = 0 \Rightarrow H_B = -3 \text{ kN}$$

część G:

$$\sum M_{\text{lewy}}^F = 0$$

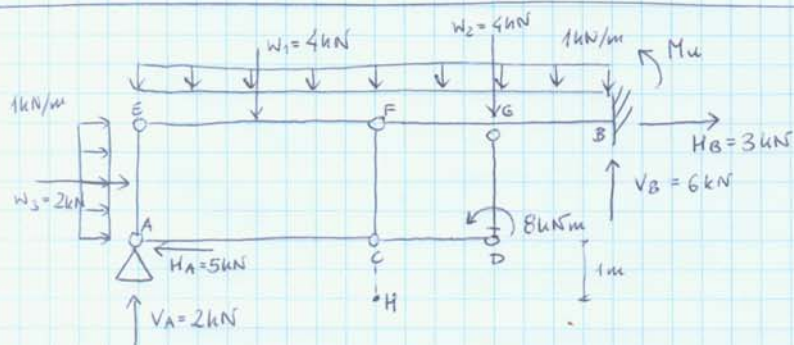
$$4 \cdot 2 + N_1 \cdot 4 = 0 \Rightarrow \underline{N_1 = -2 \text{ kN}}$$

część D

$$\sum M_c^D = 0$$

$$-N_1 \cdot 4 + N_3 \cdot 2 - V_A \cdot 4 = 0$$

$$-(-2) \cdot 4 + 0 \cdot 2 - V_A \cdot 4 = 0 \Rightarrow V_A = 2 \text{ kN}$$



$$\sum Y = 0 \quad 2 - 4 - 4 + V_B = 0 \Rightarrow V_B = 6 \text{ kN}$$

$$\sum M_B = 0$$

$$M_u + 4 \cdot 2 + 4 \cdot 6 + 2 \cdot 1 - 5 \cdot 2 - 2 \cdot 8 + 8 = 0$$

$$M_u = -16 \text{ kNm}$$

$$\text{Spr.} \quad \sum M_H = 0$$

$$-2 \cdot 4 + 5 \cdot 1 - 2 \cdot 2 + 4 \cdot 2 - 4 \cdot 2 + 8 - 16 + 6 \cdot 4 - 3 \cdot 3 = \underline{0} \quad \checkmark$$

$$\sum X = 0 \quad -5 + 2 + 3 = \underline{0} \quad \checkmark$$