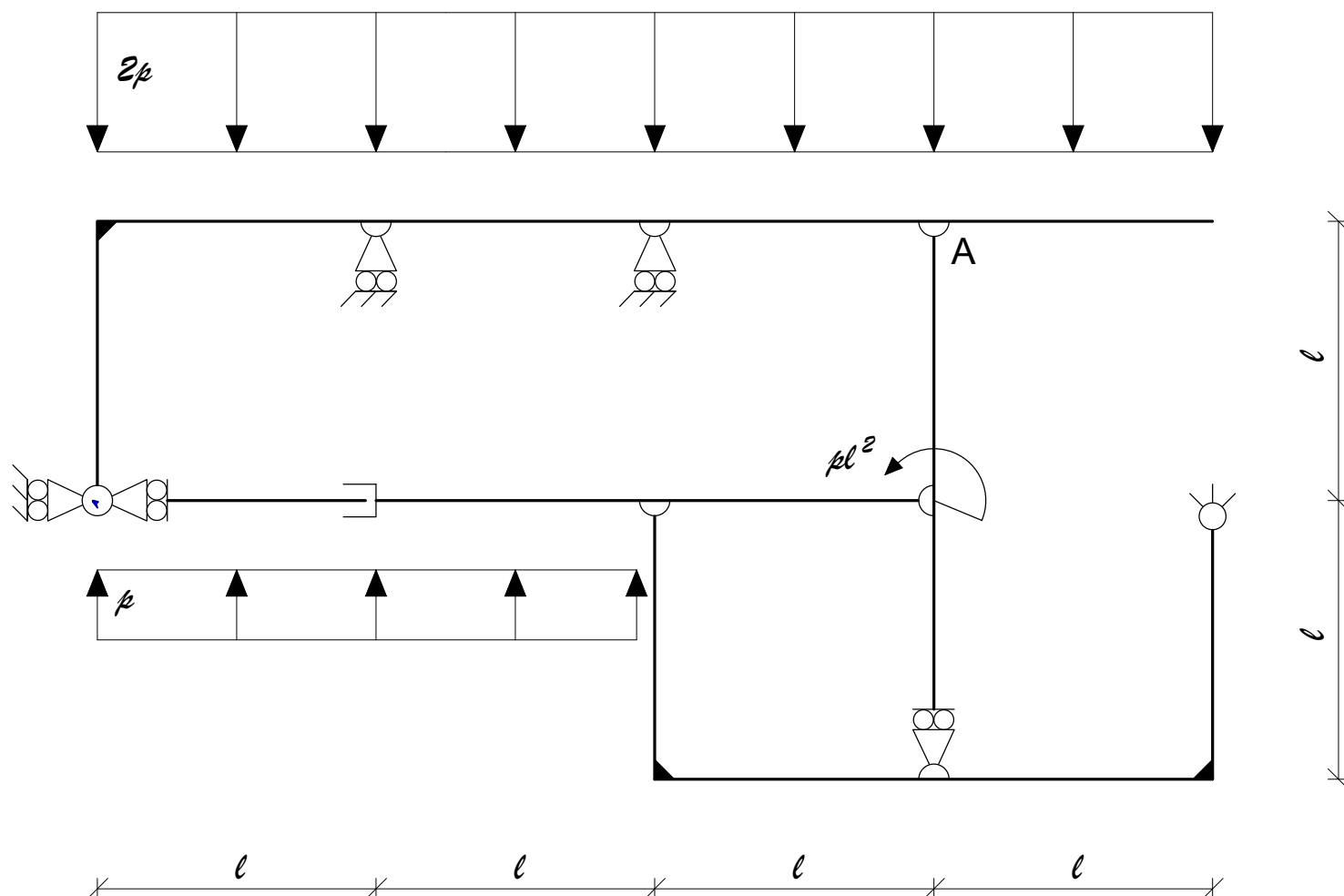


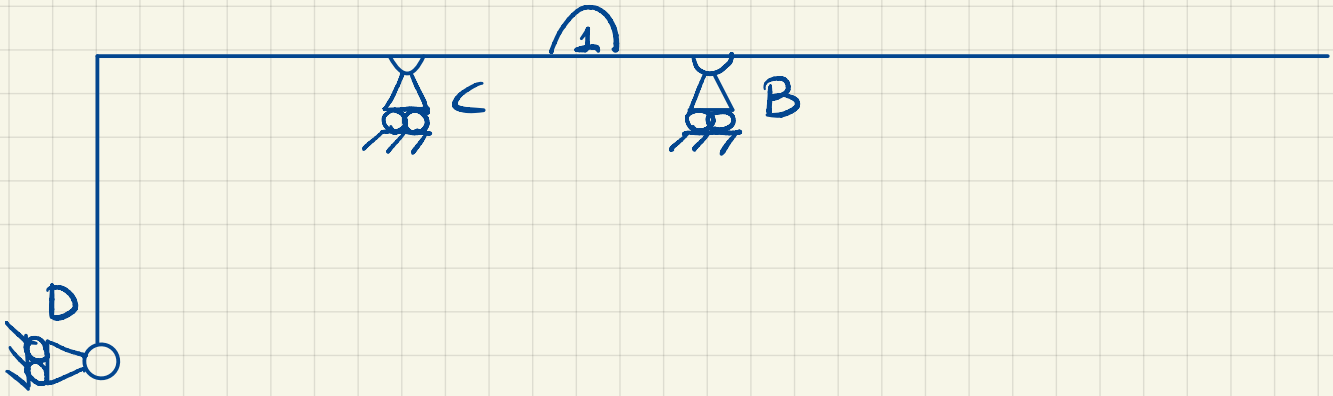
Prova Scritta di SCIENZA DELLE COSTRUZIONI - 30.08.2021 - FILA A

Con riferimento alla struttura in figura:

1. svolgere l'analisi cinematica e classificare la struttura
2. se la struttura risulta staticamente determinata, procedere al punto seguente. Altrimenti, modificare il vincolo in A in modo tale da rendere la struttura staticamente determinata
3. calcolare le reazioni vincolari, e riportare i valori su questo foglio
4. tracciare i diagrammi delle azioni interne, indicando anche i valori di massimo e di minimo e la loro posizione

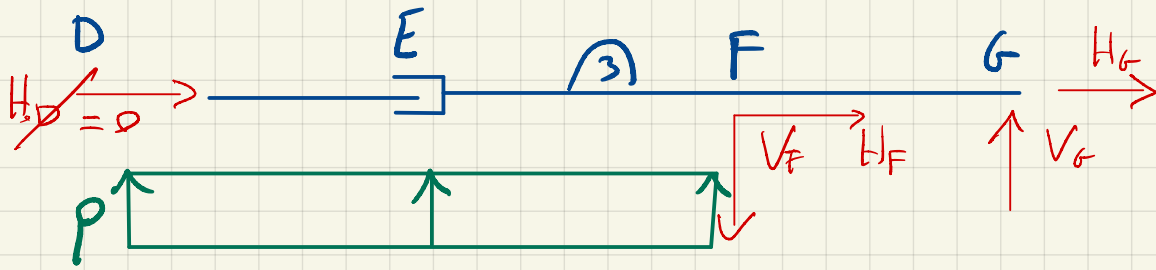


Asta 4-5: arco a 3 cerniere non allineate (CIR A, G, M)
app. isostatica



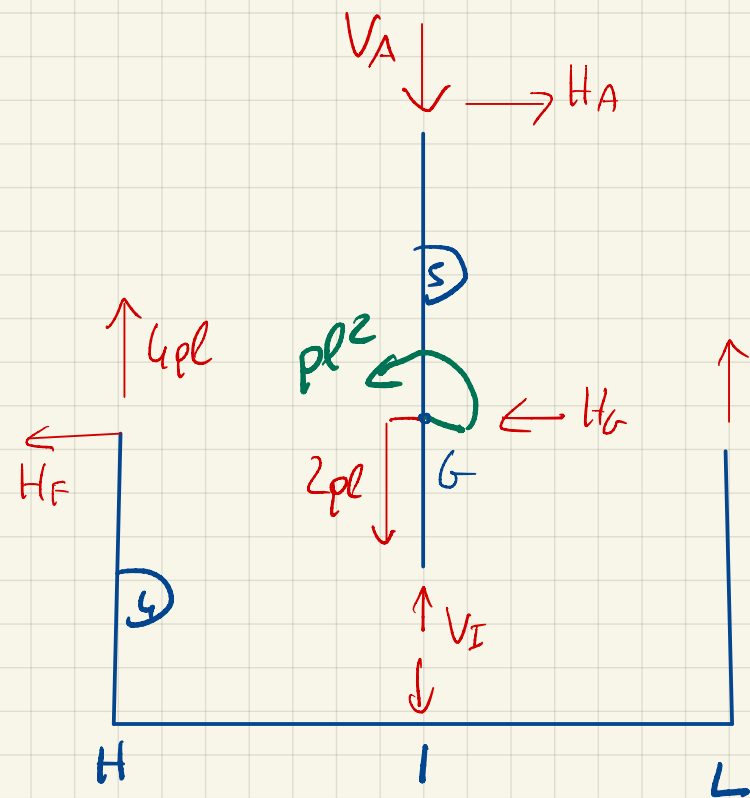
Asta 1: Carrelli in C e B sono equiv. a un manicotto.
L'asse del carrello in D non passa per Voe, QR del
manicotto \rightarrow STR. ISOSTATICA NON LABILE

Bella DEFG:



$$\sum_{DEFG}^+ M_{(F)} \quad V_G l - 2pl^2 = 0 \rightarrow V_G = 2pl$$

$$\sum_{DEFG}^+ F_V = 0 \quad -V_F + 2pl + 2pl = 0 \rightarrow V_F = 4pl$$



$$\sum_{AHL}^+ M_{(A)} \quad V_H \cdot l - 4pl^2 = 0$$

$$V_H = 4pl$$

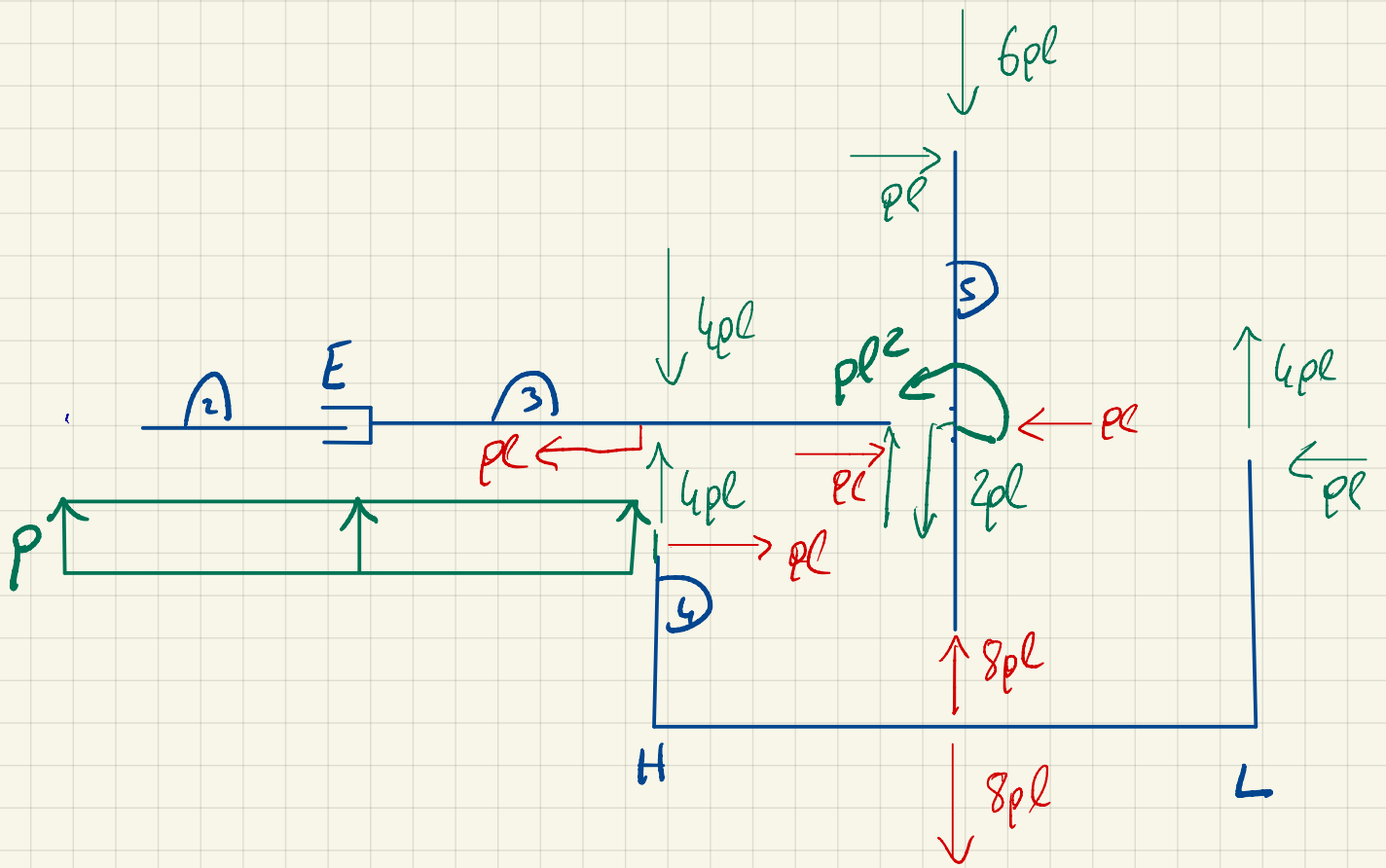
$$\sum_{AHL} F_V = 0 \rightarrow V_A = 6pl$$

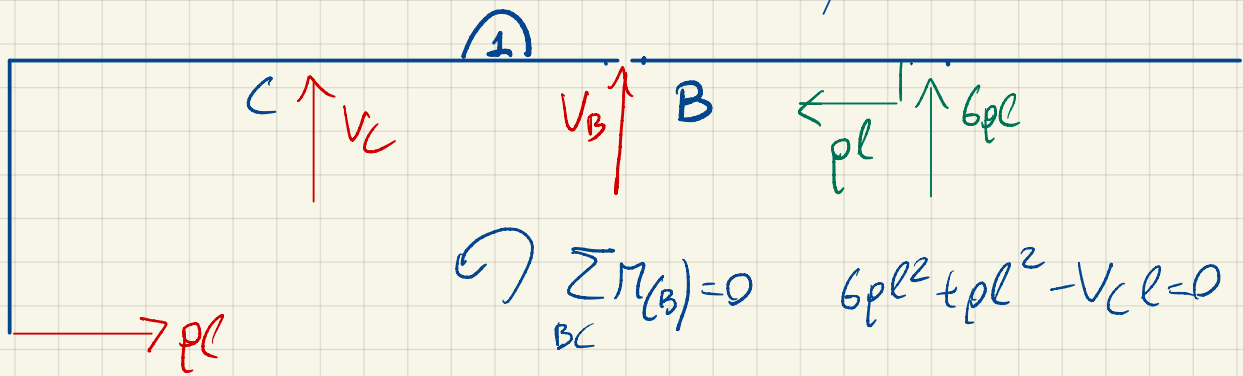
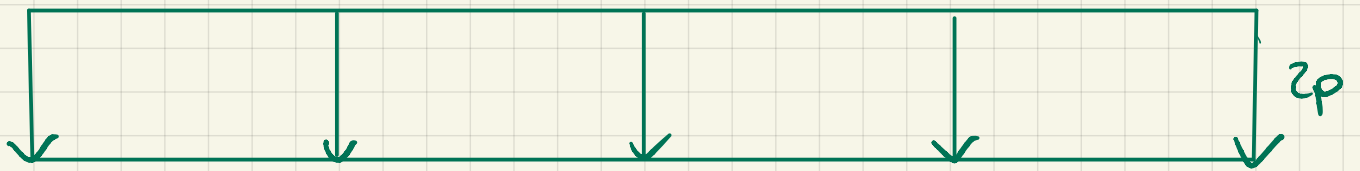
$$\sum_{AHL} M_{(A)} = 0$$

$$\rightarrow H_H l + 4pl^2 - 4pl^2 + pl^2 = 0$$

$$H_H = pl$$

$$\sum_{AHL}^+ F_V = 0 \quad 4pl + 4pl - 2pl - V_A = 0 \quad V_A = 6pl$$

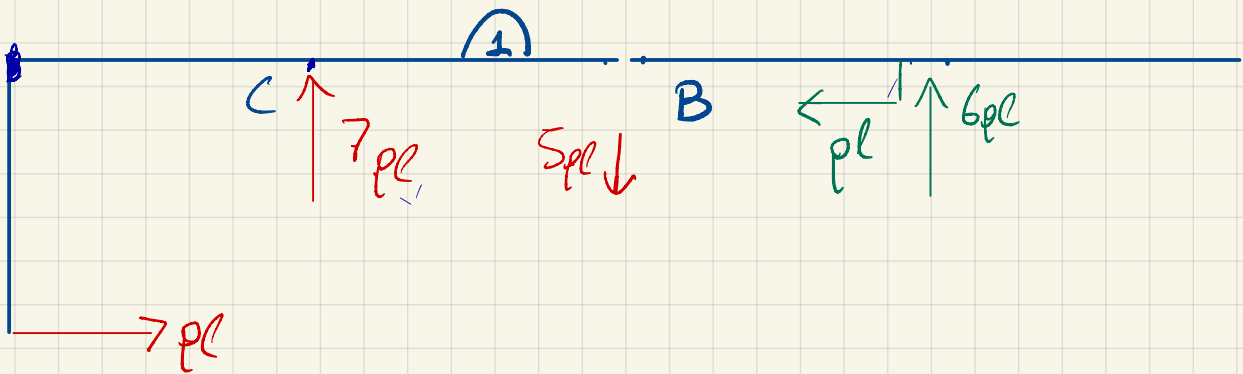
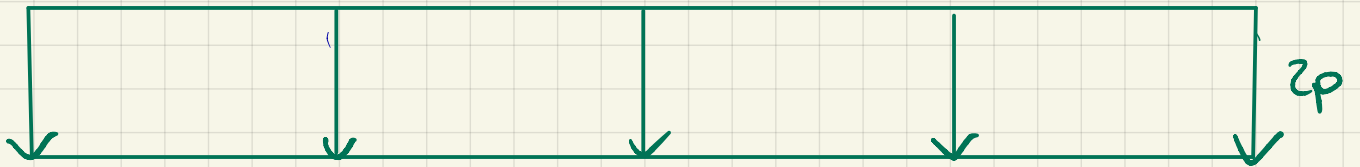


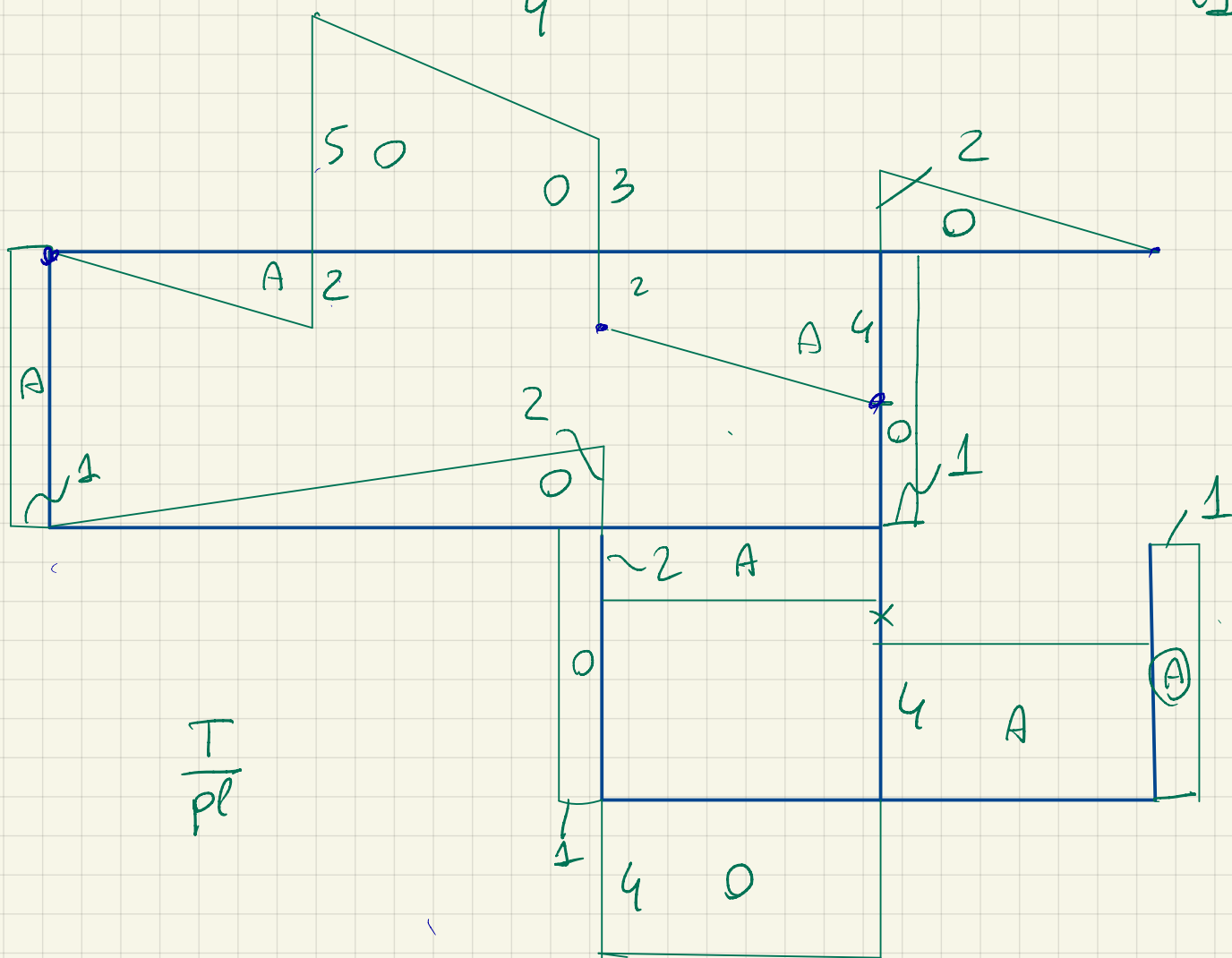
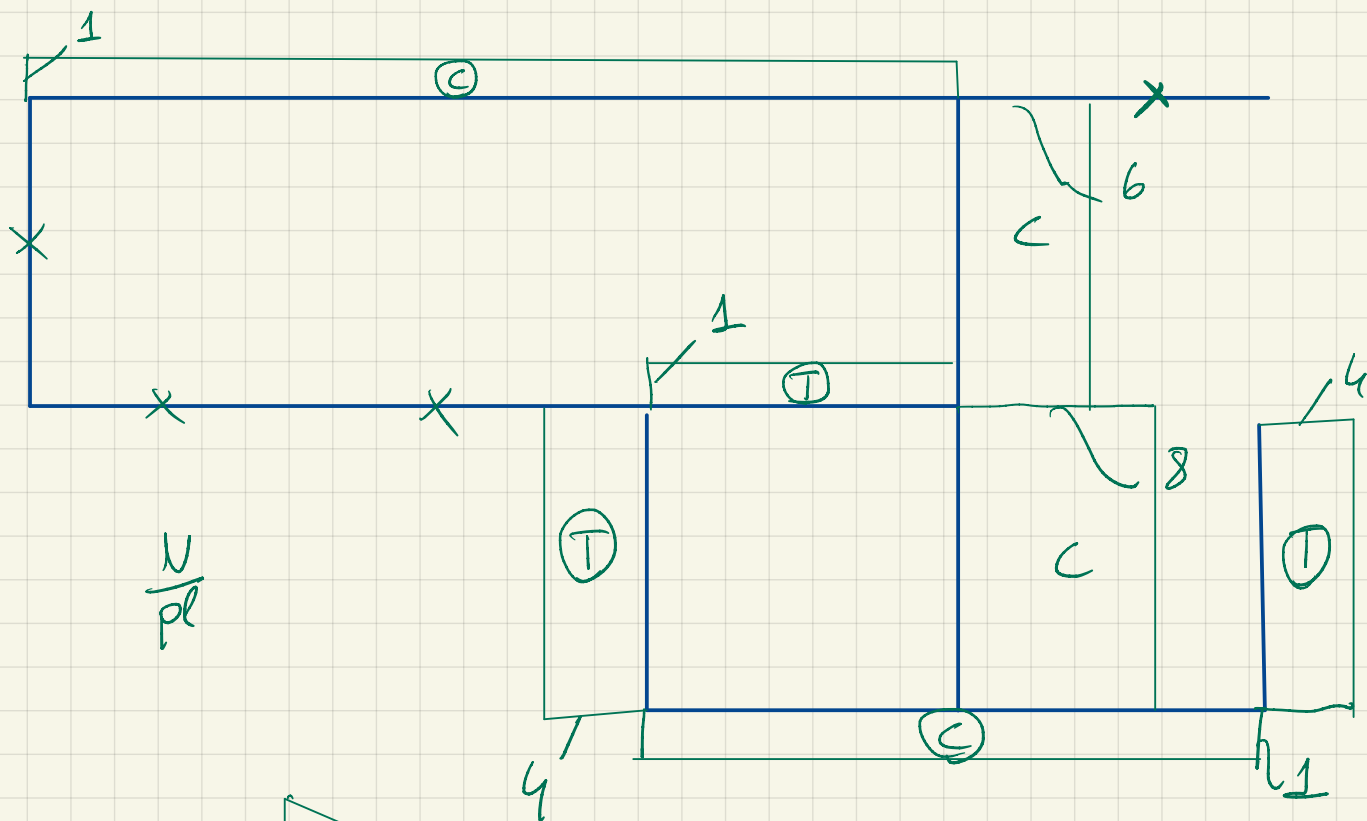


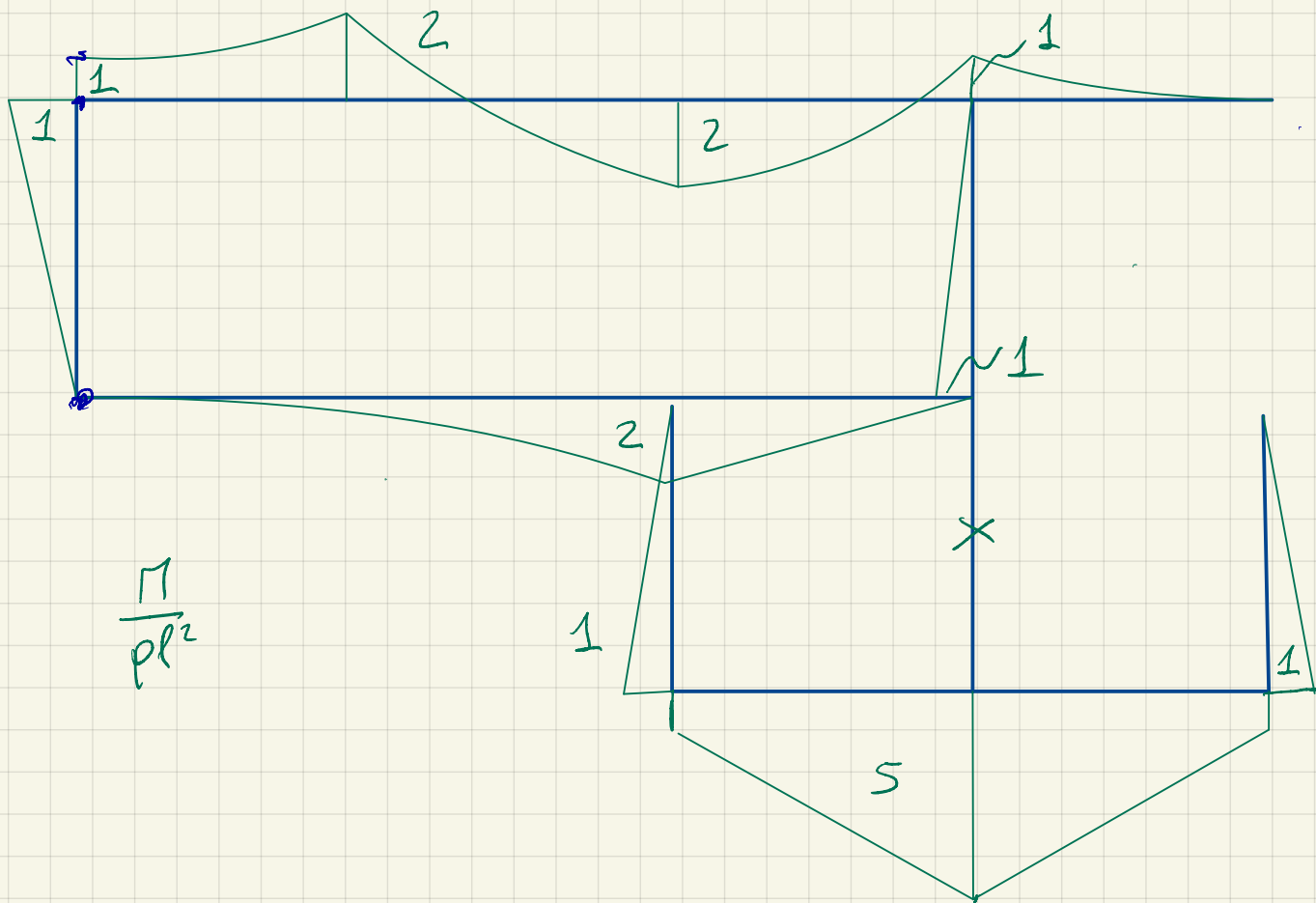
$$V_C = 7pl$$

$$\uparrow + \sum F_v = 0 \quad 6pl + 7pl + V_B - 8pl = 0$$

$$V_B = -5pl$$







$$\frac{\pi}{pl^2}$$