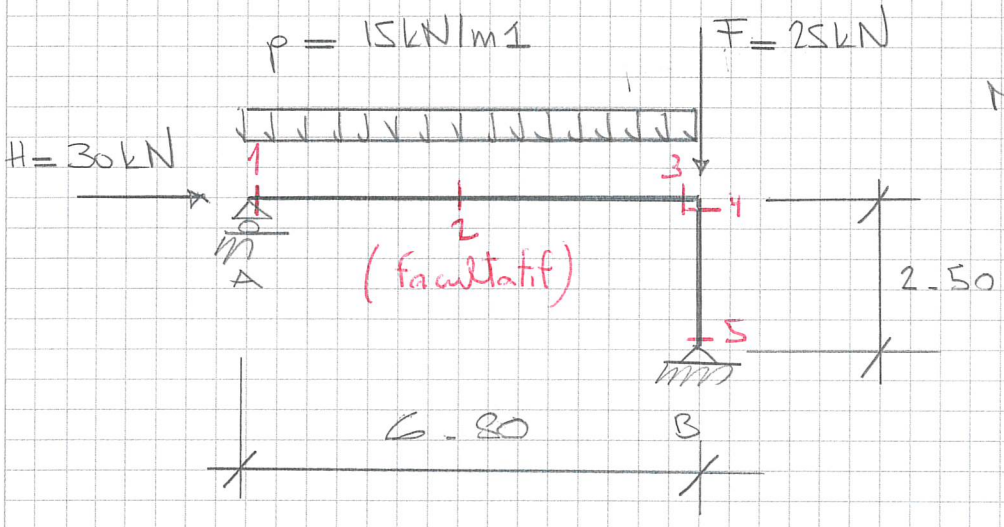
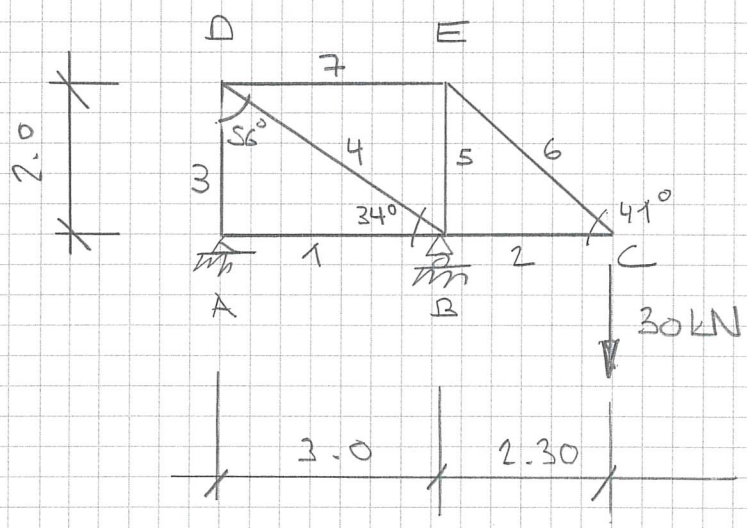
1 – Déterminez les efforts intérieurs de la structure. Dans le diagramme des moments, déterminez la position et la valeur de tous les moments max/min.

Notation : – réactions d'appuis 6 pts
– calcul des coupes +
– diagramme N 4 pts
V 5 pts
M 5 pts
Mmin/max 5 pts
25 pts



2 – Déterminez les efforts dans les barres du système à treillis.



Résultats

+/-	kN
1	
2	
3	
4	
5	
6	
7	

Notation : R_A/R_B 4 pts
Nbarres 7 x 3pts
échelle dessin 1:10
10kN = 1cm

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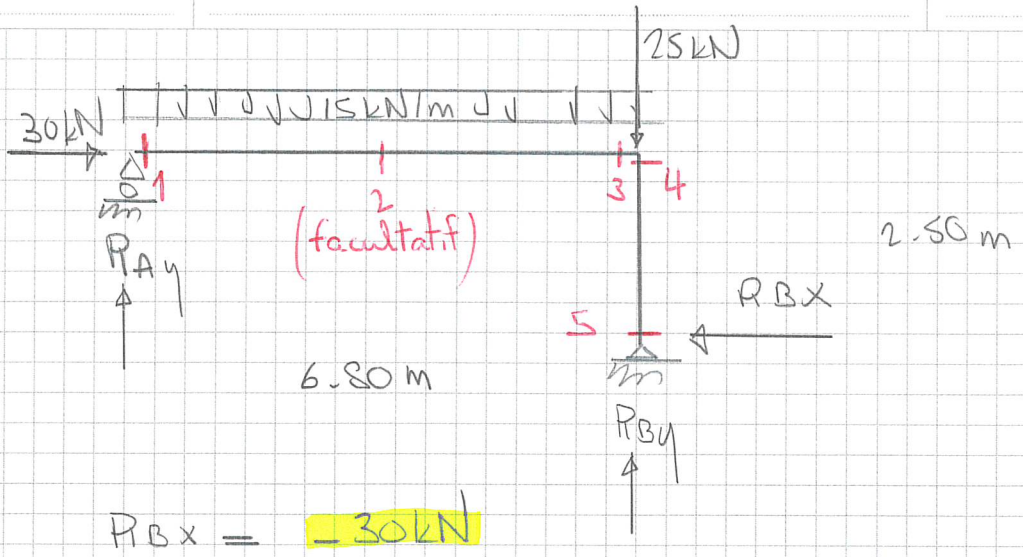
1)

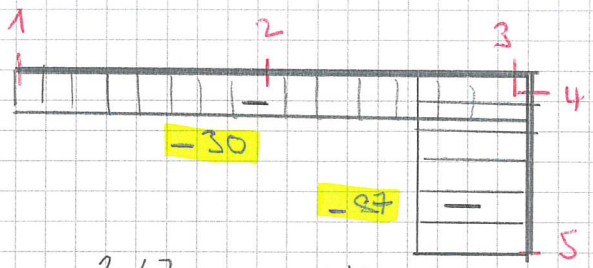


$R_{Bx} = -30\,kN$

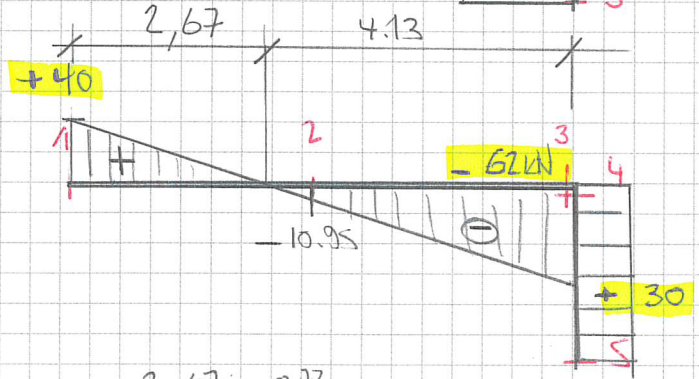
$R_{Ay} = \dfrac{15 \cdot 6.80 \cdot \frac{6.80}{2} - 30 \cdot 2.50}{6.80} = 39.97\,kN \sim 40\,kN$

$R_{By} = (15 \cdot 6.8) + 25 - R_{Ay} = 40 = 87\,kN$

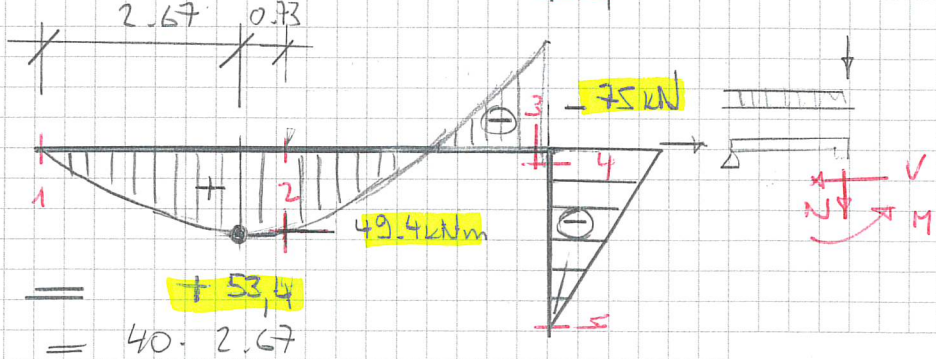
N



V



M



$M_{max}^{+} = +53{,}4$

$= \dfrac{40 \cdot 2.67}{2}$

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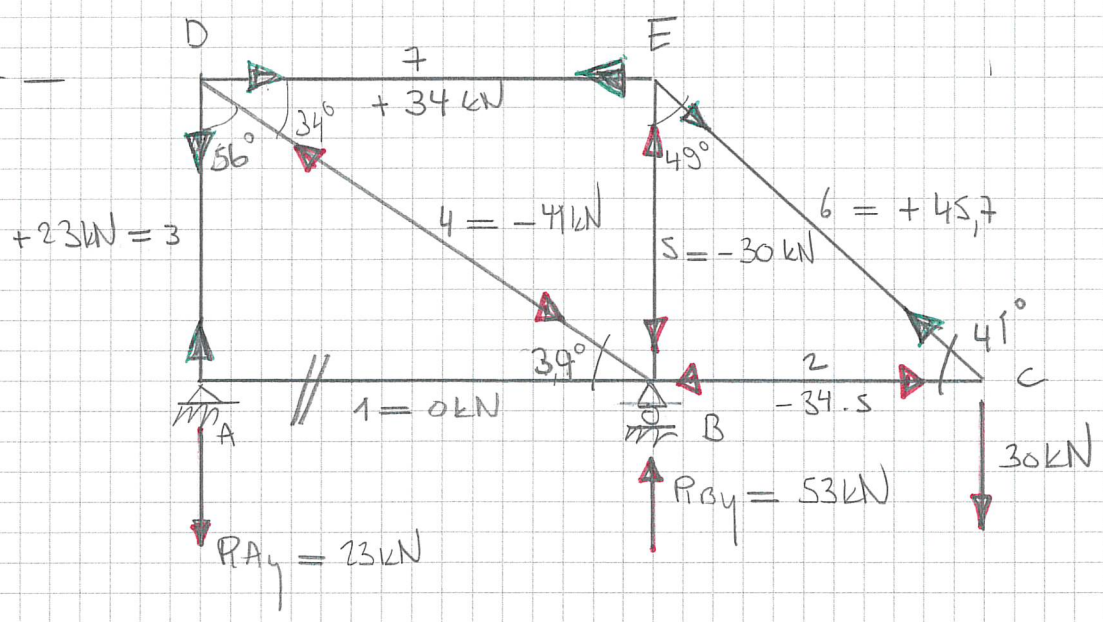
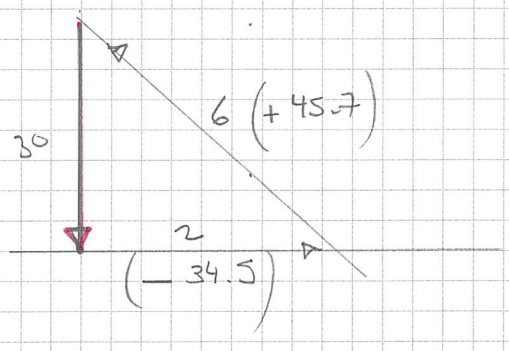
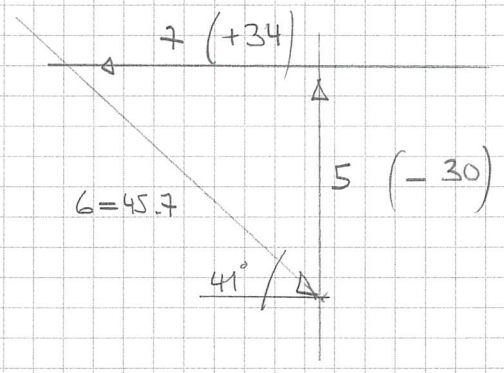
2 —



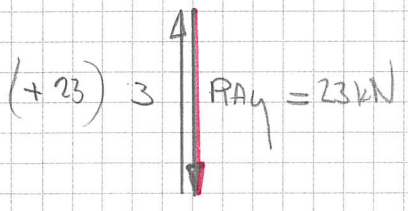
Noeud C



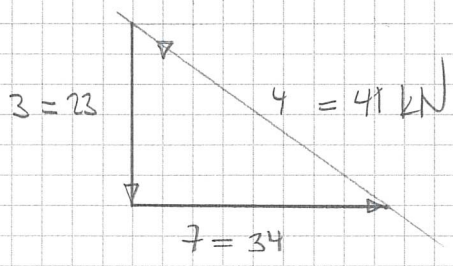
Noeud E



Noeud A

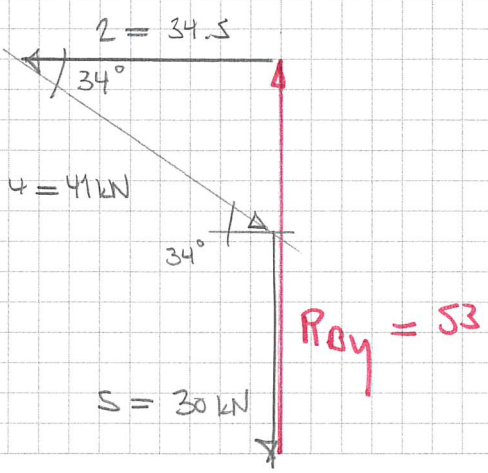


Noeud D



1	0 kN	
2	−34,5	−
3	23	+
4	−41	−
5	−30	−
6	+45,7	+
7	34	+
R_{Ay}	−23kN	
R_{By}	53 kN	

Contrôle Noeud B



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