

$q = 500 \text{ kg/m}; l = 1,5 \text{ m}$

$h = 2 \text{ m} = \frac{4}{3} l$

$\tan \alpha = \frac{h/2}{l} = \frac{2}{3}$

$\sin \alpha = \frac{2}{\sqrt{13}} = \frac{2}{\sqrt{13}}$

$\cos \alpha = \frac{3}{\sqrt{13}}$

D)  $V_B = - q l / 2 = - 375 \text{ kg}$

D)  $V_B h l + q l^2 = N \sin \alpha 2l + q l^2$

$- 2 q l + q l = 2 N \sin \alpha + q l$

$N = - \frac{3 q l}{4 \sin \alpha} = - 1014,06 \text{ kg}$

(N) 1) globale

$V_A = q \frac{l}{2} + 2 q l + V_C$

$V_C = 2 N \sin \alpha = - \frac{3}{2} q l = - 1125 \text{ kg}$

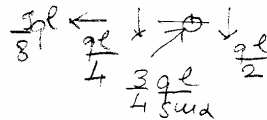
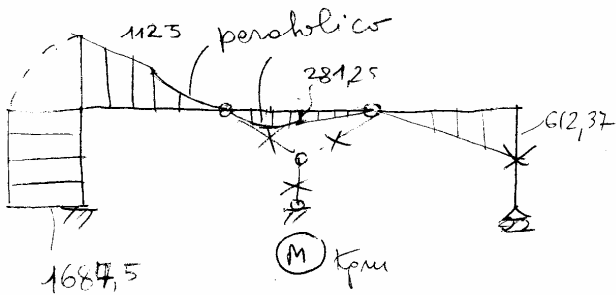
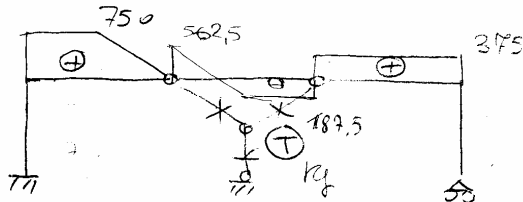
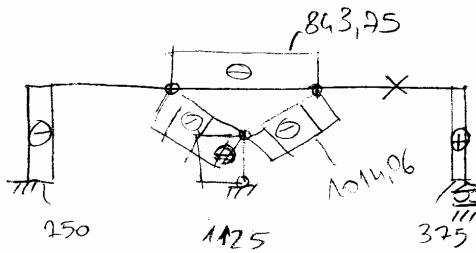
$V_A = + q l = 150 \text{ kg}$

D)  $- V_A 2l + 1 q l + q l^2 = 0$

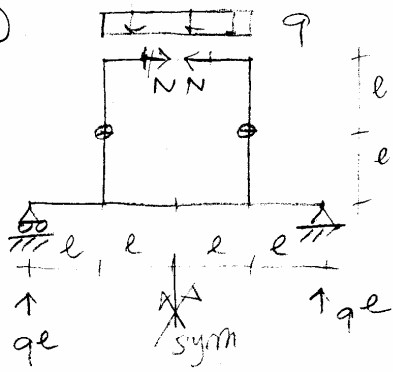
$M_A = \frac{3}{2} q l^2 = 1687,5 \text{ kgm}$

check 2) globale

$- q \frac{l}{2} \cdot 6l - q l^2 - 4 q l^2 + \frac{3}{2} q l^2 + \frac{3}{2} q l^2 = 0$



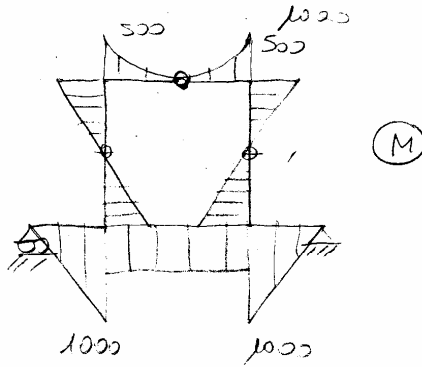
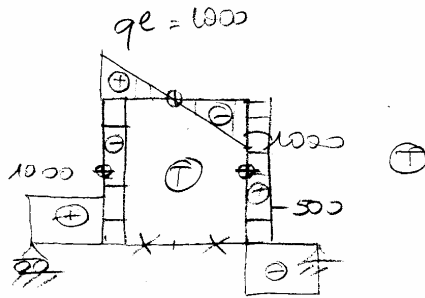
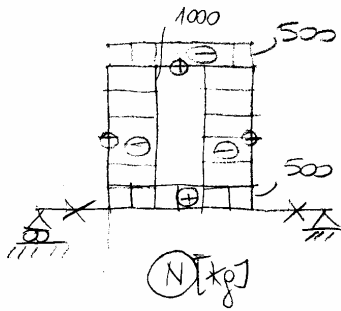
2)

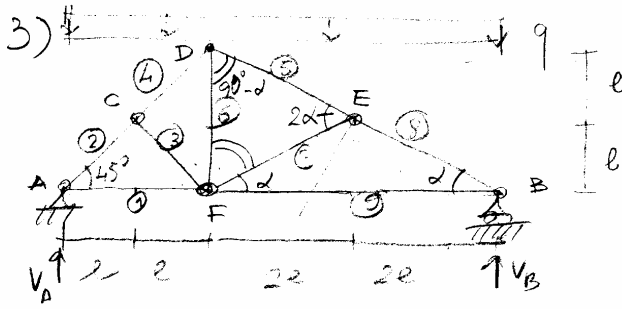


$$q = 1000 \text{ kg/m}$$

$$l = 2 \text{ m}$$

$$N = -\frac{q \cdot l}{2} \Rightarrow N = -\frac{q \cdot l}{2}$$





$l = 1m$

$q = 100 \text{ kg/m}$

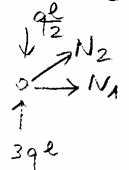
$V_A + V_B = 6ql$   
 $-V_A \cdot 6l + 18ql = 0$

$V_A = 3ql = 300 \text{ kg}$

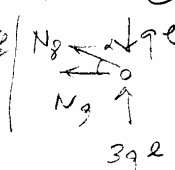
$V_B = 3ql = 300 \text{ kg}$

$\tan \alpha = 1/2 ; \sin \alpha = 1/\sqrt{5} ; \cos \alpha = 2/\sqrt{5}$

NODO (A)



NODO (B)



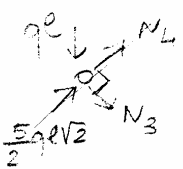
$N_2 = -\frac{5}{2}ql \cdot \sqrt{2} = -353,55 \text{ kg}$

$N_1 = \frac{5}{2}ql = 250 \text{ kg}$

$N_8 = -\frac{2ql}{\sin \alpha} = -447,21 \text{ kg}$

$N_9 = +2ql \cdot 2 = 4ql = 400 \text{ kg}$

NODO (C)

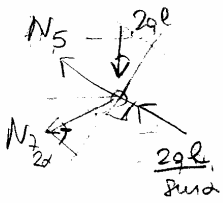


$\rightarrow N_4 + \frac{5}{2}ql\sqrt{2} = ql\sqrt{2}$

$N_4 = -\frac{2}{2}ql = -2ql = -282,84 \text{ kg}$

$\leftarrow -N_3 = ql\sqrt{2} \Rightarrow N_3 = -ql\sqrt{2} = -70,71 \text{ kg}$

NODO (E)



$\uparrow -2ql \cos \alpha = N_7 \sin \alpha$

~~$-2ql \cos \alpha = N_2 \sin \alpha \cos \alpha$~~

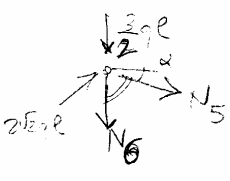
$N_7 = -\frac{ql}{\sin \alpha} = -223,60 \text{ kg}$

$\rightarrow -N_5 - \frac{2ql}{\sin \alpha} + 2ql \sin \alpha + \frac{2ql \cos \alpha}{\sin \alpha} = 0$

$N_5 = \frac{-2ql}{\sin \alpha} + 2ql \sin \alpha + \frac{2ql \cos \alpha}{\sin \alpha}$

$= \frac{ql}{\sin \alpha} (-2 + 2 \sin^2 \alpha + \cos^2 \alpha - \sin^2 \alpha) = \frac{ql}{\sin \alpha} = 223,6$

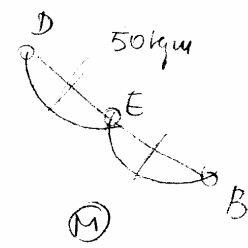
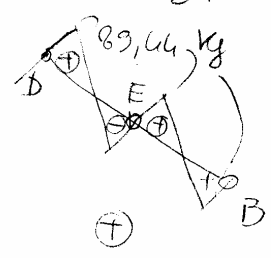
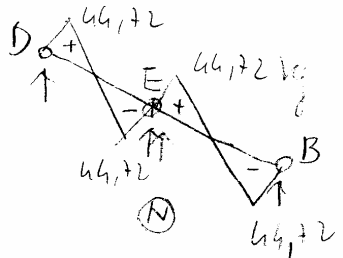
NODO (D)



$\rightarrow 0 = 0$

$\uparrow N_6 - \frac{3}{2}ql + ql + 2ql = 0$

$N_6 = +\frac{3}{2}ql = 150 \text{ kg}$



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