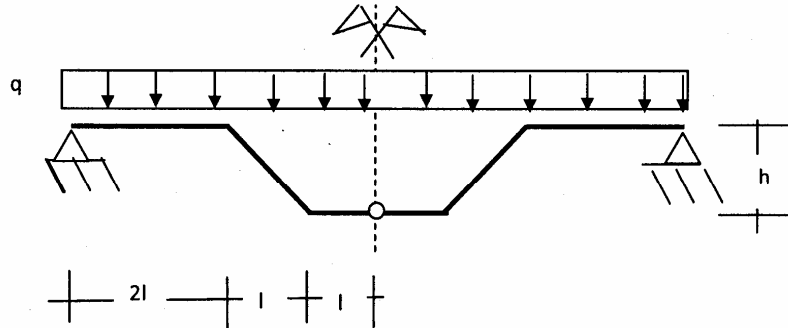
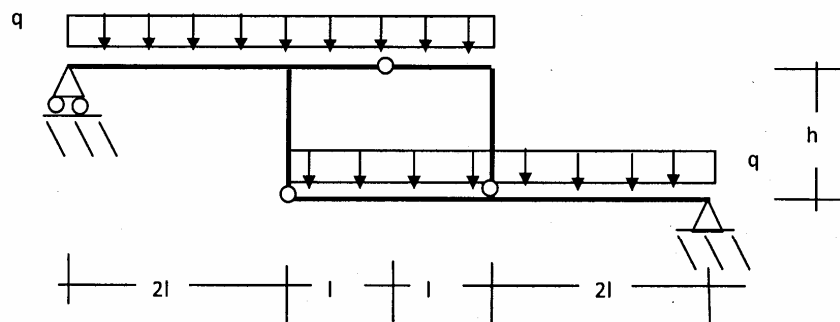


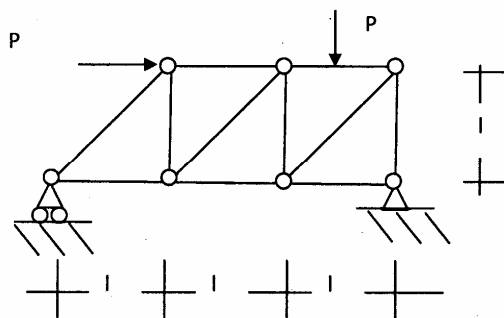
- 1) Determinare i diagrammi quotati delle azioni interne della struttura in figura dove  $l=2\text{m}$ ,  $h=3\text{m}$ ,  $q=500\text{daN/m}$

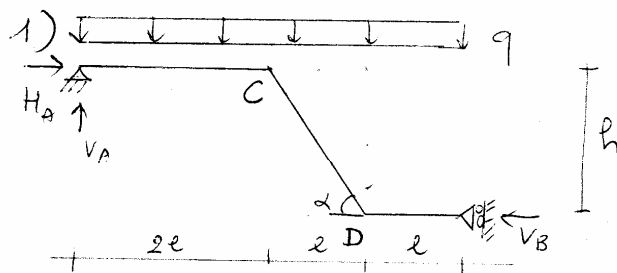


- 2) Determinare i diagrammi quotati delle azioni interne della struttura in figura dove  $l=2\text{m}$ ,  $h=3\text{m}$ ,  $q=1000\text{daN/m}$



- 3) Determinare gli sforzi primari e secondari della reticolare in figura con  $l=1.5\text{ m}$ ,  $P=100\text{ daN}$





$$l = 2\text{m}; h = 3\text{m}$$

$$q = 500 \text{ kg/m}$$

$$\tan \alpha = 3/2$$

$$\cos \alpha = 2/\sqrt{13}$$

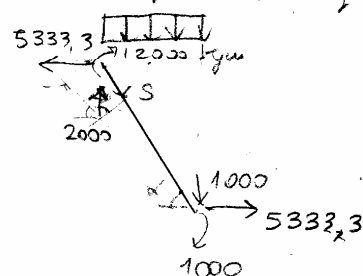
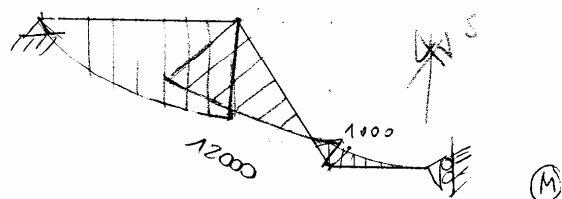
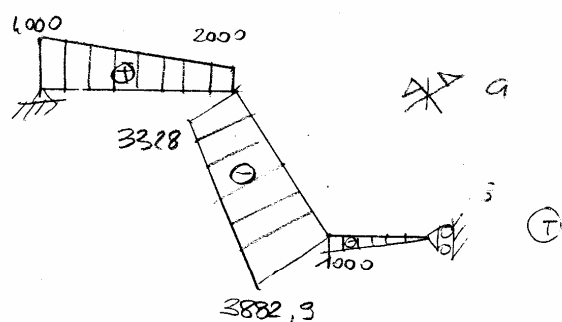
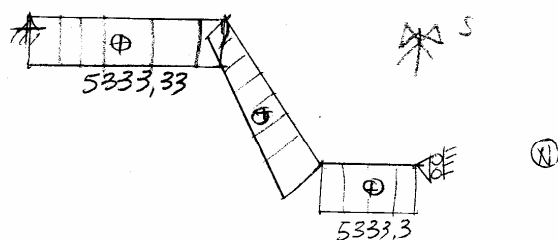
$$\sin \alpha = 3/2 = 3/\sqrt{13}$$

$$-V_B \cdot \frac{\sqrt{1+9/4}}{2} - 4ql \cdot 2l = 0$$

$$V_B = -\frac{16}{3}ql = -5333,33$$

$$H_A = -\frac{16}{3}ql = -5333,33$$

$$V_A = 4ql = 4000 \text{ kg}$$



$$M_{CA} = 4000 \times 4 - q \cdot 2l \cdot l = 12000 \text{ kgm}$$

$$N(s) = +5333,33 \cos \alpha + 2000 \sin \alpha - q s \cos \alpha \cdot \sin \alpha$$

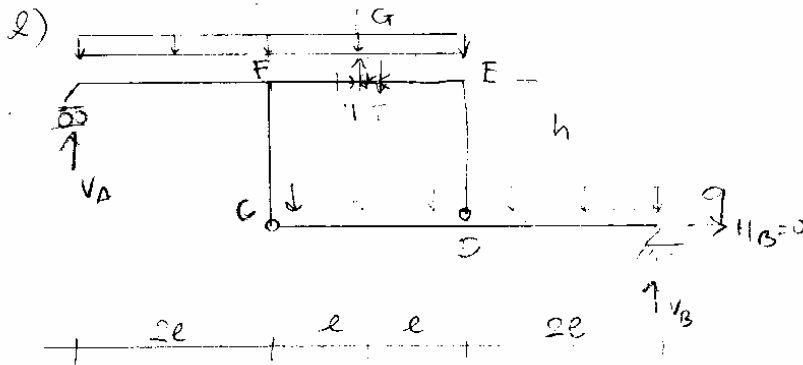
$$N_{CD} = 4622,5 \text{ kg}$$

$$N_{DC} = 3790,5$$

$$T(s) = -5333,33 \sin \alpha + 2000 \cos \alpha - q s \cos^2 \alpha$$

$$T_{CD} = -3328 \text{ kg}$$

$$T_{DC} = -3882,9 \text{ kg}$$



$$e = 2m; h = 3m = \frac{3}{2}e$$

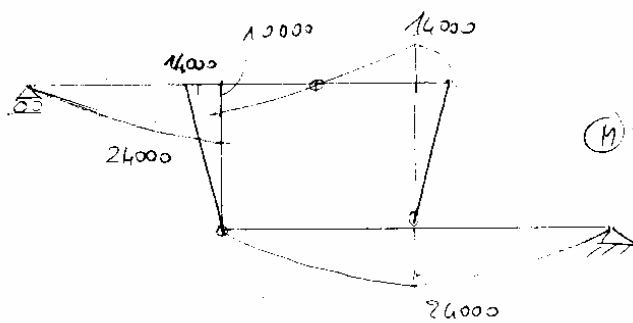
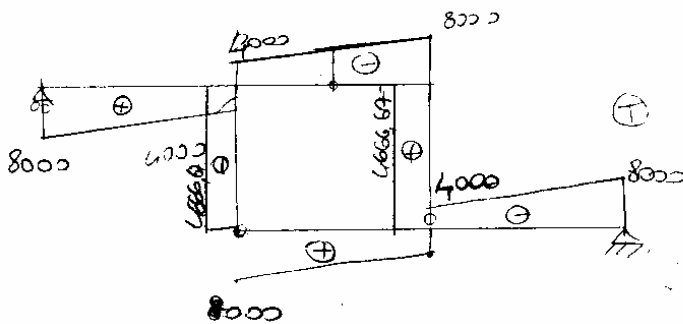
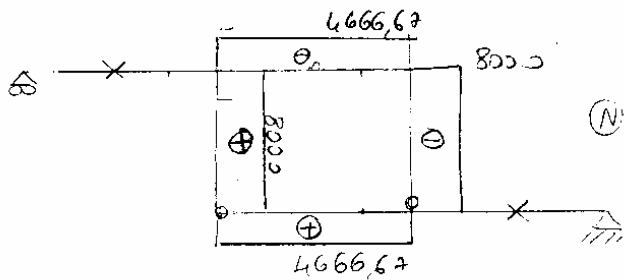
$$q = 1000 \text{ kg/m}$$

$$1) V_A + V_B = 8qe$$

$$4.6e = 4.2e \cdot 2e + 4.7e \cdot 2e$$

$$= 24qe^2$$

$$V_B = 4qe = 4.2e$$



$$M_{DB} = 32000 - 8000 = 24000$$

M

$$11\frac{3}{2}e + T + \frac{q^2 e^2}{2} = 0$$

$$-11\frac{3}{2}e - T - 4.2e^2 + 2.4qe^2 + 2.4qe(2e - \frac{3}{2}e) = 0$$

$$-11\frac{3}{2}e + T - 3.7e = 0$$

$$2T = -2.4e - 3.7e$$

$$T = -3.0e = -6000 \text{ kg}$$

$$N = \frac{2}{3}(-3.7e - 4.2e)$$

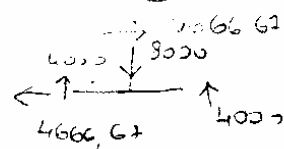
$$= -\frac{14}{3}e = -4666.67 \text{ kg}$$

$$C = 2.4e - 3.7e - 3.7e = -5.0e$$

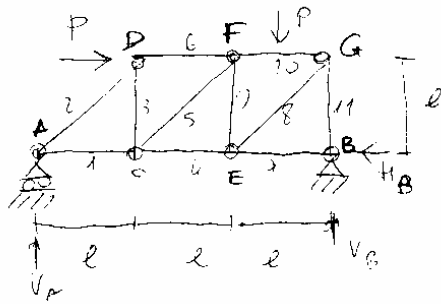
$$V_A = 8000 \text{ kg}$$

$$V_B = 3000 \text{ kg}$$

Nodo (D)



3)



$$P = 100 \text{ kN}; l = 1,5$$

$$V_A + V_B = P$$

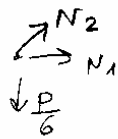
$$H_B = P$$

$$V_B \cdot 3l = P \cdot \frac{5l}{2} + P \cdot l$$

$$V_B = \frac{7}{6}P$$

$$V_A = -\frac{1}{6}P$$

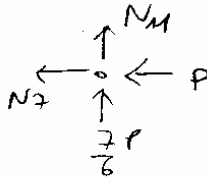
(A)



$$N_2 = \frac{P}{6}\sqrt{2}$$

$$N_1 = -\frac{P}{6}$$

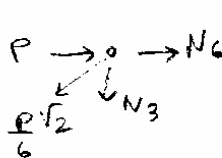
(B)



$$N_2 = -P$$

$$N_{11} = -\frac{2}{6}P$$

(C)

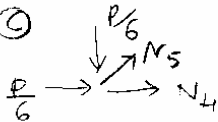


$$N_6 = -P + \frac{P}{6}\sqrt{2} \cdot \frac{\sqrt{2}}{2}$$

$$= -\frac{5}{6}P$$

$$N_3 = -\frac{P}{6}$$

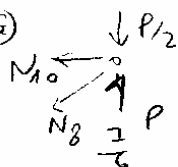
(D)



$$N_5 = \frac{P}{6}\sqrt{2}$$

$$N_4 = -\frac{P}{6} - \frac{P}{6} = -\frac{P}{3}$$

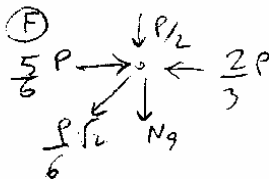
(E)



$$N_8 = \left(\frac{7}{6} - \frac{1}{2}\right)P\sqrt{2} = \frac{2\sqrt{2}}{3}P$$

$$N_{10} = -\frac{2}{3}P$$

(F)



$$N_9 = -\frac{P}{2} - \frac{P}{6} = -\frac{2}{3}P$$

SECONDA RLO

