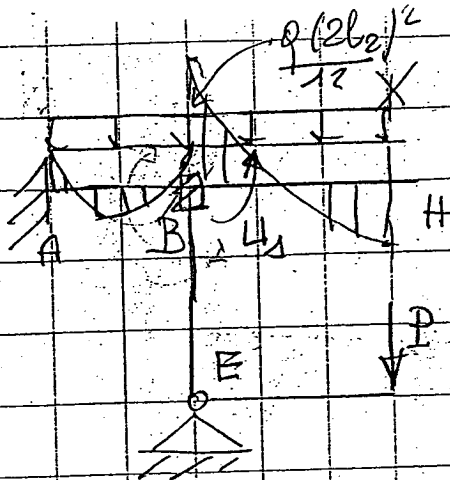
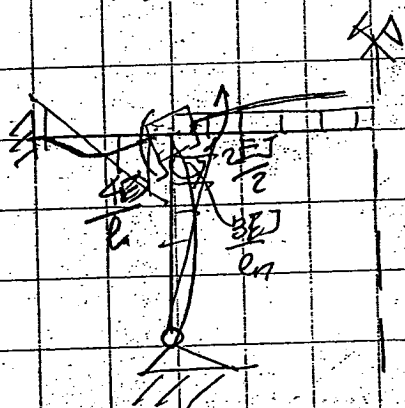


Demanda H



$$K_{10} = \frac{q(2l_2)^2}{12} - \frac{q(l_1^2)}{12} =$$

$$= 3q - \frac{q}{3} = 533,3 \text{ Kg.m}$$



$$K_{11} = \frac{4EJ}{l_1} + \frac{2EJ}{2l_2} + \frac{3EJ}{l_2} =$$

$$= EJ\left(2 + \frac{1}{3} + 1\right) = EJ \frac{10}{3}$$

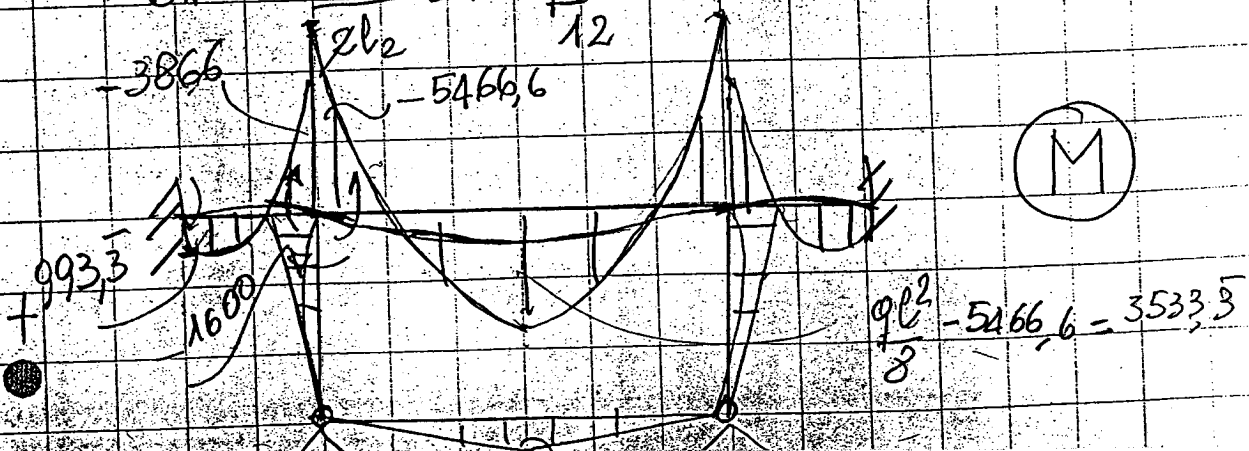
$$\Delta_1 = -K_{10}/K_{11} = -1600/EJ$$

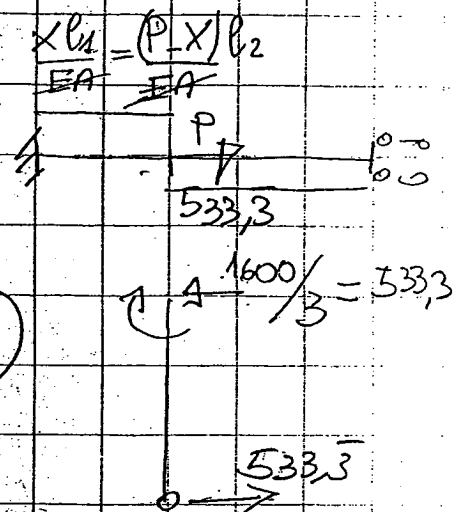
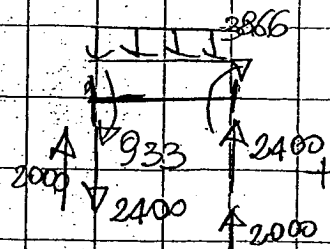
$$M_{BA} = +\frac{4EJ}{l_1} \Delta_1 - \frac{ql_1^2}{12} = -3200 - 666,6 = -3866,6 \text{ Kg.m}$$

$$M_{AB} = \frac{2EJ}{l_1} \Delta_1 + \frac{ql_1^2}{12} = -1600 + 666,6 = -933,3 \text{ Kg.m}$$

$$M_{BE} = \frac{3EJ}{l_2} \Delta_1 = -1600 \text{ Kg.m}$$

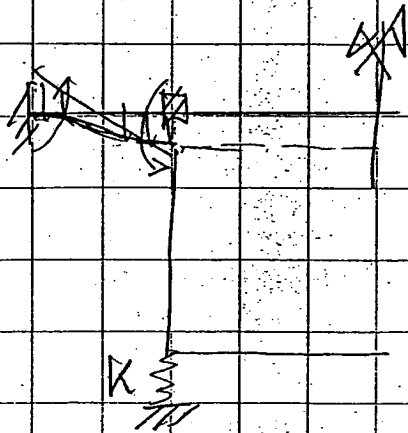
$$M_{BH} = \frac{2EJ}{2l_2} \Delta_1 + \frac{q(2l_2)^2}{12} = -533,3 + 6000 = +5466,6 \text{ Kg.m}$$





$$X(l_1 + l_2) = l_2 P$$
$$X = \frac{3}{5} P = 320$$

$$K_{20} = \frac{9l_1}{2} + \frac{9l_2}{2} + \frac{9}{2} = 82.50 \text{ Kg}$$



$$K_{22} = \frac{12EJ + K}{l_1^3} = \frac{3}{2} \frac{EJ}{l_1^3} + \frac{K}{l_1^3}$$

$$K_{12} = \frac{+6EJ}{l_1^2} = \frac{+3}{2} \frac{EJ}{l_1^2}$$

le lunghezze sono in m

$$EJ \begin{vmatrix} 10/3 & +3/2 \\ +3/2 & \frac{3+K}{2} \end{vmatrix} \begin{vmatrix} U_1 \\ U_2 \end{vmatrix} = \begin{vmatrix} -53333 \\ +8250 \end{vmatrix}$$

$$EJ = 5,8212 \times 10^9 \text{ Kg} \cdot \text{cm}^2 = 5,8212 \times 10^5 \text{ Kg} \cdot \text{m}^2$$

$$K = 2 \times 10^4 \text{ Kg/cm} = 2 \times 10^6 \text{ Kg/m}$$

$$K/EJ = 3,4357 \times 10^{-5} \rightarrow K_{22} \approx 4,9357$$

$$\begin{vmatrix} U_1 \\ U_2 \end{vmatrix} = \begin{vmatrix} 4,9357 & -1,5 \\ -1,5 & 3,3 \end{vmatrix} \begin{vmatrix} 1 \\ 14,20 \cdot EJ \end{vmatrix} \begin{vmatrix} -53333 \\ 8250 \end{vmatrix} =$$

$$U_2 < 0,36 \text{ cm}$$

la soluzione non è ritenuta molto del cedimento