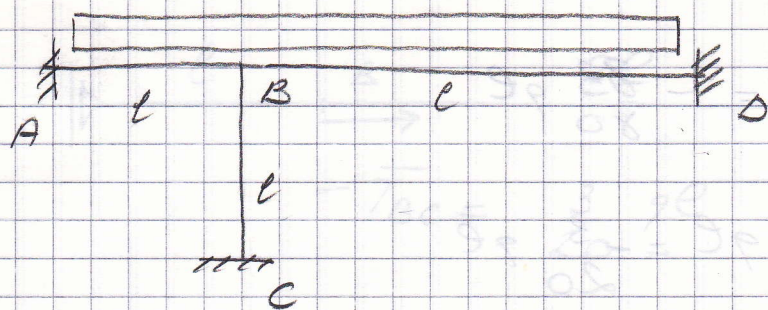




①

$$\bar{M}_{BA} = -\frac{ql^2}{12} + \frac{4EI}{l} \phi_B = -\frac{ql^2}{12} - \frac{ql^2}{10} = -\frac{11}{60} ql^2$$

$$\bar{M}_{BD} = \frac{q \cdot 4l^2}{12} + \frac{4EI}{2l} \phi_B = \frac{ql^2}{3} - \frac{ql^2}{20} = \frac{17}{60} ql^2$$

$$\bar{M}_{BC} = \frac{4EI}{l} \phi_B = -\frac{ql^2}{10}$$

$$\sum M_B = 0 \quad \left(\frac{4EI}{l} + \frac{2EI}{l} + \frac{4EI}{l} \right) \phi_B + \frac{ql^2}{4} = 0$$

$$\phi_B = -\frac{ql^2}{4} \cdot \frac{l}{10EI} = -\frac{ql^3}{40EI}$$

$$\bar{M}_{AB} = \frac{ql^2}{12} + \frac{2EI}{l} \phi_B = \frac{ql^2}{12} - \frac{ql^2}{20} = \frac{2}{60} ql^2 = \frac{ql^2}{30}$$

$$\bar{M}_{CB} = -\frac{ql^2}{20}$$

$$\bar{M}_{DB} = -\frac{ql^2}{3} + \frac{EI}{l} \phi_B = -\frac{ql^2}{3} - \frac{ql^2}{40} = -\frac{43}{120} ql^2$$

$$\bar{T}_{AB} = -\frac{ql}{2} - \frac{6EI}{l^2} \phi_B = -\frac{ql}{2} + \frac{3}{20} ql = -\frac{7}{20} ql$$

$$\bar{T}_{BA} = -\frac{ql}{2} + \frac{6EI}{l^2} \phi_B = -\frac{ql}{2} - \frac{3}{20} ql = -\frac{13}{20} ql$$

$$\bar{T}_{BD} = -ql - \frac{3 \cdot 6EI}{4l^2} \phi_B = -ql + \frac{3}{80} ql = -\frac{77}{80} ql$$