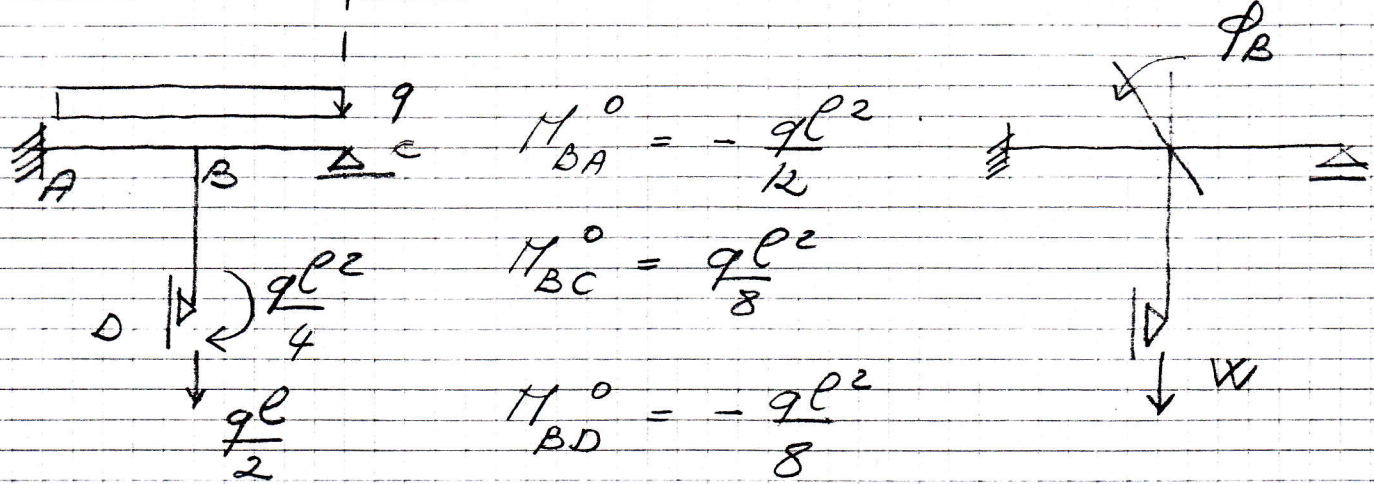
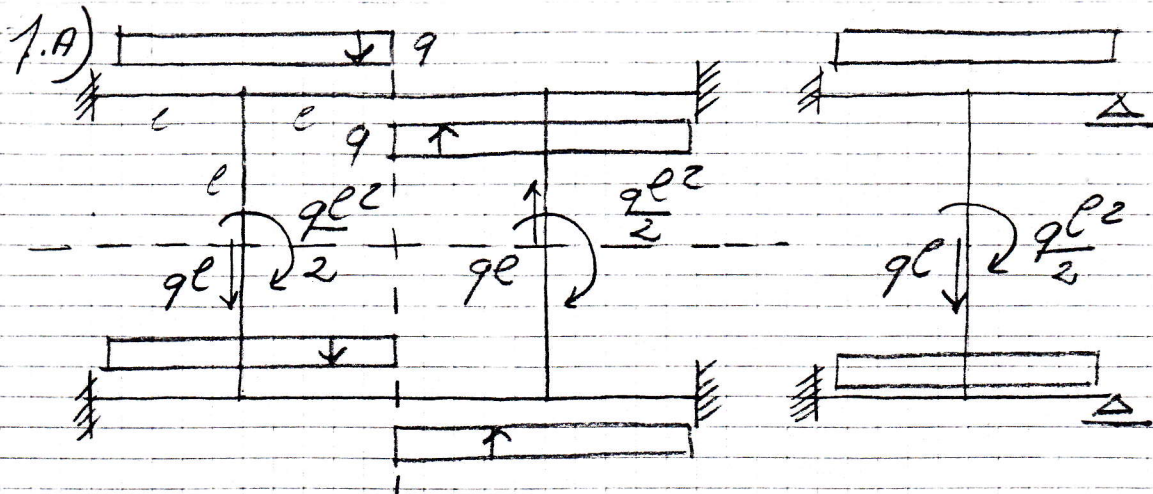


①



$$M_{BA} = \frac{4EI}{l} \varphi_B + \frac{6EI}{l^2} w$$

$$M_{BC} = \frac{3EI}{l} \varphi_B - \frac{3EI}{l^2} w$$

$$M_{BD} = \frac{3EI}{l} \varphi_B$$

$$\begin{aligned} & - \left( \frac{4EI}{l} \varphi_B + \frac{6EI}{l^2} w \right) + \left( \frac{3EI}{l} \varphi_B - \frac{3EI}{l^2} w \right) + \frac{3EI}{l} \varphi_B \\ & + \frac{ql^2}{12} - \frac{ql^2}{8} + \frac{3EI}{l} \varphi_B - \frac{3EI}{l^2} w \end{aligned}$$

$$\begin{aligned} \sum M_B &= \frac{ql^2}{12} + \frac{3EI}{l^2} w - \frac{4EI}{l} \varphi_B - \frac{6EI}{l^2} w - \frac{3EI}{l} \varphi_B - \\ & - \frac{3EI}{l} \varphi_B + \frac{ql^2}{8} - \frac{ql^2}{8} = 0 \end{aligned}$$