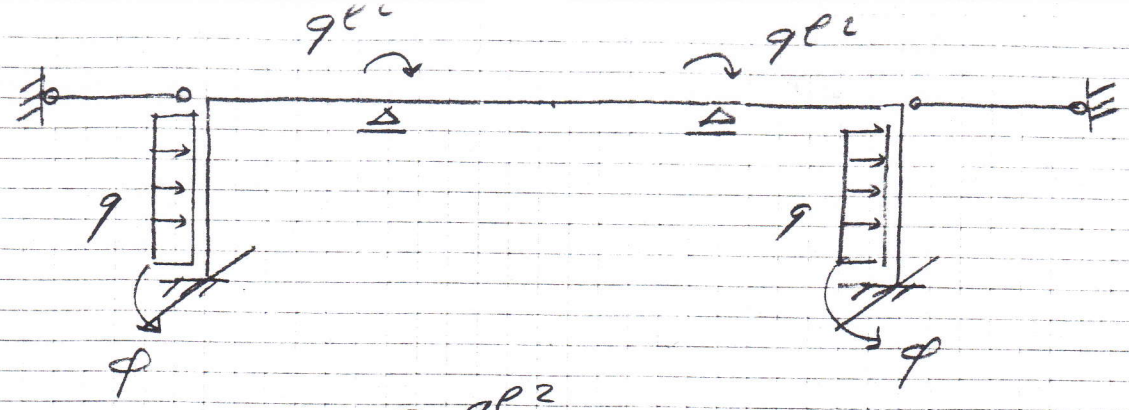
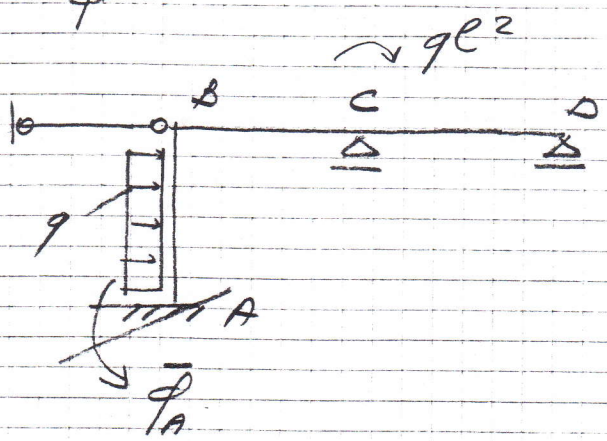
1. A)





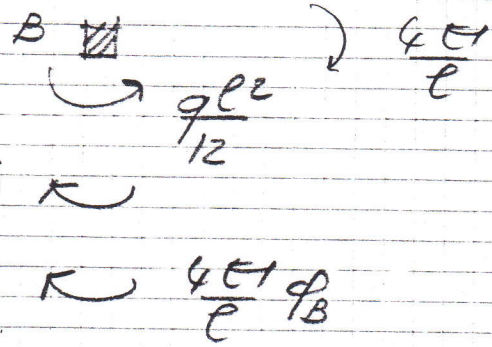
$$|\bar{\varphi}_A| = \frac{q\ell^3}{EI}$$

$$M_{BA}^{0} = -\frac{q\ell^2}{12} + \frac{2EI}{\ell}\bar{\varphi}_A \qquad M_{CB}^{0} = 0$$

$$M_{BC}^{0} = 0 \qquad M_{CD}^{0} = 0$$

$$M_{BA} = \frac{4EI}{\ell}\varphi_B \qquad M_{CB} = \frac{4EI}{\ell}\varphi_C + \frac{2EI}{\ell}\varphi_B$$

$$M_{BC} = \frac{4EI}{\ell}\varphi_B + \frac{2EI}{\ell}\varphi_C \qquad M_{CD} = \frac{3EI}{\ell}\varphi_C$$



$$\Sigma M_B = 0$$

$$\frac{q\ell^2}{12} - \frac{8EI}{\ell}\varphi_B - \frac{2EI}{\ell}\cdot\frac{q\ell^3}{EI} - \frac{2EI}{\ell}\varphi_C =$$

$$= -\frac{23}{12}q\ell^2 + \frac{8EI}{\ell}\varphi_B + \frac{2EI}{\ell}\varphi_C = 0 \qquad *$$