Assignment 2 (May 21, Submit by May 28)

Determine the bending moment at C in a simply supported beam AB which is subjected to a distributed load w(x). Assume that beam AB is linear elastic without weight and that the elastic modulus and moment of inertia of beam AB are E and I, respectively.

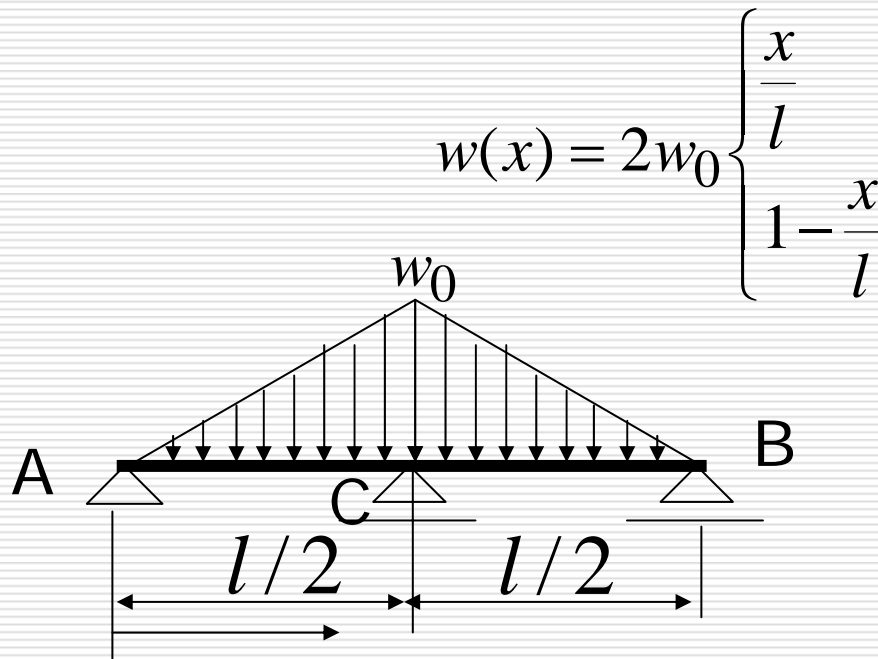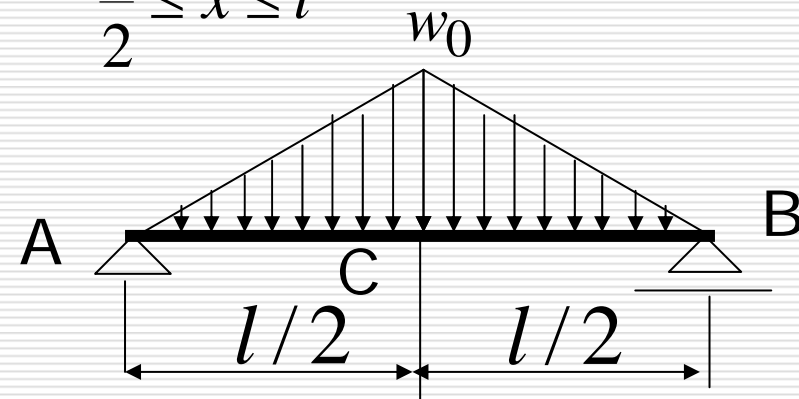$$w(x) = 2w_0 \begin{cases} \dfrac{x}{l} & 0 \leq x \leq \dfrac{l}{2} \\ 1 - \dfrac{x}{l} & \dfrac{l}{2} \leq x \leq l \end{cases}$$

Fig. 1

Fig. 2