1) For the entire beam below
a) obtain the internal shear \( V(x) \) and bending moment \( M(x) \)
b) draw the shear and bending moment diagrams
2) Under cruising conditions the distributed load acting on the wing of a small airplane has the idealized variation illustrated below.

Below is a simplified version of the wing loading

a) determine the reactions at the inboard end of the wing
b) obtain an expression for shear force $V(x)$ for the entire wing

c) obtain an expression for bending moment $M(x)$ for the entire wing
d) draw the shear and bending moment diagrams