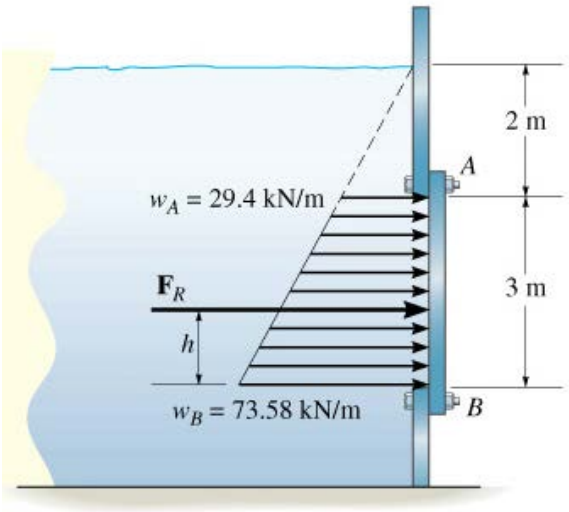
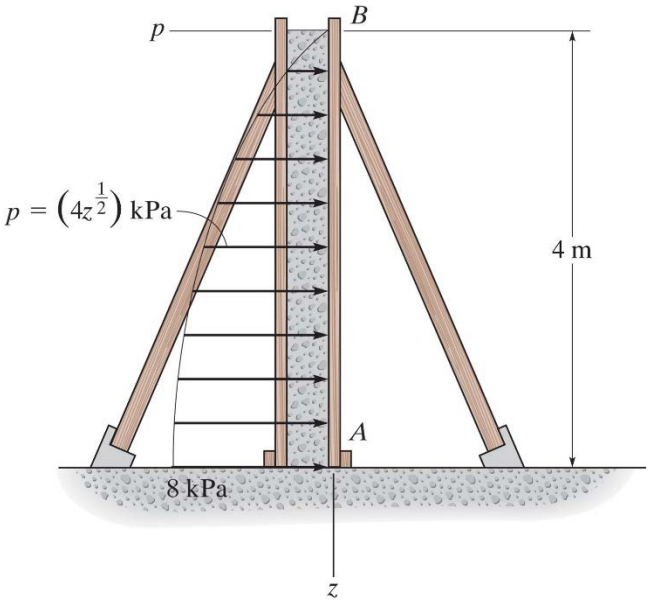
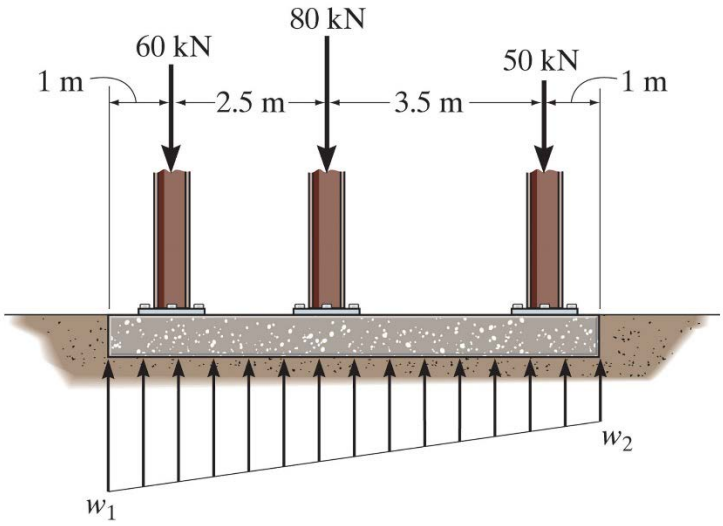
Replace the loading with an equivalent system, i.e., find F_R and h.



The form is used to cast a concrete wall having a width of 5 m. Determine the equivalent resultant force the wet concrete exerts on the form *AB* if the pressure distribution due to the concrete can be approximated as shown. Specify the location of the resultant force, measured from point *B*.



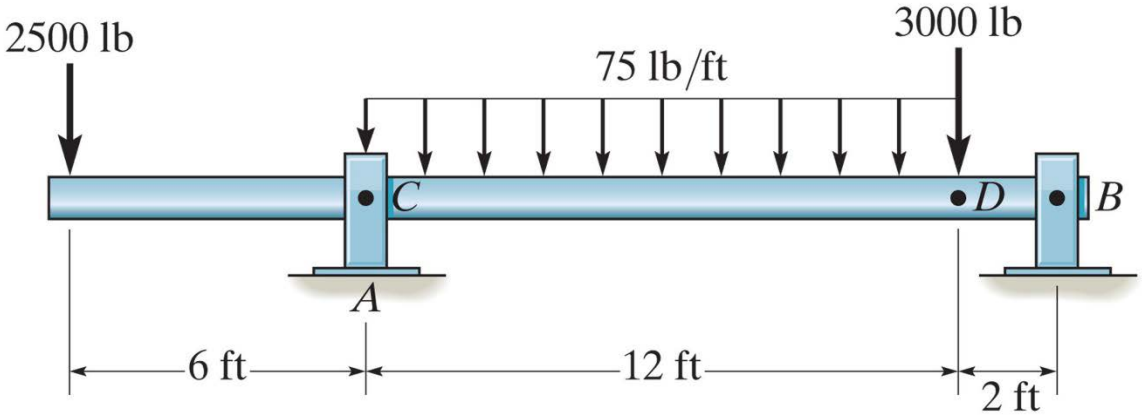
If the soil exerts a trapezoidal distribution of load on the bottom of the footing, determine the intensities w_1 and w_2 of this distribution needed to support the column loadings.



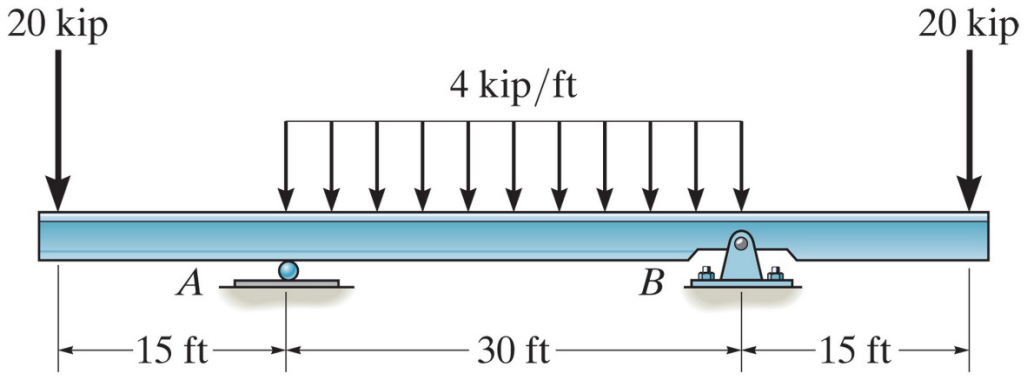
The shaft is supported by a journal bearing at *A* and a thrust bearing at *B*. Determine the normal force, shear force, and moment at a section passing through

a) point *C*, which is just to the right of the bearing at *A*

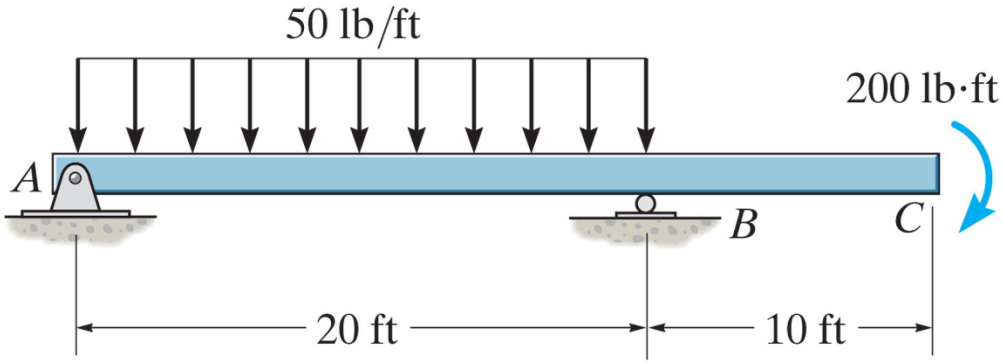
b) point *D*, which is just to the left of the 3000-lb force.



Draw the shear and moment diagrams for the beam.



Draw the shear and bending-moment diagrams for the beam, using the relations between distributed load, shear and bending moment.



Draw the shear and moment diagrams for the beam, using the relations between distributed load, shear and bending moment.