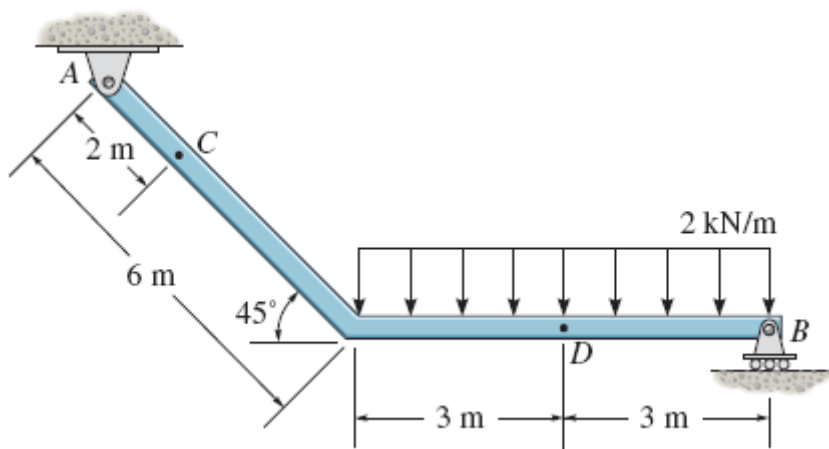


CHAPTER VII- INTERNAL FORCES-SHEAR FORCE AND BENDING MOMENT DIAGRAMS

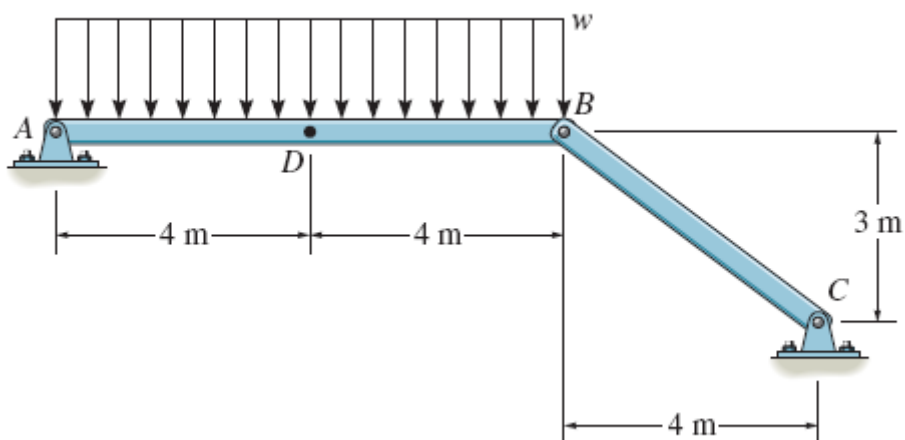
1- Determine the internal normal force, shear force, and the moment at points *C* and *D*.

($V_C = 2.49 \text{ kN}$, $N_C = 2.49 \text{ kN}$, $M_C = 4.97 \text{ kN m}$, $V_D = -2.49 \text{ kN}$, $M_D = 16.5 \text{ kN m}$)

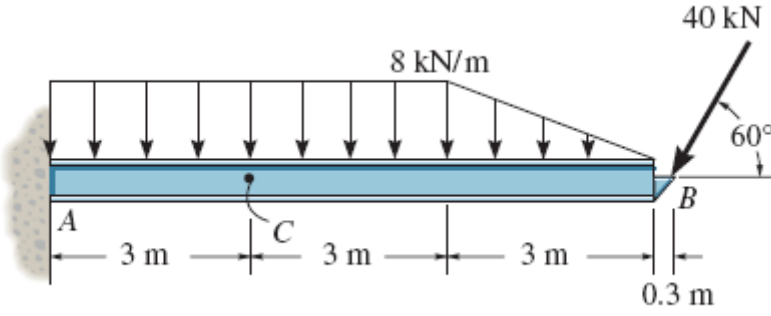


2- Determine the normal force, shear force, and moment at a section passing through point *D*. Take $w = 150 \text{ N/m}$.

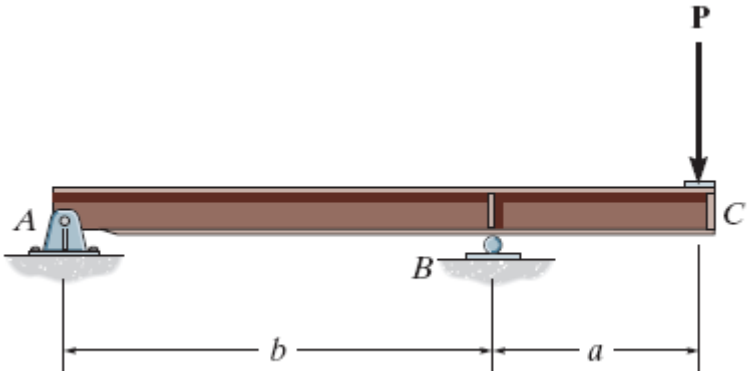
($M_D = 1200 \text{ N m}$, $N_D = -800 \text{ N}$, $V_D = 0$)



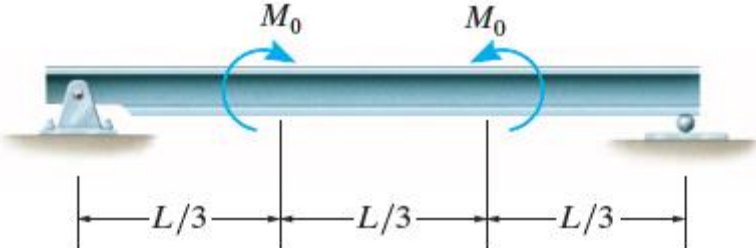
3- Determine the internal normal force, shear force, and bending moment at point *C*.
 (NC = -20.0 kN, VC = 70.6 kN, MC = -302 kN m)



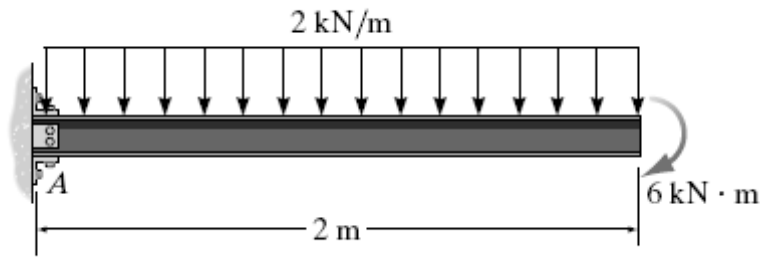
4- Draw the shear and moment diagrams for the overhang beam.



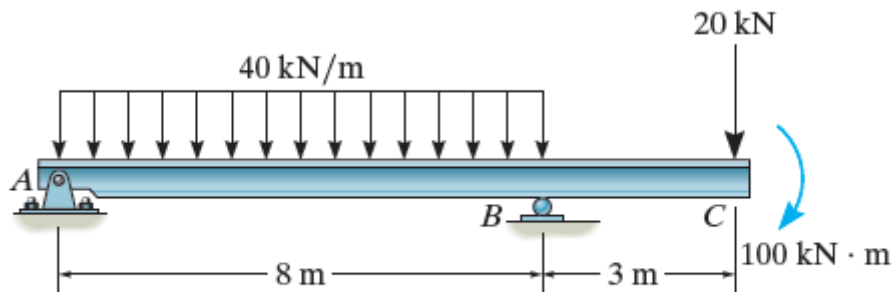
5- Draw the shear and moment diagrams for the beam (a) in terms of the parameters shown; (b) set $M_0 = 500 \text{ N.m}$, $L = 8 \text{ m}$.



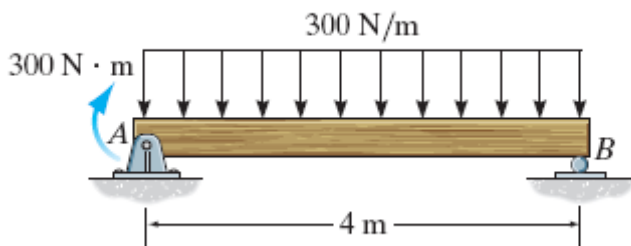
6- Draw the shear and moment diagrams for the cantilever beam.



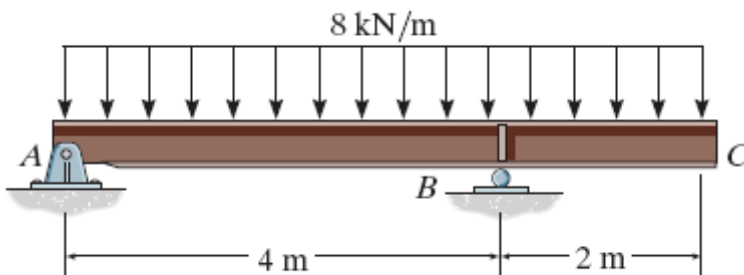
7- Draw the shear and moment diagrams for the beam.



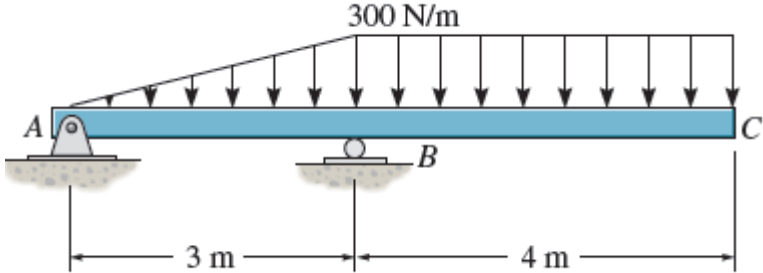
8- Draw the shear and moment diagrams for the simply supported beam.



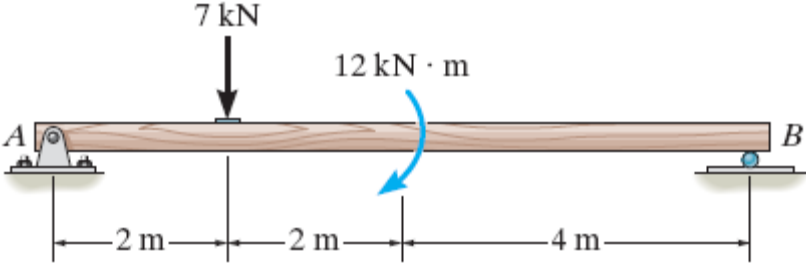
9- Draw the shear and moment diagrams for the overhang beam.



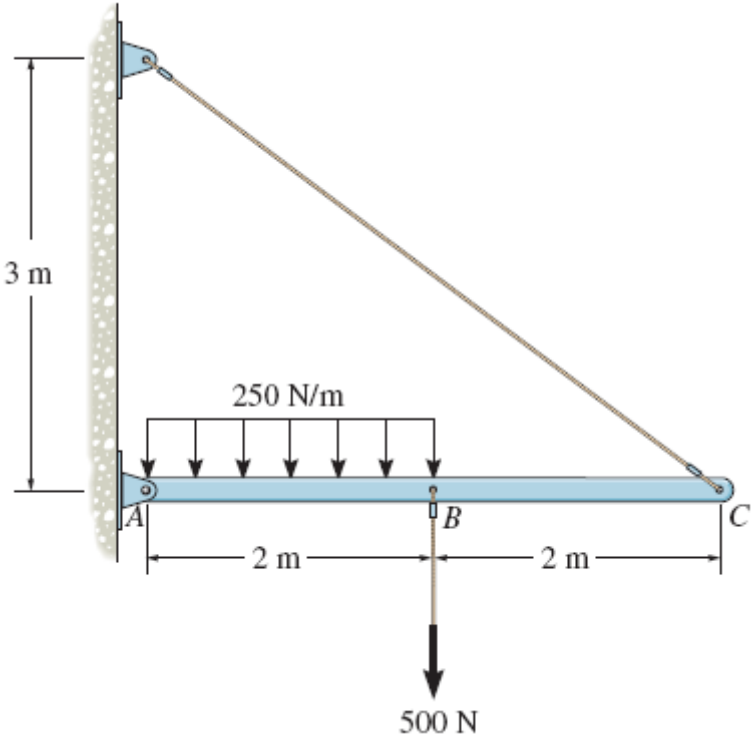
10- Draw the shear and bending-moment diagrams for the beam.



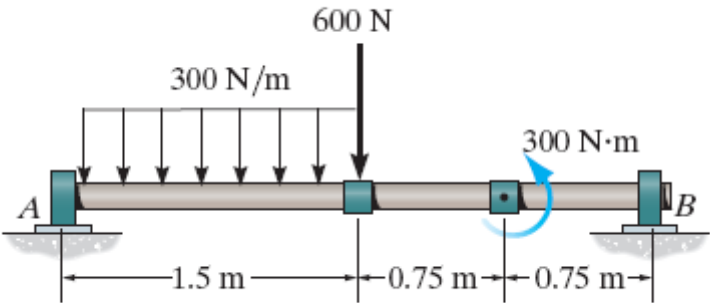
11- Draw the shear and moment diagrams for the beam.



12- Draw the shear and moment diagrams for the beam.



13- The shaft is supported by a thrust bearing at *A* and a journal bearing at *B*. Draw the shear and moment diagrams for the shaft.



14- Draw the shear and moment diagrams for the overhang beam.

