

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَالْحَمْدُ لِلَّهِ الْمَلِكِ الْحَمِيدِ



IMAM KHOMEINI  
INTERNATIONAL UNIVERSITY

دانشگاه بین المللی امام خمینی (ره)

دانشکده فنی و مهندسی

**Title:** Forces in Beams and Cables (Chapter 7)

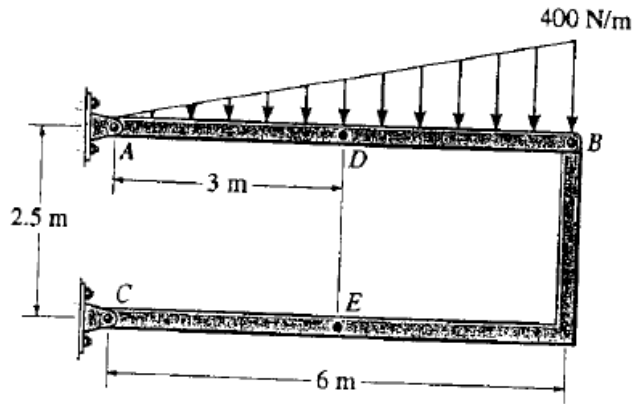
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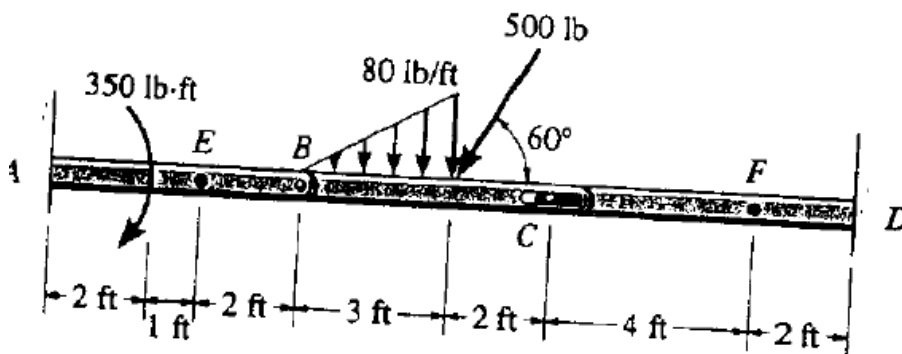
1-

**7-14.** Determine the normal force, shear force, and moment at a section passing through point *D* of the two-member frame.



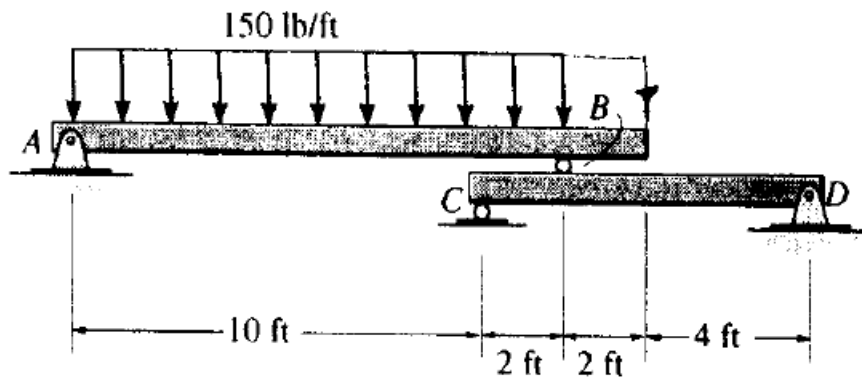
2-

**\*7-28.** Determine the normal force, shear force, and moment at sections passing through points *E* and *F*. Member *BC* is pinned at *B* and there is a smooth slot in it at *C*. The pin at *C* is fixed to member *CD*.



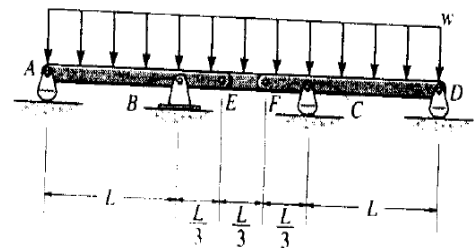
3-

**7-53.** Draw the shear and bending-moment diagrams for each of the two segments of the compound beam.



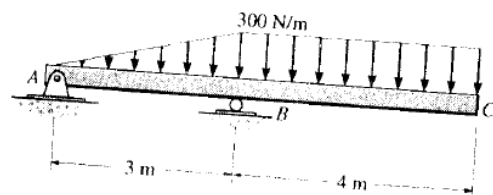
4-

**7-55.** Draw the shear and moment diagrams for the compound beam. The beam is pin-connected at E and F.

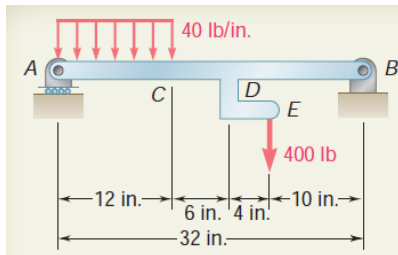


5-

**\*7-60.** Draw the shear and bending-moment diagrams for the beam.



6-

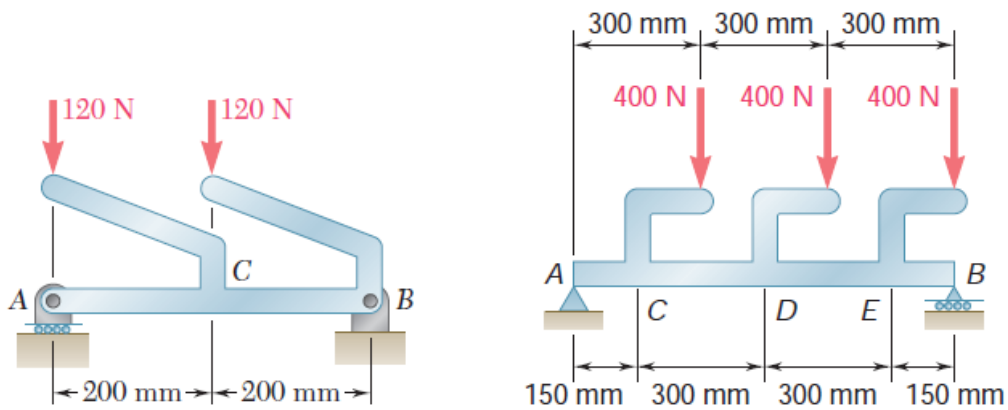


### SAMPLE PROBLEM 7.3

Draw the shear and bending-moment diagrams for the beam  $AB$ . The distributed load of 40 lb/in. extends over 12 in. of the beam, from  $A$  to  $C$ , and the 400-lb load is applied at  $E$ .

7/8-

**7.49 and 7.50** Draw the shear and bending-moment diagrams for the beam  $AB$ , and determine the maximum absolute values of the shear and bending moment.



9-

**7.88** For the beam and loading shown, (a) write the equations of the shear and bending-moment curves, (b) determine the maximum bending moment.

