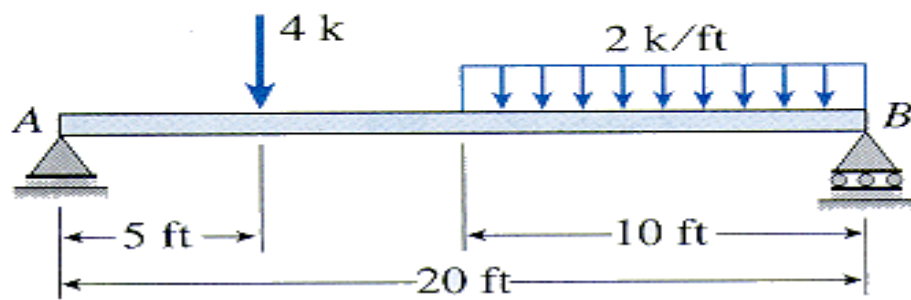
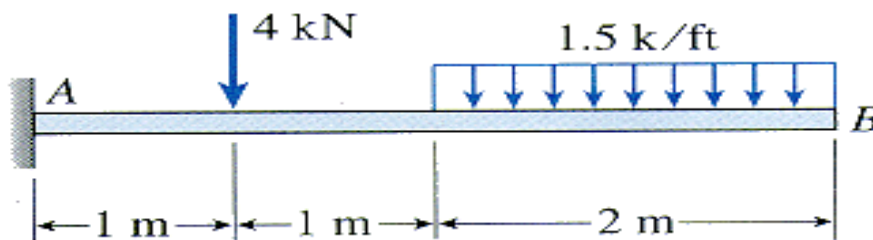


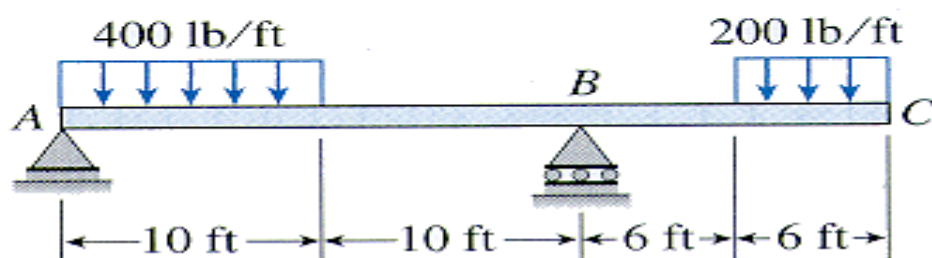
Determine the shear force V and bending moment M at the midpoint of the simple beam AB shown in the figure.



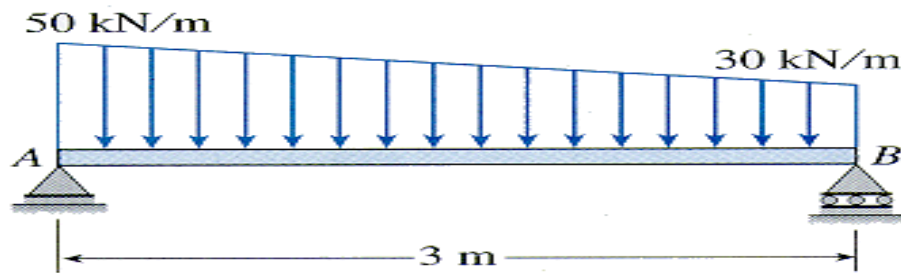
Calculate the shear force V and bending moment M at a cross section located 0.5 m from the fixed support A of the cantilever beam AB shown in the figure.



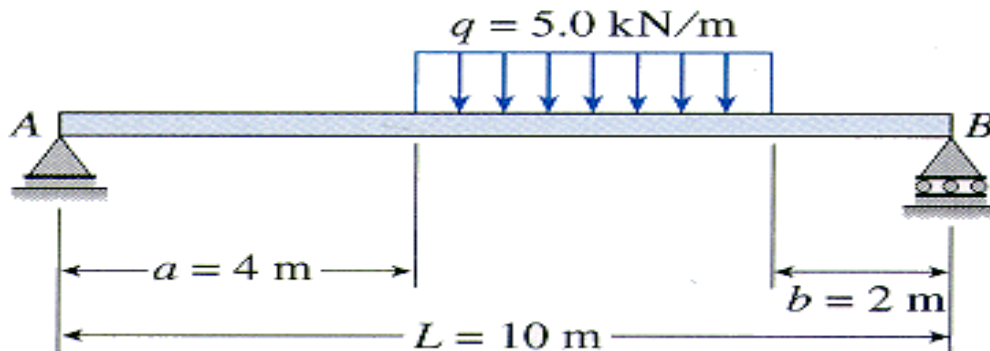
Find the shear force V and bending moment M at a section located 16 ft from the left-hand end A of the beam with an overhang shown in the figure.



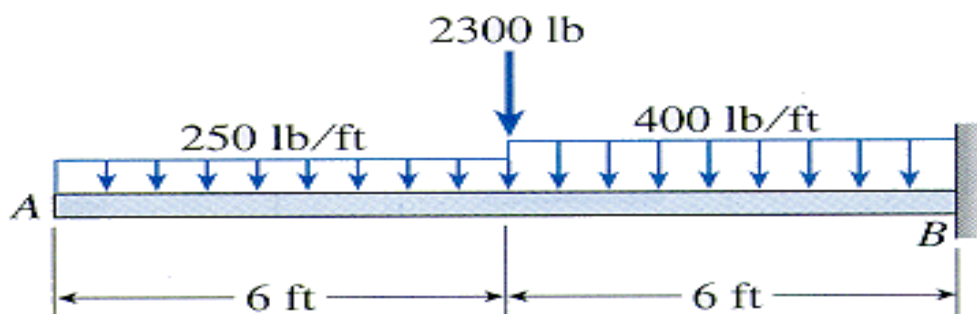
A simply supported beam AB supports a trapezoidally distributed load (see figure). The intensity of the load varies linearly from 50 kN/m at support A to 30 kN/m at support B . Calculate the shear force V and bending moment M at the midpoint of the beam.



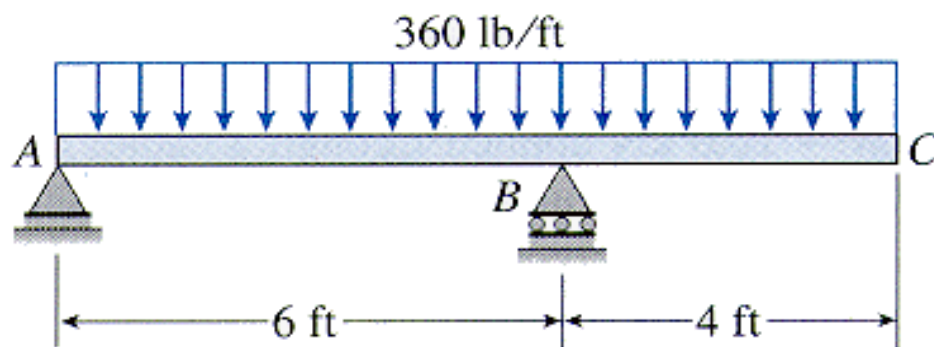
A simple beam AB supports a uniform load of intensity $q = 5.0 \text{ kN/m}$ over a portion of the span (see figure). Assuming that $L = 10 \text{ m}$, $a = 4 \text{ m}$, and $b = 2 \text{ m}$, draw the shear-force and bending-moment diagrams for this beam.



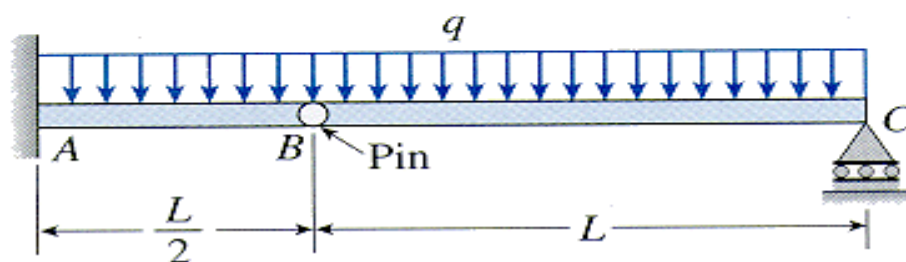
Construct the shear-force and bending-moment diagrams for the beams shown in the figures.



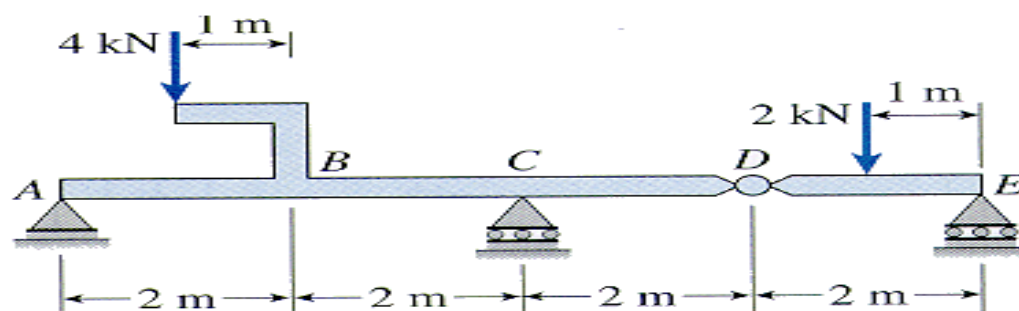
Construct the shear-force and bending-moment diagrams for the beams shown in the figures.



The beam ABC shown in the figure consists of a cantilever segment AB attached to a simple span BC by a pin at B . The pin can transmit a shear force but not a bending moment. Draw the shear-force and bending-moment diagrams for the entire beam.



The beam $ABCDE$ shown in the figure has simple supports at A , C , and E and a hinge (or pin) at D . A load of 4 kN acts at the end of the bracket that is attached to the beam at B , and a load of 2 kN acts at the midpoint of segment DE . Draw the shear-force and bending-moment diagrams for the beam. (Note that the pin at D can transmit a shear force but not a bending moment.)



Draw the shear and moment diagrams for the beam, and determine the shear and moment throughout the beam as functions of x .

