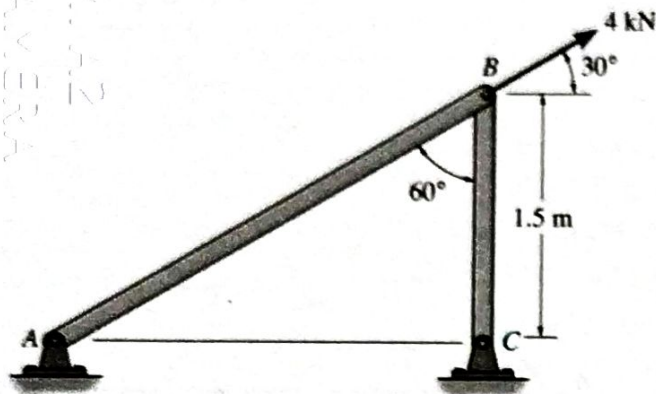


PROBLEMS

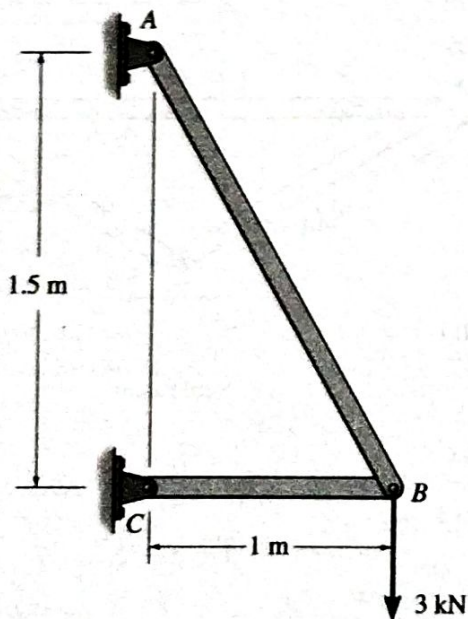
14-71. Determine the horizontal displacement of joint B on the two-member frame. Each A-36 steel member has a cross-sectional area of 1250 mm^2 . $E = 200 \text{ GPa}$.



Prob. 14-71

***14-72.** Determine the horizontal displacement of joint B . Each A-36 steel member has a cross-sectional area of 1250 mm^2 . $E = 200 \text{ GPa}$.

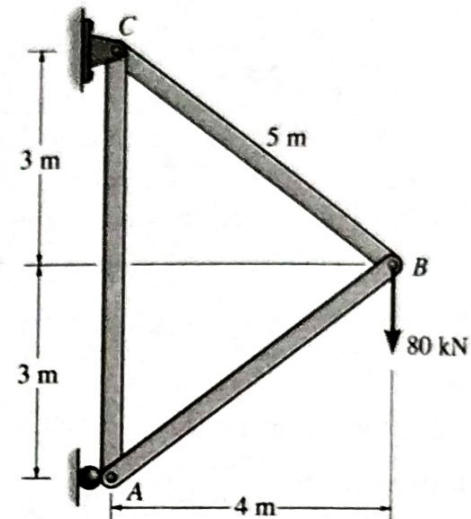
14-73. Determine the vertical displacement of joint B . Each A-36 steel member has a cross-sectional area of 1250 mm^2 . $E = 200 \text{ GPa}$.



Probs. 14-72/73

14-74. Determine the vertical displacement of joint B of the truss. Each A-36 steel member has a cross-sectional area of 300 mm^2 . $E = 200 \text{ GPa}$.

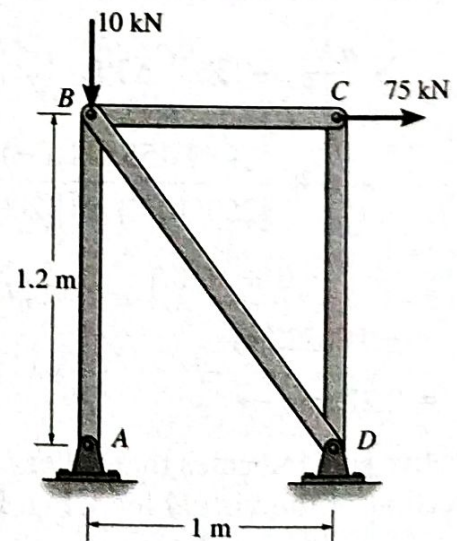
14-75. Determine the horizontal displacement of joint B of the truss. Each A-36 steel member has a cross-sectional area of 300 mm^2 . $E = 200 \text{ GPa}$.



Probs. 14-74/75

***14-76.** Determine the horizontal displacement of joint C on the truss. Each A-36 steel member has a cross-sectional area of 2000 mm^2 . $E = 200 \text{ GPa}$.

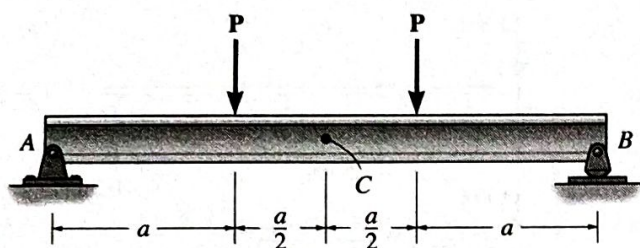
14-77. Determine the horizontal displacement of joint B on the truss. Each A-36 steel member has a cross-sectional area of 2000 mm^2 . $E = 200 \text{ GPa}$.



Probs. 14-76/77

PROBLEMS

14-87. Determine the displacement at point C . EI is constant.

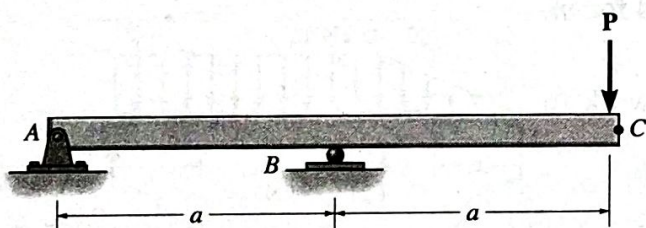


Prob. 14-87

***14-88.** Determine the displacement at point C . EI is constant.

14-89. Determine the slope at point C . EI is constant.

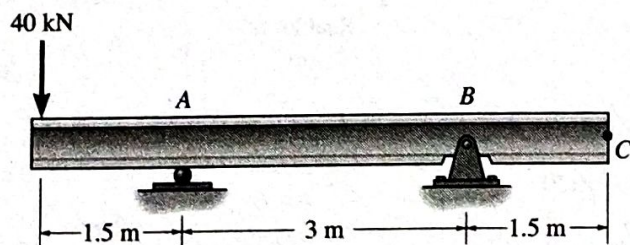
14-90. Determine the slope at point A . EI is constant.



Probs. 14-88/89/90

14-91. Determine the displacement of point C of the beam made from A-36 steel and having a moment of inertia of $I = 21(10^6) \text{ mm}^4$. $E = 200 \text{ GPa}$.

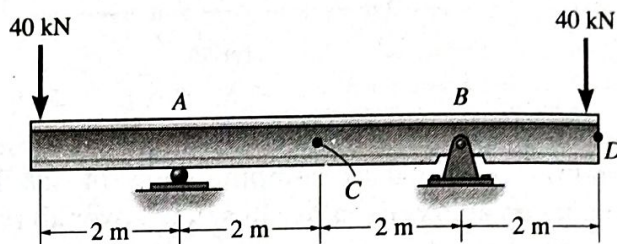
***14-92.** Determine the slope at B of the beam made from A-36 steel and having a moment of inertia of $I = 21(10^6) \text{ mm}^4$. $E = 200 \text{ GPa}$.



Probs. 14-91/92

14-93. Determine the displacement of point C of the W360 \times 39 beam made from A-36 steel. $E = 210 \text{ GPa}$.

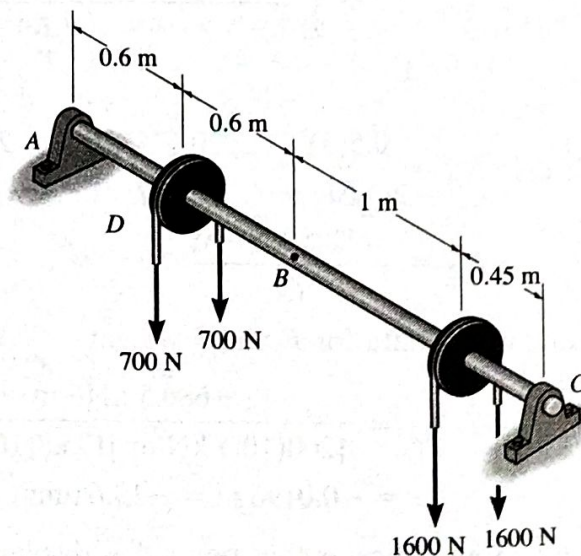
14-94. Determine the slope at A of the W360 \times 39 beam made from A-36 steel. $E = 210 \text{ GPa}$.



Probs. 14-93/94

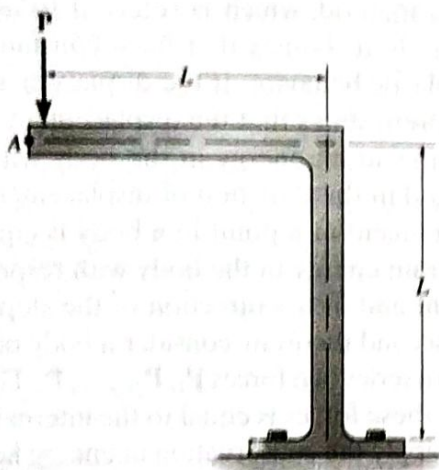
14-95. Determine the displacement at B of the 30-mm-diameter A-36 steel shaft. $E = 200 \text{ GPa}$.

***14-96.** Determine the slope of the 30-mm-diameter A-36 steel shaft at the bearing support A . $E = 200 \text{ GPa}$.



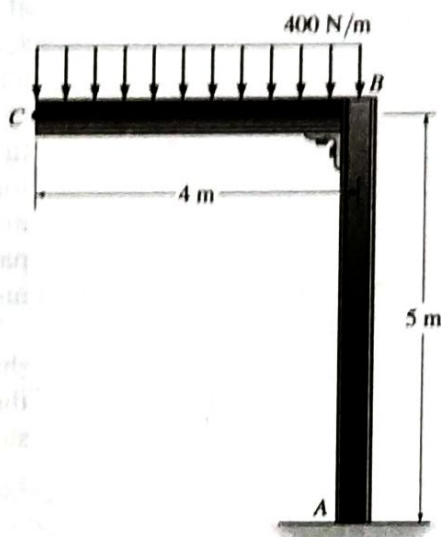
Probs. 14-95/96

***14-112.** Determine the vertical displacement of point A on the angle bracket due to the concentrated force P . The bracket is fixed connected to its support. EI is constant. Consider only the effect of bending.



Prob. 14-112

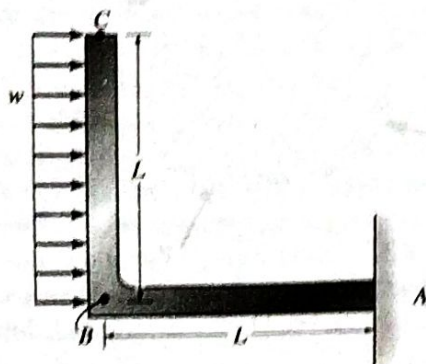
14-115. Determine the horizontal and vertical displacements of point C . There is a fixed support at A . EI is constant.



Prob. 14-115

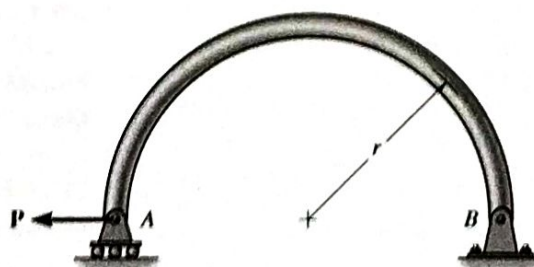
14-113. The L-shaped frame is made from two segments, each of length L and flexural stiffness EI . If it is subjected to the uniform distributed load, determine the horizontal displacement of the end C .

14-114. The L-shaped frame is made from two segments, each of length L and flexural stiffness EI . If it is subjected to the uniform distributed load, determine the vertical displacement of point B .



Probs. 14-113/114

***14-116.** The semi-circular rod has a cross-sectional area A and modulus of elasticity E . Determine the horizontal deflection at the roller due to the loading.



Prob. 14-116