9-7

Determine the size steel rod, to the nearest sixteenth of an inch, needed to support a tensile load of 40 kips if the allowable tensile stress of steel is 22 ksi.

Solution.

9-11

A 600-lb weight W is supported as shown in Fig. p9-11. Determine the normal stresses in cable BC and rod AB if their cross-sectional areas are 0.025 $in.^2$ and 0.5 $in.^2$, respectively.

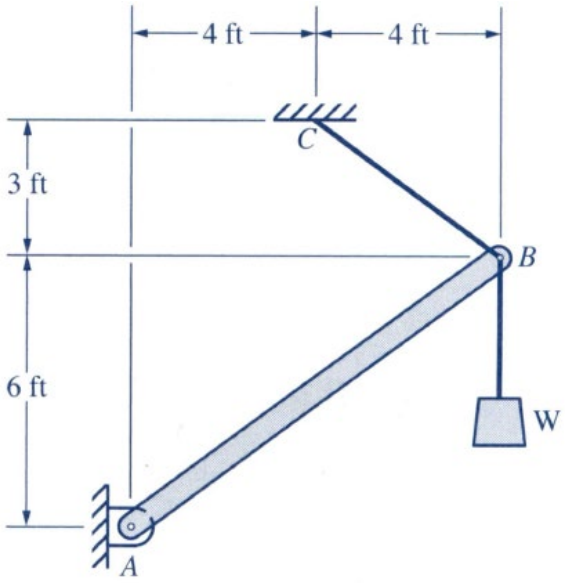


FIGURE P9–11

Solution.

9-12

Refer to Fig. P9-11. Determine the cross-sectional area required for rod AB to support a weight of W = 1000 lb if the allowable compressive stress for the member is 1200 psi.

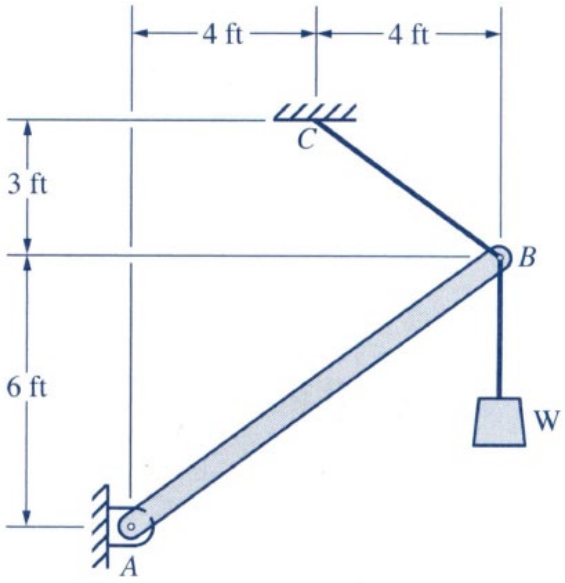
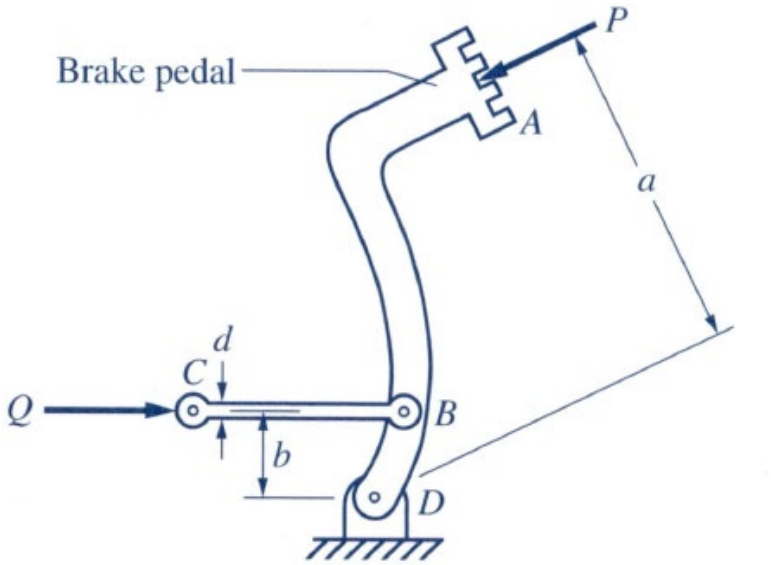


FIGURE P9–11

Solution.

9-14

The force applied to the brake pedal of a car is transmitted by lever AD and connecting rod BC, as shown in Fig. P9-14. If P = 20 lb, a = 10 in., b = 2 in. and d = ¼ in., determine the normal stress in rod BC.



Solution.