

NOTE: Only problems 3.23 and 3.80 will be marked.

Problem 1 (Problem 3.5)

A 150-N force acts on the end of the 1-m lever as shown. Determine the moment of the force around O .

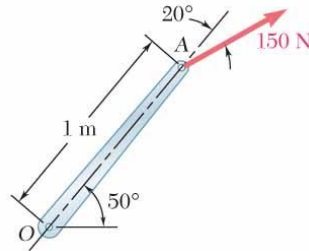


Fig. 1

Problem 2 (Problem 3.23)

The 6-m boom AB has a fixed end A . A steel cable is stretched from the free end B of the boom to a point C located on the vertical wall. If the tension in the cable is 2.5 kN, determine the moment about A of the force exerted by the cable at B .

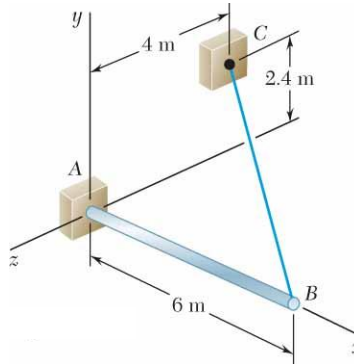


Fig. 2

Problem 3 (Problem 3.40)

Knowing that the tension in cable AC is 1.26 kN, determine:

- (a) the angle between cable AC and the boom AB ,
- (b) the projection on AB of the force exerted by cable AC at point A .

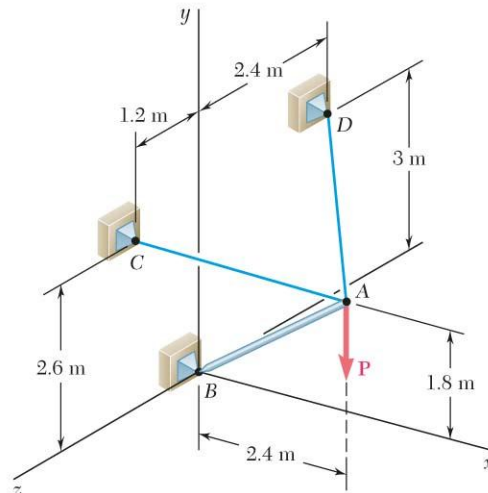


Fig. 3

Problem 4 (Problem 3.80)

The tension in the cable attached to the end C of an adjustable boom ABC is 2240 N. Replace the force exerted by the cable at C with an equivalent force-couple system:

- (a) at A ,
- (b) at B .

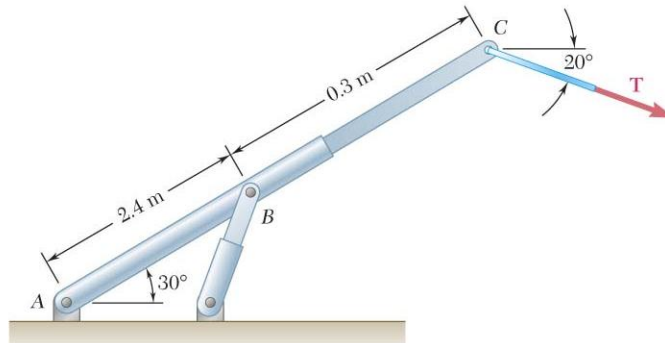


Fig. 4