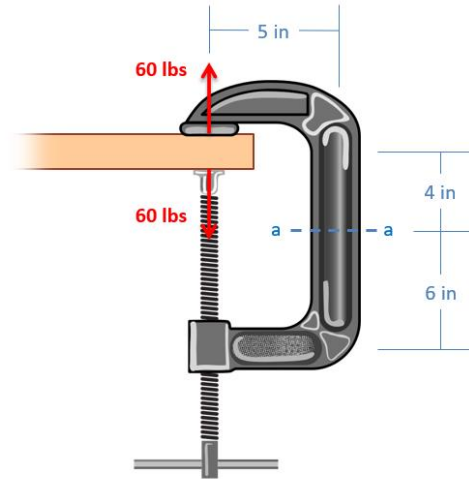


## Chapter 6 Homework Problems

### Problem 6.1

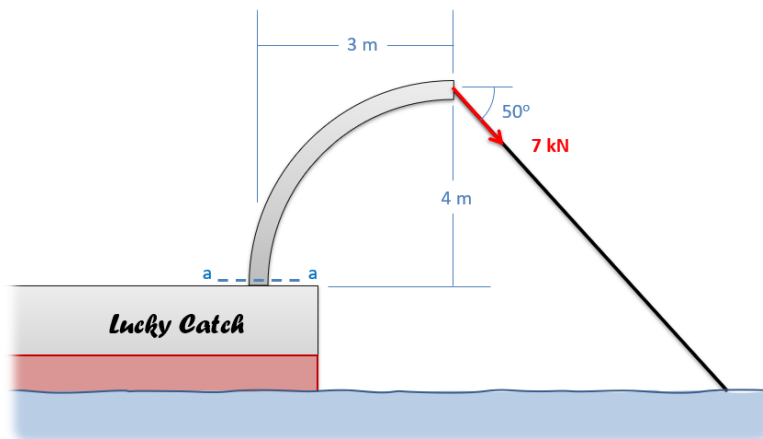
Determine the internal forces and moments at cross section a-a in the C-clamp shown below. Assume the weight of the clamp itself is negligible. Show the final solution in a diagram.



(Solution:  $N = 60 \text{ lbs T}$ ,  $V = 0$ ,  $M = 300 \text{ in-lbs}$ ) drawn in diagram

### Problem 6.2

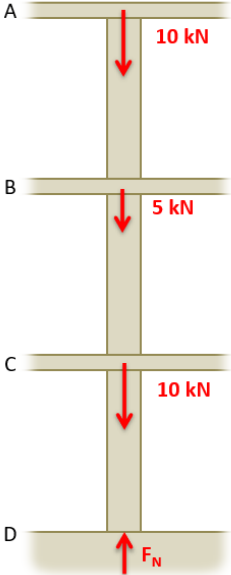
A curved post on the back of a fishing trawler is used to pull in a full catch of fish. If there is a 7 kN tension in the line, what are the expected internal forces and moments at the base of the post (cross section a-a)? Show the final solution in a diagram.



(Solution:  $N = 5.36 \text{ kN C}$ ,  $V = 4.50 \text{ kN}$ ,  $M = 34.08 \text{ kNm}$ ) drawn in diagram

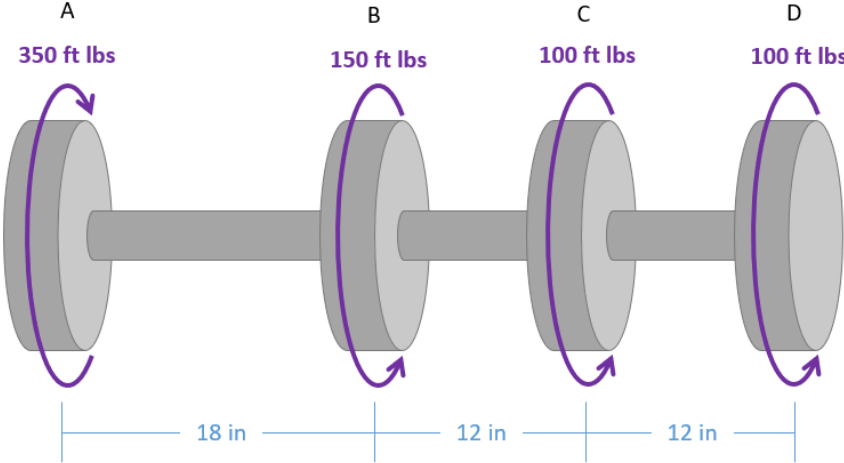
Problem 6.3

Draw the Axial Force Diagram for the column shown below.



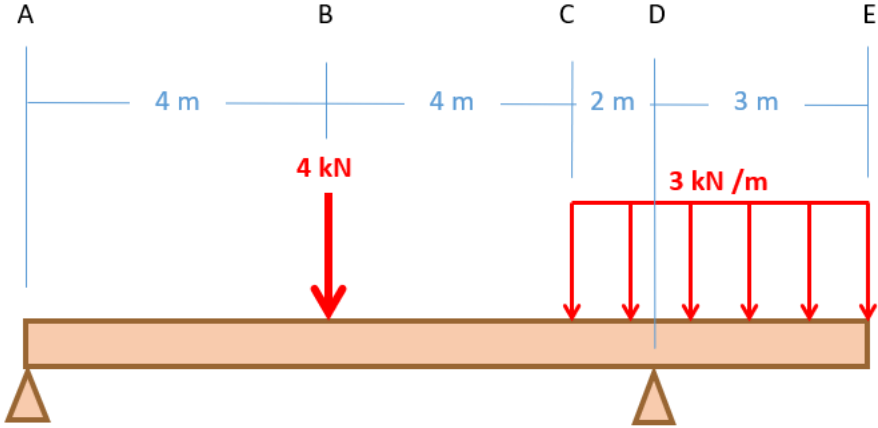
Problem 6.4

Draw the Torsion Diagram for the shaft shown below.



Problem 6.5

Draw the shear diagram and the moment diagram for the beam shown below.



Problem 6.6

Draw the shear diagram and the moment diagram for the beam shown below.

