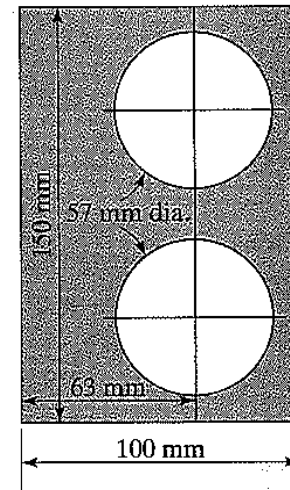


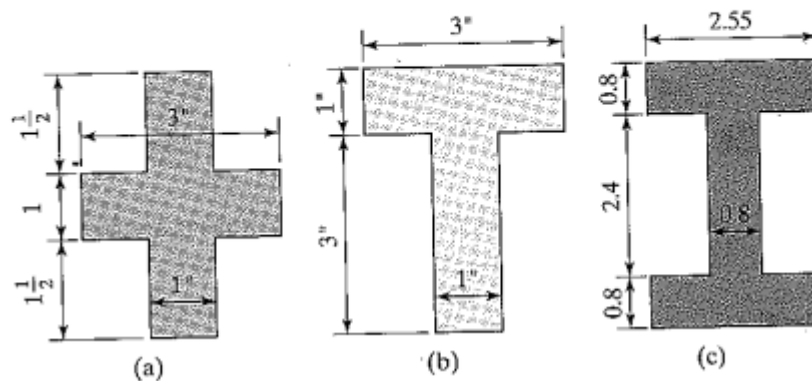
MET 301: Homework#2

1. Find the value of the moment of inertia about the left edge in Fig.
Ans. $I = 28,708,000 \text{ mm}^4$.



2. A steel saw blade 1.25 mm thick is bent into an arc of a circle of 600 mm radius. Find the bending stress.
Ans. $\sigma = 215 \text{ MPa}$.

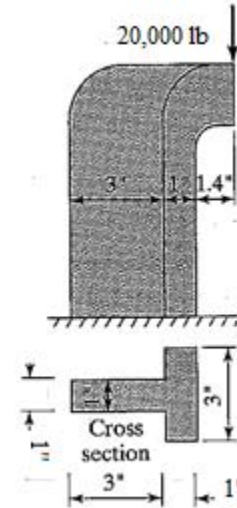
3. Three beams have the equal cross-sectional areas shown in Fig. 1-118. Find the stress in each beam for a bending moment of 30,000 in. lb.
Ans. (b) $\sigma = 8820 \text{ psi}$.



MET 301: Homework#2

4. Find the values and plot the distribution of stress over the cross section of the upright. Locate the point of zero stress.

Ans. $\sigma_t = 13,720$ psi



5. The inclined load shown in view $M-M$, Fig. 1-91, is applied to the pin at the end of the beam. Resolve load into horizontal and vertical components and find the bending stress due to each. Add algebraically to get stress at points A , B , C , and D .

Ans. At A , $\sigma = 1562.5$ psi.

