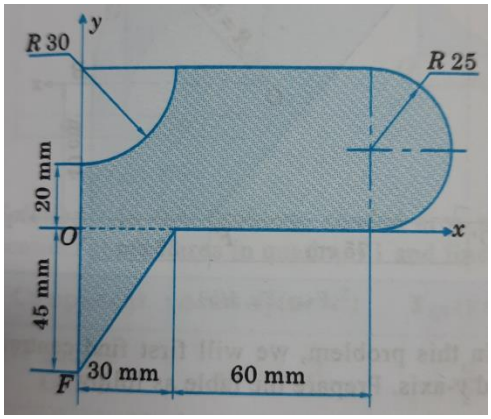
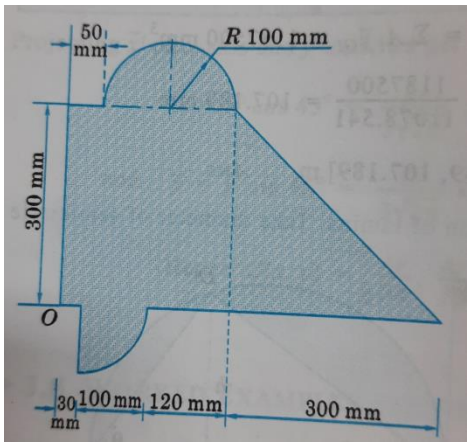
Class work problems on Centroid of wires, laminas & solids – 2022

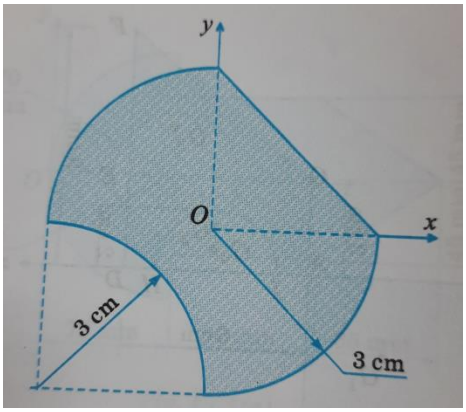
1. Find the centroid of the shaded plane area shown in fig.



2. Find the centroid for the shaded area as shown in fig.



3. Find the centroid of the shaded plane area shown in fig.



4. Locate the centroid of the 10 mm diameter bar ; bent in xy – plane as shown in fig.

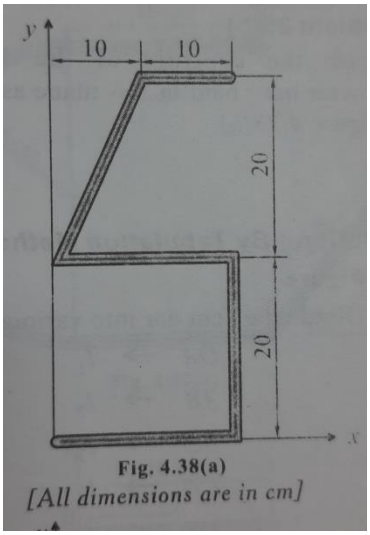


Fig. 4.38(a)

[All dimensions are in cm]

5. A uniform wire is bent into a shape as shown in fig. Calculate position of C.G. of the wire

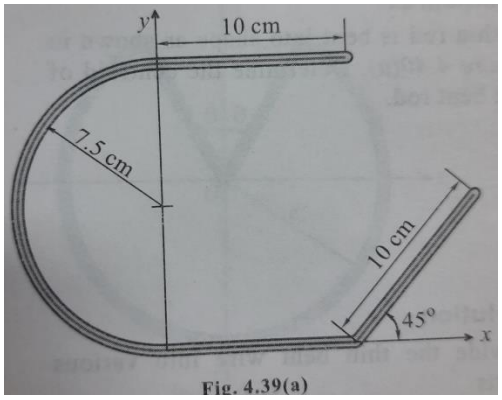
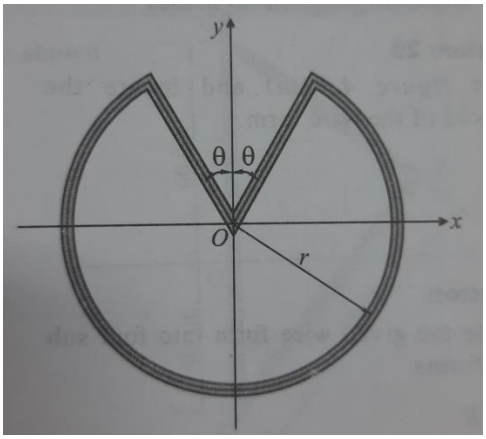
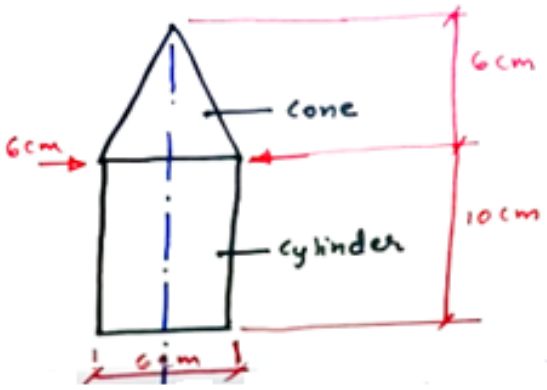


Fig. 4.39(a)

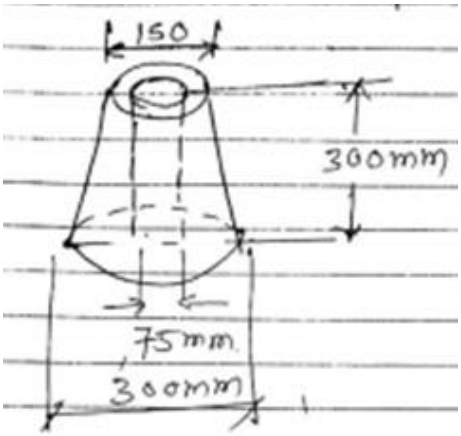
6. A thin homogeneous wire of uniform section is built into a shape as shown in fig. Determine the position of C.G. of the wire. [$\theta = 30^0$]



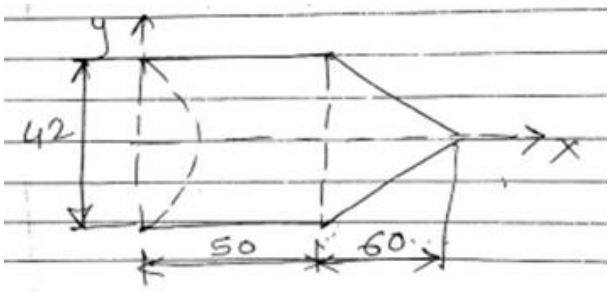
7. A solid cone having base diameter 6 cm and height 6 cm is kept co-axially on a solid cylinder having 6 cm diameter and 10 cm high. Find C.G. of the combination



8. The frustrum of solid circular cone has an axial hole of 75 mm diameter. Determine C.G. of body



9. A cylinder with hemispherical cavity and a conical cap is shown in fig. find centroid of composite volume.



All dimensions in cm