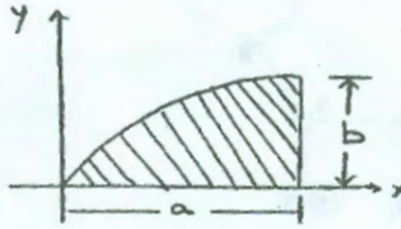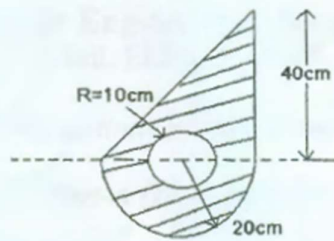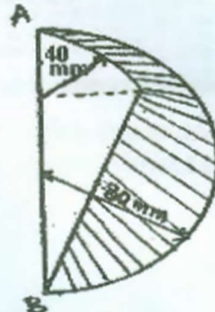a) Locate the centroid of given parabola $y^2 = kx$ bounded by x- axis the line x = a.

Find the moment of inertia of the shaded area about the horizontal centroidal axis as shown in fig

c) Determine the angle that the line AB makes with the vertical when the shaded stem is suspended at A as shown in fig.

a) Calculate the Y-coordinate of centroid of the shaded area shown in Fig.6.

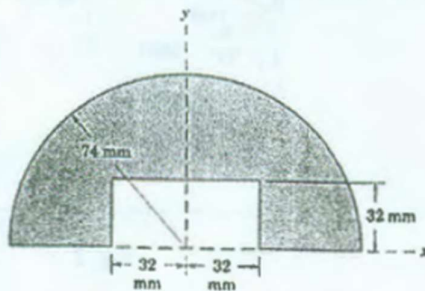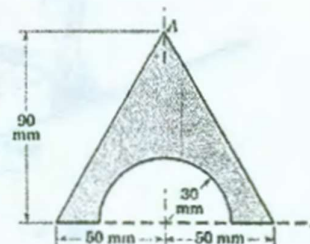b) Find moment of inertia of shaded area shown in Fig.7 about X-axis.

Fig. 6

Fig. 7