Tutorial -3 ME-101, (2019-2020 Semester-II)
07 Feb 2020. Time: 7-55 to 8-50.am

1. A thin, homogeneous wire is bent to form the perimeter of the Fig.1 indicated. Locate the center of gravity of the wire figure thus formed.

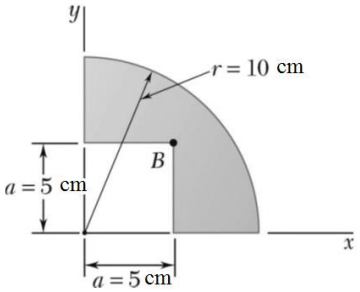

Figure. 1

2. Determine the volume and the surface area of the solid obtained by rotating the area of as shown in Fig. 2 about (*a*) the *x*-axis, (*b*) the *y*-axis.

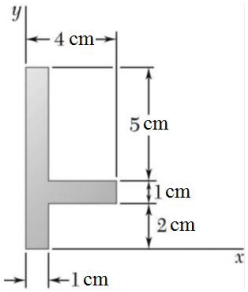

Figure. 2

3. Determine the reaction at the support *A* of the loaded cantilever beam as shown in Fig.3.

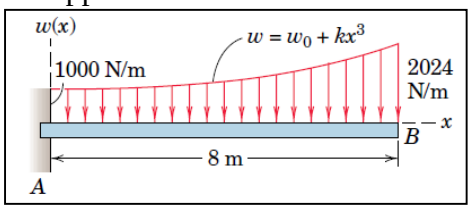

Figure. 3

4. Determine by direct integration the centroid of the area shown in Fig. 4 below.

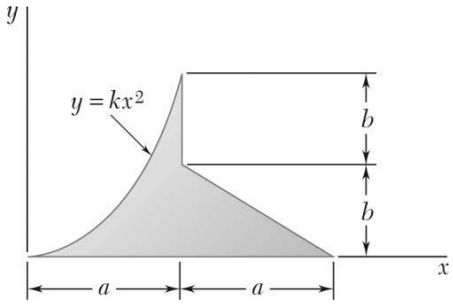

Figure. 4

5. Determine the shear-force and bending-moment diagrams for the cantilever beam shown in Fig.5.

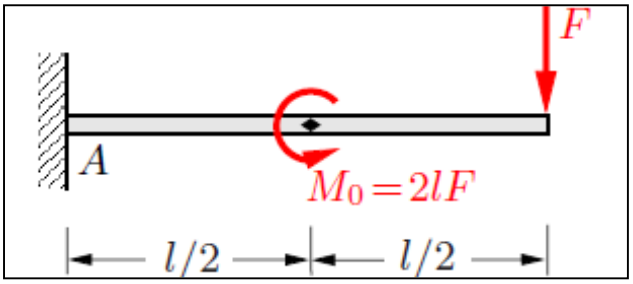

Figure. 5

6. Determine the shear-force and bending-moment diagrams for the beam shown in Fig.6.

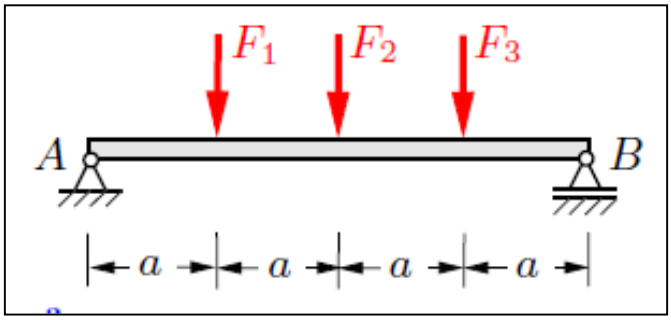

Figure. 6