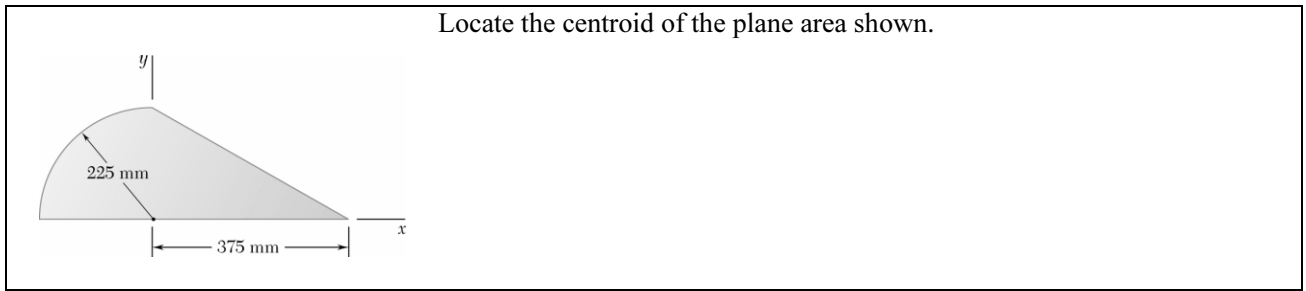
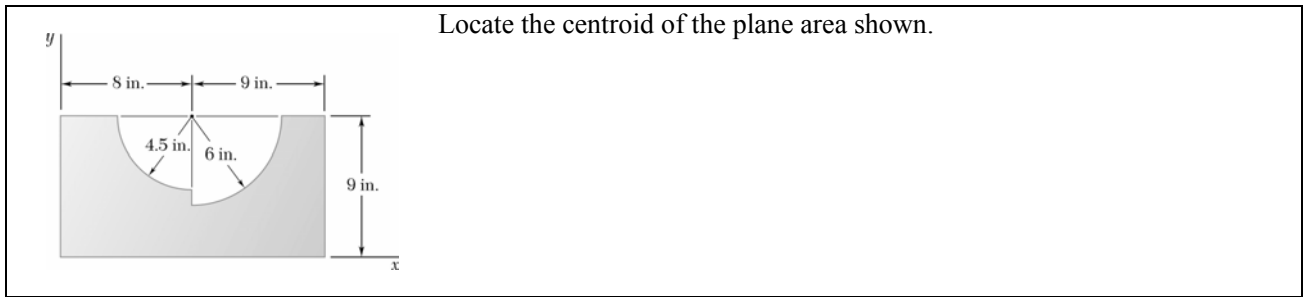
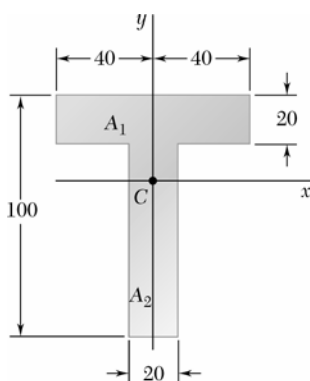


Chapter 5, Problem 5.



Chapter 5, Problem 6.



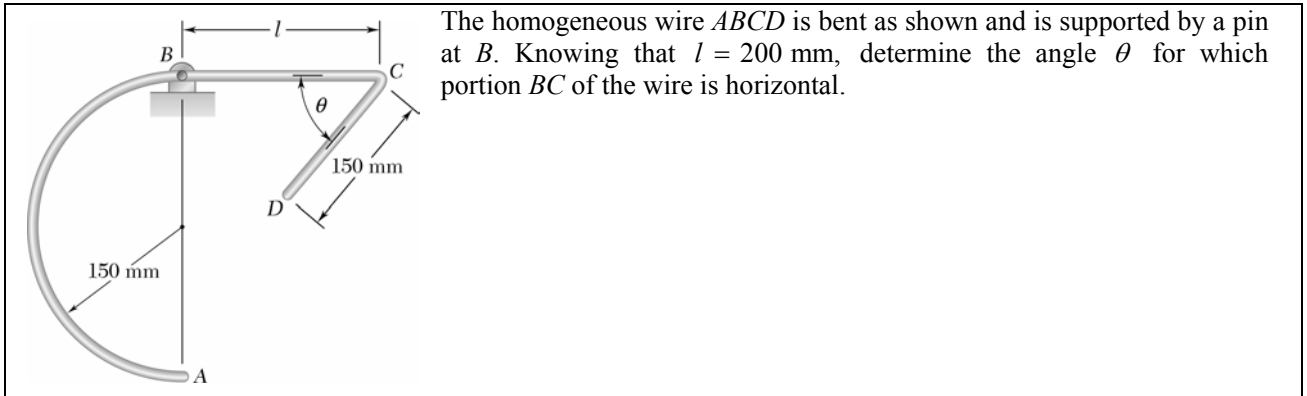
Chapter 5, Problem 18.

The diagram shows a T-shaped area divided into two components, A_1 and A_2 . The horizontal x axis is drawn through the centroid C of the area. The dimensions are as follows:

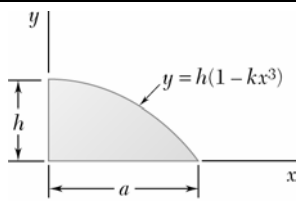
- The top flange (A_1) has a total width of 80 mm, divided into two 40 mm segments by the vertical y axis. Its thickness is 20 mm.
- The vertical stem (A_2) has a width of 20 mm.
- The total height of the stem is 100 mm.
- The centroid C is located at the center of the stem.

Dimensions in mm

The horizontal x axis is drawn through the centroid C of the area shown and divides the area into two component areas A_1 and A_2 . Determine the first moment of each component area with respect to the x axis, and explain the results obtained.

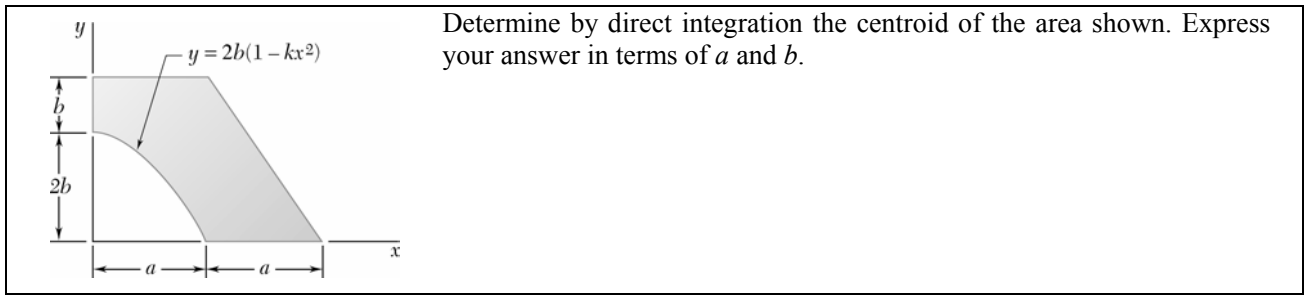
Chapter 5, Problem 26.

The homogeneous wire $ABCD$ is bent as shown and is supported by a pin at B . Knowing that $l = 200\text{ mm}$, determine the angle θ for which portion BC of the wire is horizontal.

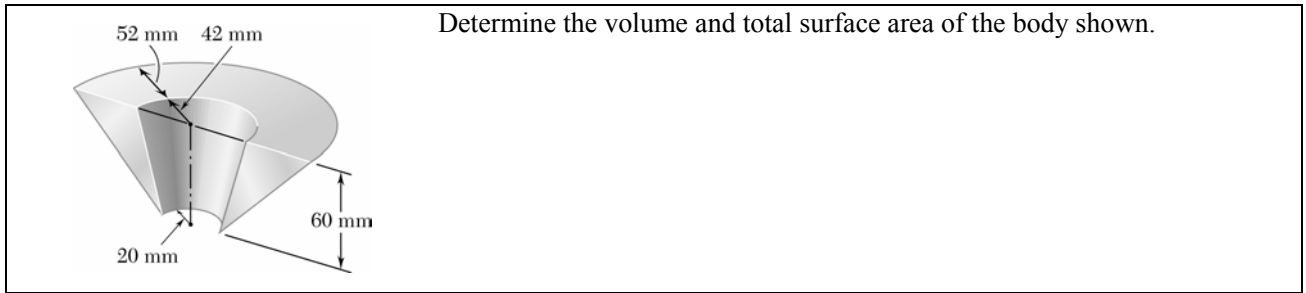
Chapter 5, Problem 32.

Determine by direct integration the centroid of the area shown. Express your answer in terms of a and h .

Chapter 5, Problem 40.



Chapter 5, Problem 55.



continued