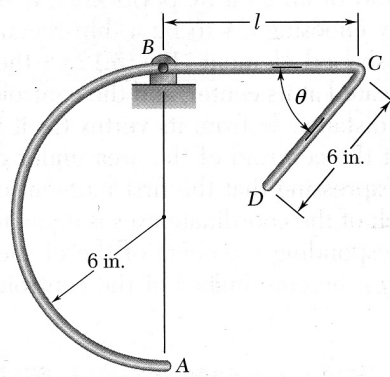
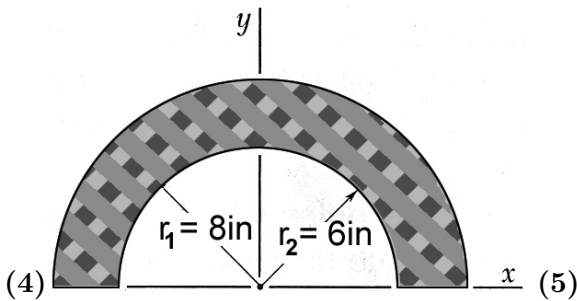
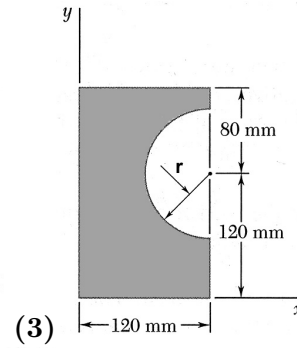
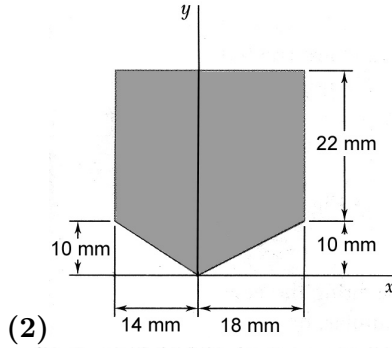
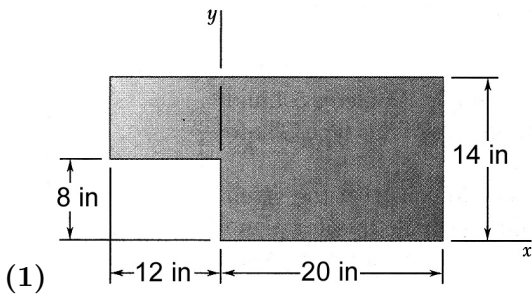
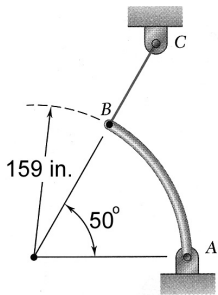


ES201 Problem set #4

(1) - (4) Locate the centroids of the plane areas shown in figures 1-4.



(5) The homogeneous wire ABCD is bent as shown and is supported by a pin at B. Knowing that  $\theta = 20^\circ$ , determine the length  $l$  for which portion CD of the wire is horizontal.



(6) A 167 lb uniform steel bar is bent into a circular arc of radius 159 in. as shown. The rod is supported by a pin at A and the cord BC. Determine (a) the tension in the cord, and (b) the reactions at A.

(7), (8) Locate by direct integration the centroids of the areas shown in figures 7, 8.

