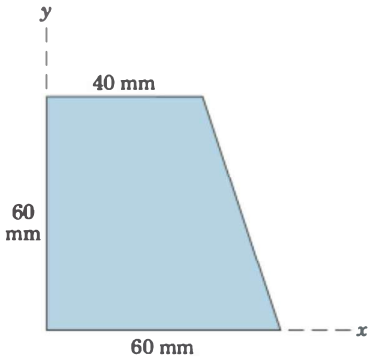
PROBLEMS

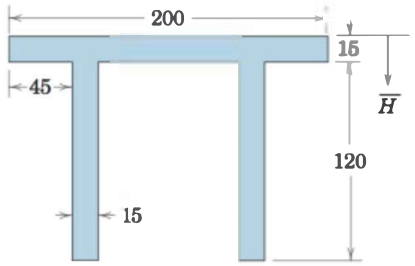
Introductory Problems

5/47 Determine the coordinates of the centroid of the trapezoidal area shown.



Problem 5/47

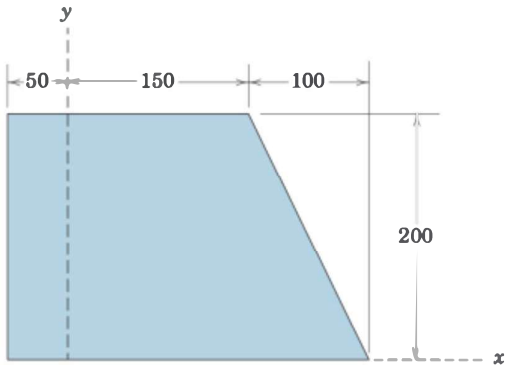
5/48 Determine the distance $\bar{H}$ from the upper surface of the symmetric double-T beam cross section to the location of the centroid.



Dimensions in millimeters

Problem 5/48

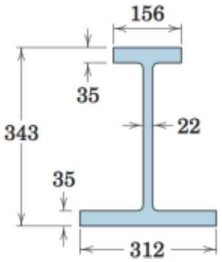
5/49 Determine the x- and y-coordinates of the centroid of the shaded area.



Dimensions in millimeters

Problem 5/49

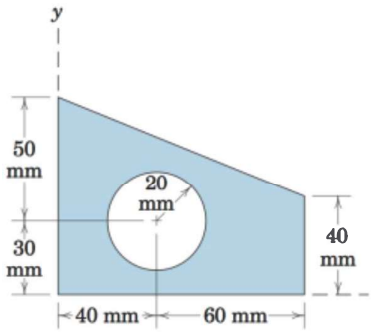
5/50 Determine the height above the base of the centroid of the cross-sectional area of the beam. Neglect the fillets.



Dimensions in millimeters

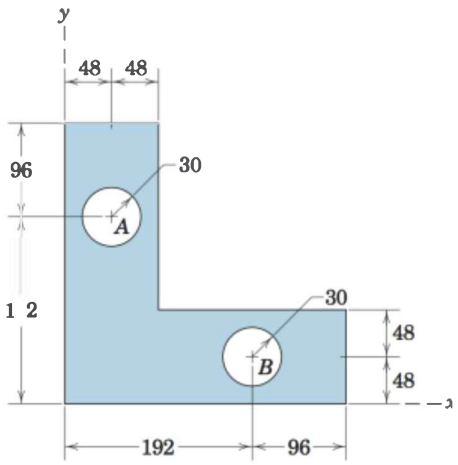
Problem 5/50

5/51 Determine the x- and y-coordinates of the centroid of the shaded area.



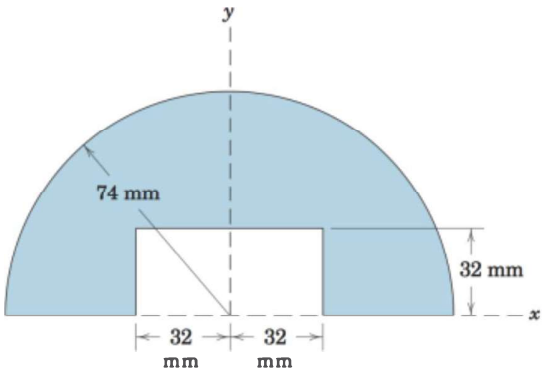
Problem 5/51

5/52 Determine the x- and y-coordinates of the centroid of the shaded area.



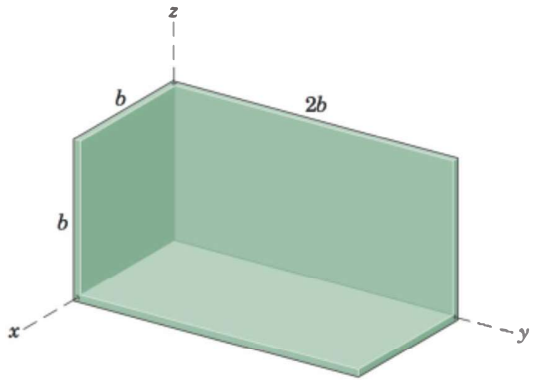
Problem 5/52

5/53 Calculate the y-coordinate of the centroid of the shaded area.



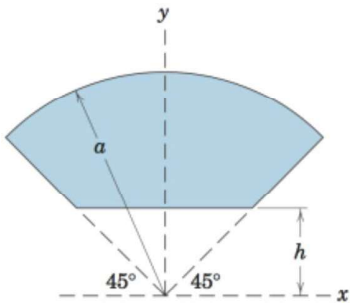
Problem 5/53

5/54 Determine the coordinates of the mass center of the body which is constructed of three pieces of uniform thin plate welded together.



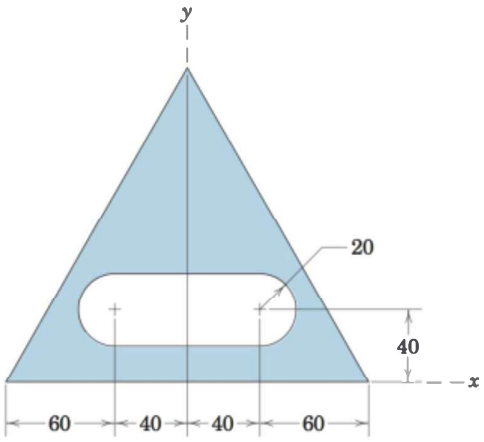
Problem 5/54

5/55 Determine the y-coordinate of the centroid of the shaded area.



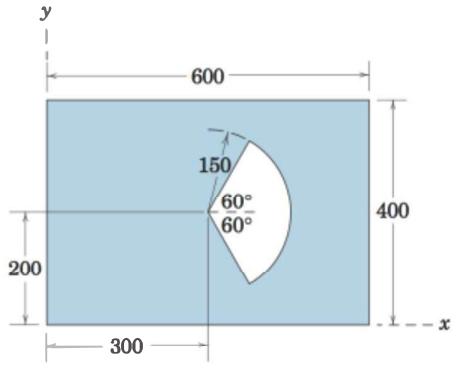
Problem 5/55

5/56 Determine the y-coordinate of the centroid of the shaded area. The triangle is equilateral.



Problem 5/56

5/57 Determine the x- and y-coordinates of the centroid of the shaded area.

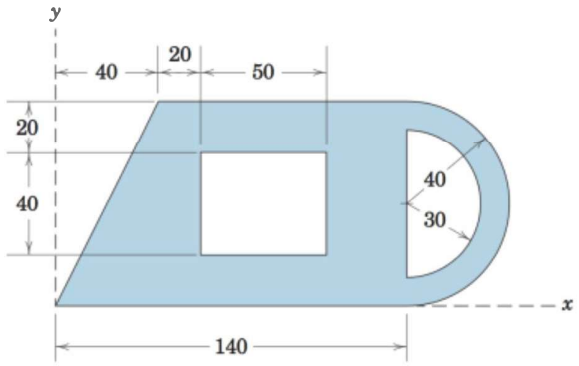


Dimensions in millimeters

Problem 5/57

Representative Problems

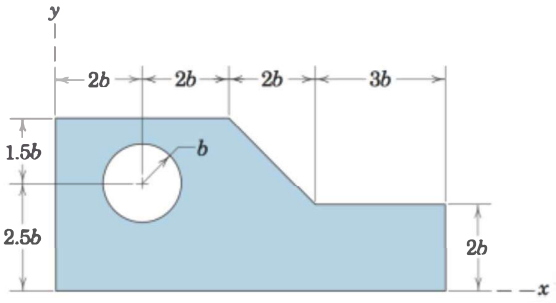
5/58 Determine the coordinates of the centroid of the shaded area.



Dimensions in millimeters

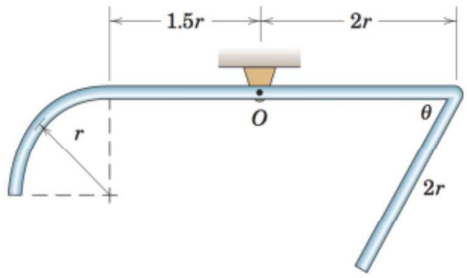
Problem 5/58

5/59 Determine the x- and y-coordinates of the centroid of the shaded area.



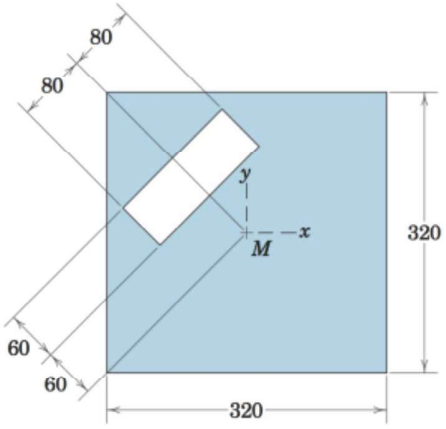
Problem 5/59

5/60 The uniform wire is bent into the shape shown and held by the frictionless pin at O. Determine the angle θ which will allow the wire to hang in the orientation shown.



Problem 5/60

5/61 By inspection, state the quadrant in which the centroid of the shaded area is located. Then determine the coordinates of the centroid. The plate center is M.



Dimensions in millimeters

Problem 5/61