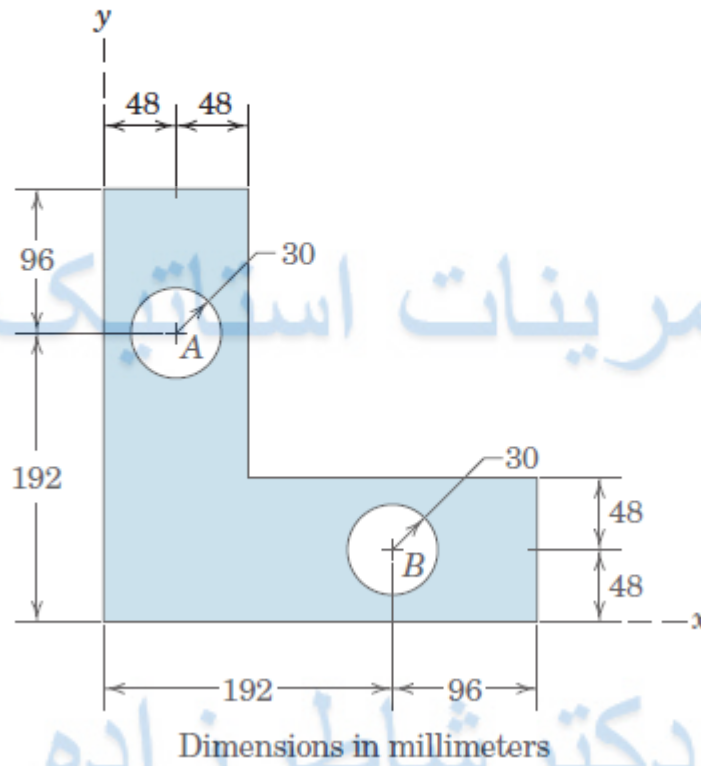


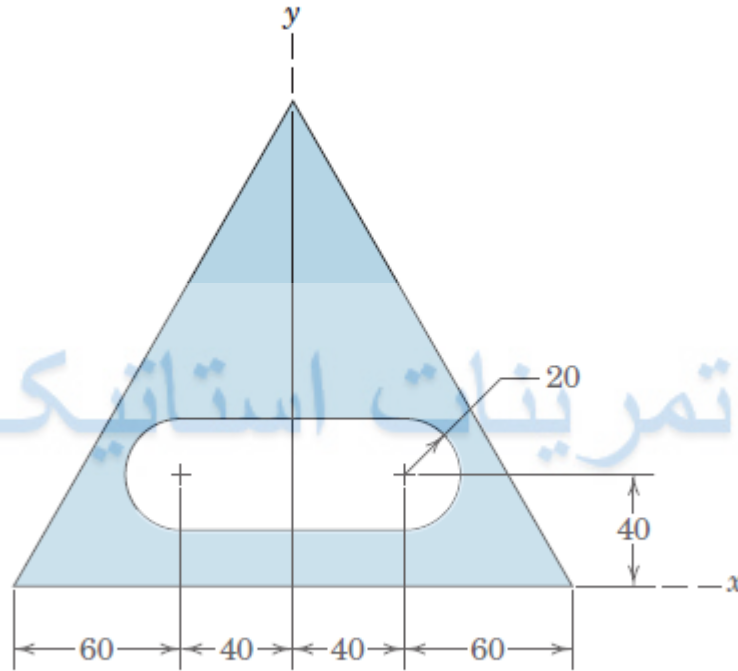
1

Determine the  $x$ - and  $y$ -coordinates of the centroid of the shaded area.



2

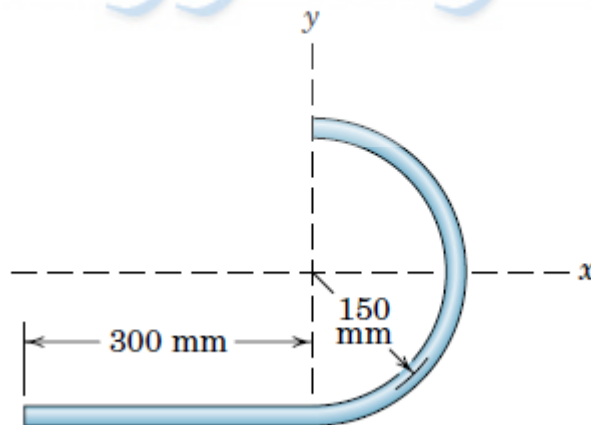
Determine the  $y$ -coordinate of the centroid of the shaded area. The triangle is equilateral.



Dimensions in millimeters

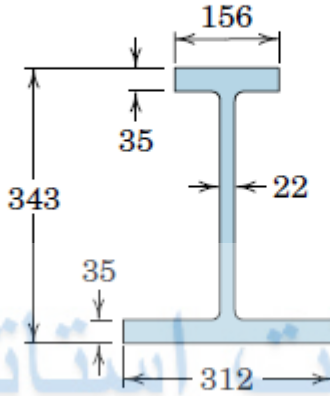
3

Locate the mass center of the slender rod bent into the shape shown.



4

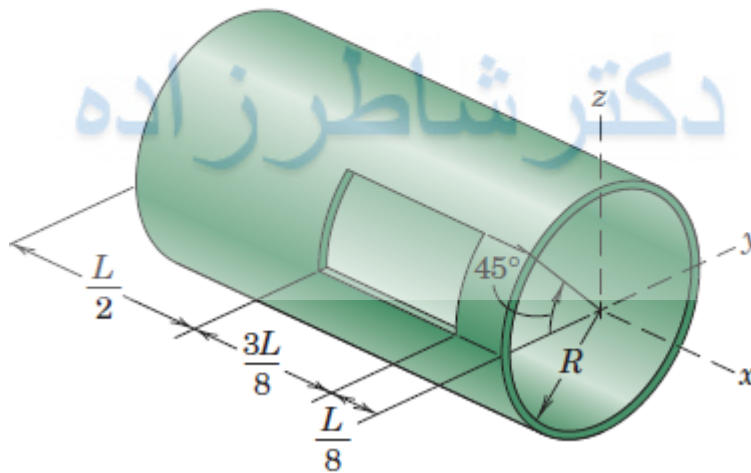
Determine the height above the base of the centroid of the cross-sectional area of the beam. Neglect the fillets.



Dimensions in millimeters

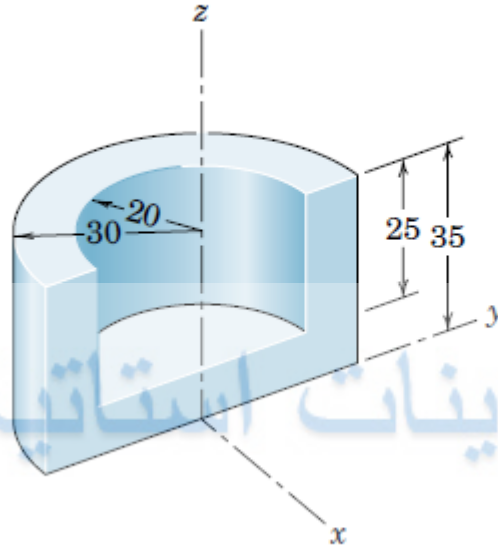
5

An opening is formed in the thin cylindrical shell. Determine the  $x$ -,  $y$ -, and  $z$ -coordinates of the mass center of the homogeneous body.



6

Calculate the coordinates of the mass center of the metal die casting shown.



Dimensions in millimeters

دکتر شاطرزاده