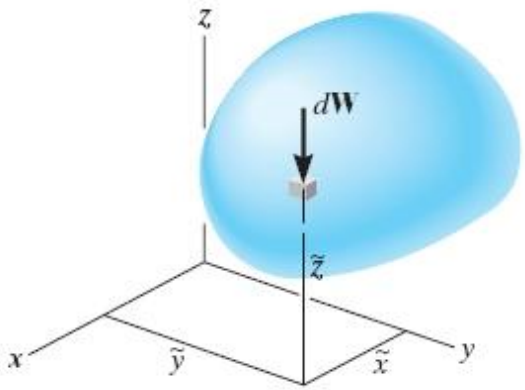
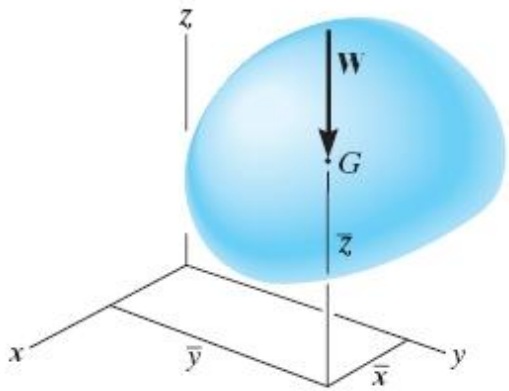
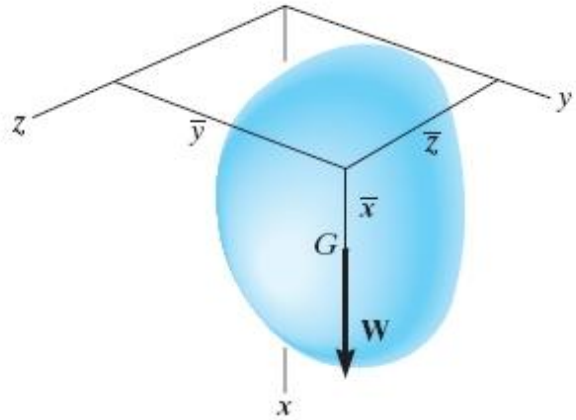

z
dW
$\tilde{z}$
x
$\tilde{y}$
$\tilde{x}$
y

(a)

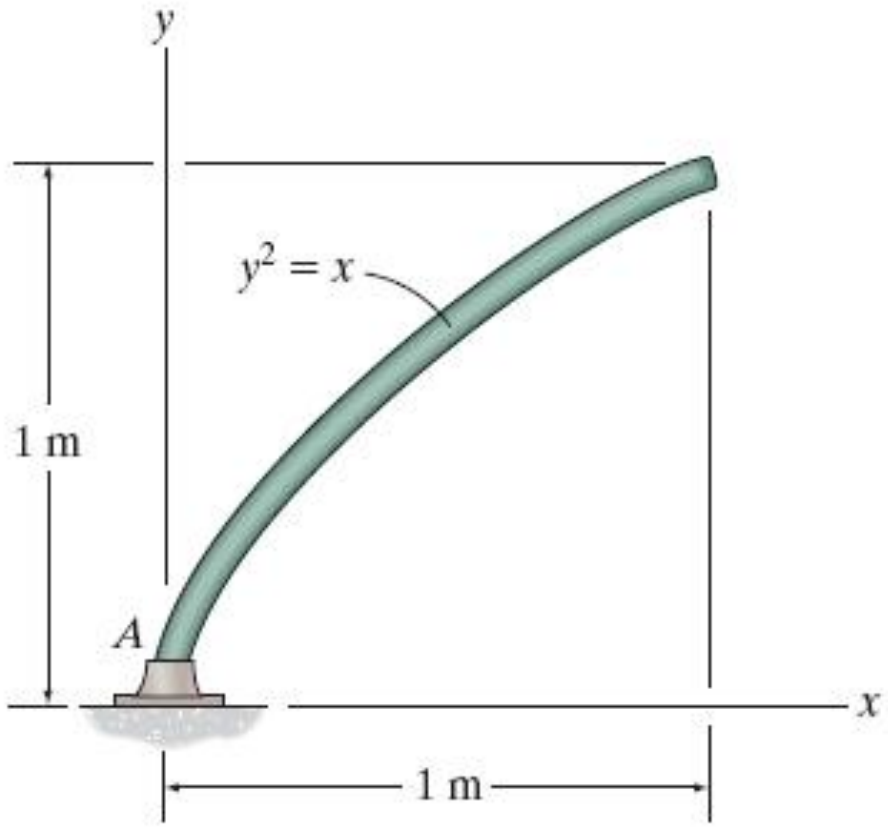

z
W
G
$\bar{z}$
x
$\bar{y}$
$\bar{x}$
y

(b)

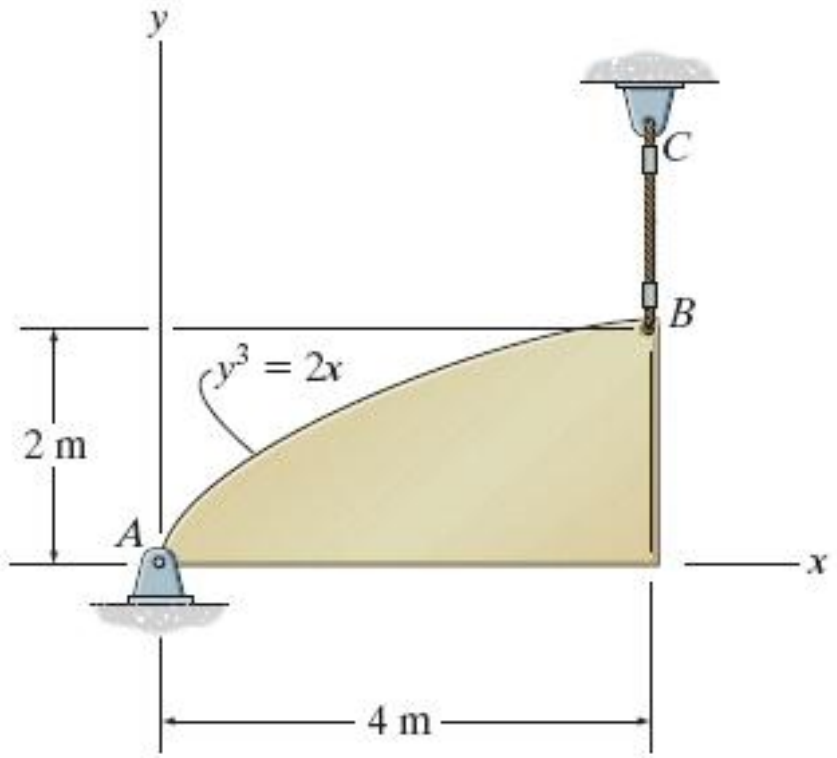

z
$\bar{y}$
$\bar{z}$
y
$\bar{x}$
G
W
x

(c)

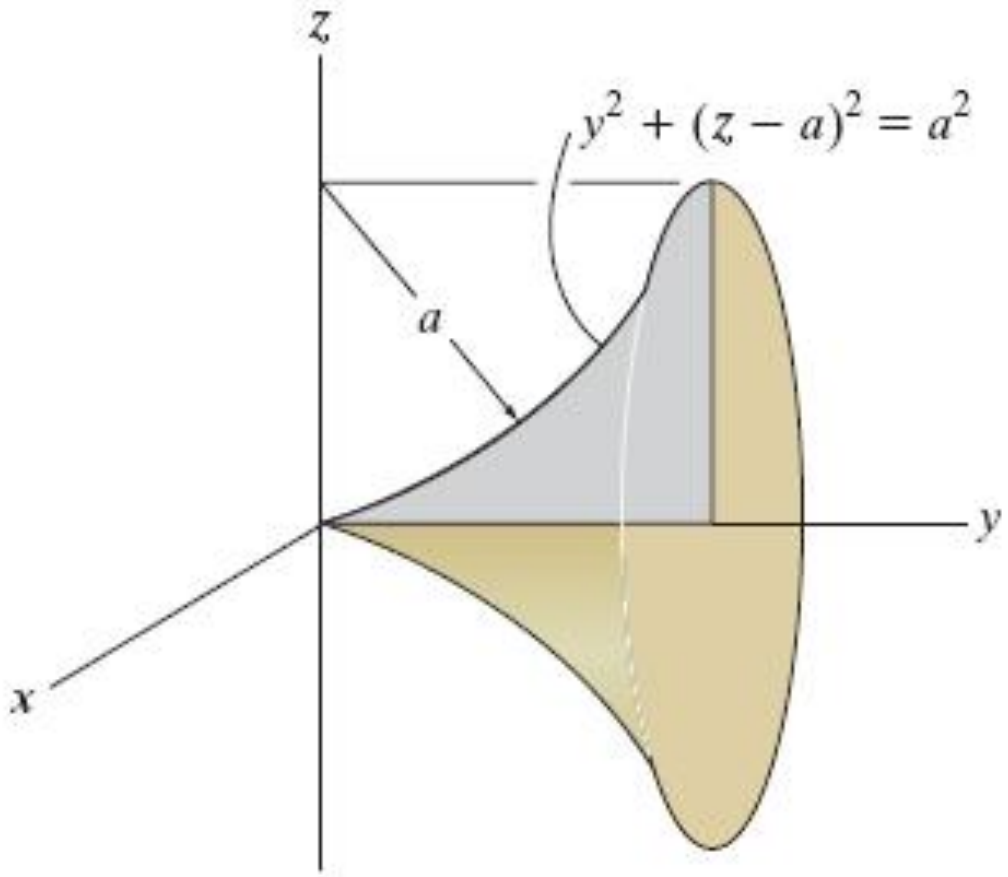
9-2. The uniform rod is bent into the shape of a parabola and has a weight per unit length of 100 N/m. Determine the reactions at the fixed support A.



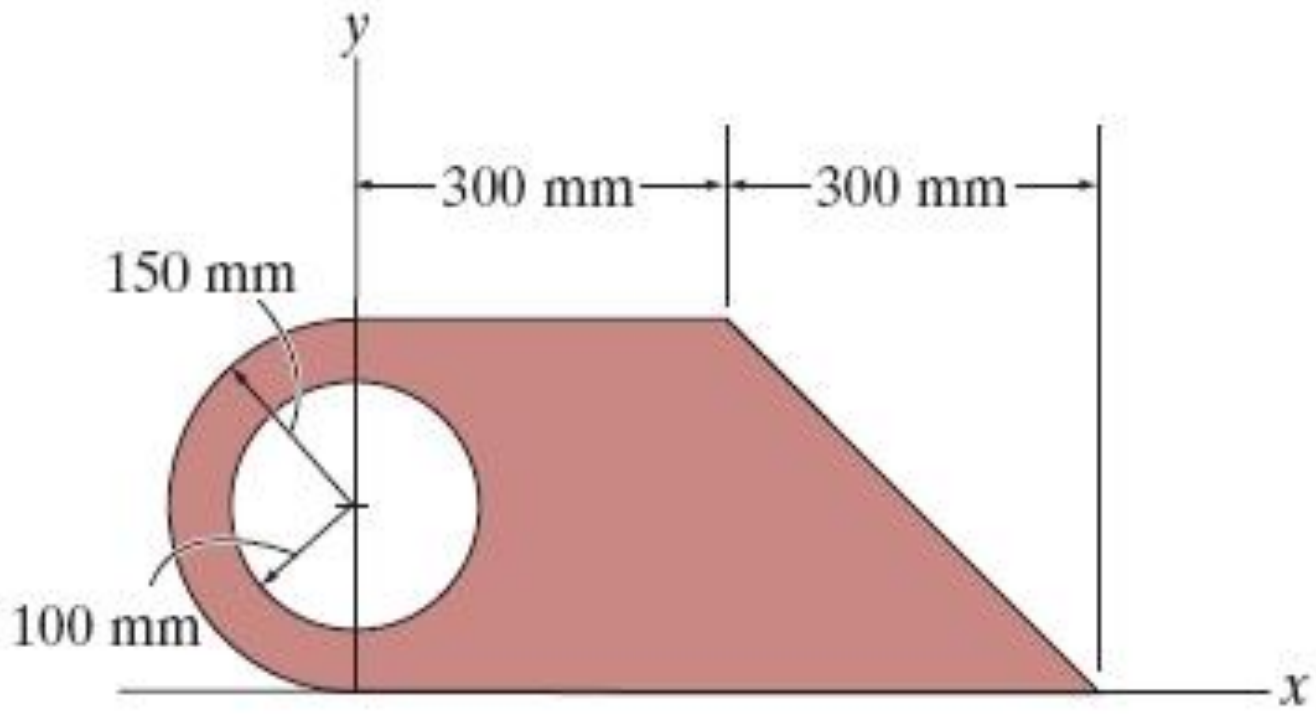
9-18. The plate is made of steel having a density of 7850 kg/m$^3$. If the thickness of the plate is 10 mm, determine the horizontal and vertical components of reaction at the pin A and the tension in cable BC.



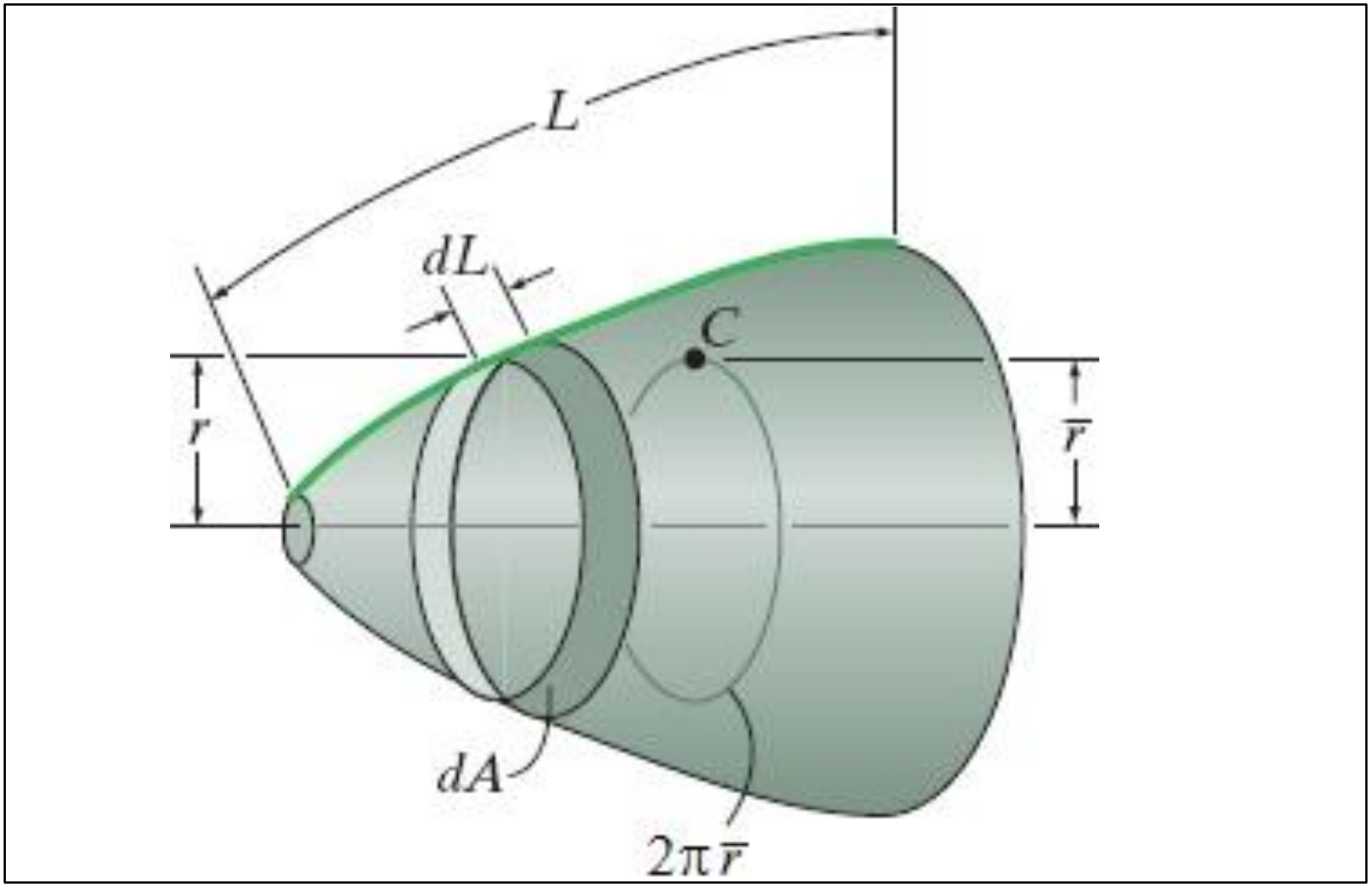
9-35. Locate the centroid, $y_c$ of the homogeneous solid formed by revolving the shaded area about the y axis.

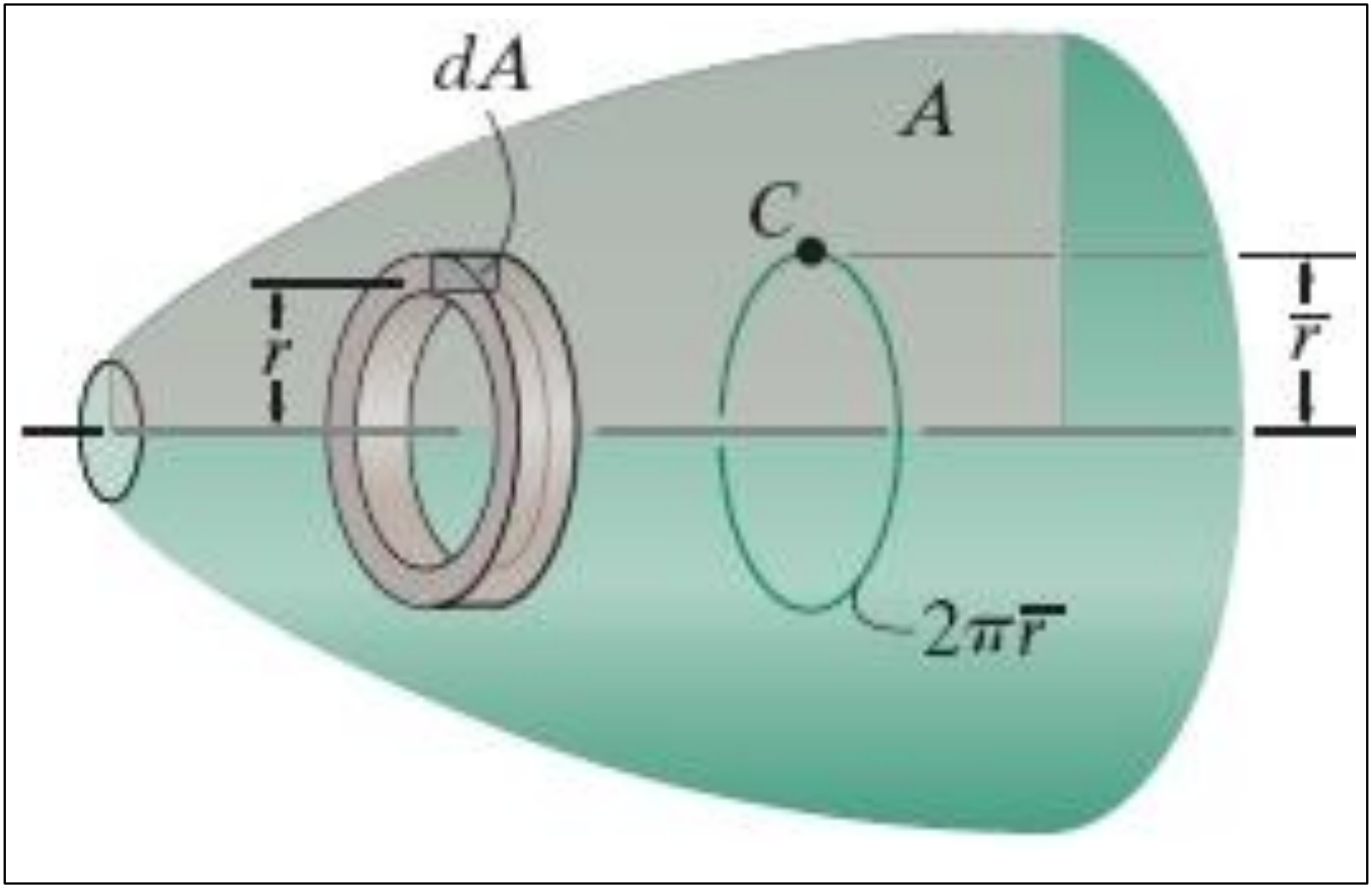


9-60. Locate the centroid of the composite area.



| Area # | x [mm] | y [mm] | A [$mm^2$] | xA [$mm^3$] | yA [$mm^3$] |
|---|---|---|---|---|---|
| 1 | 63.66198 | 150 | 70685.83 | 4500000 | 10602875 |
| 2 | 150 | 150 | 90000 | 13500000 | 13500000 |
| 3 | 400 | 100 | 45000 | 18000000 | 4500000 |
| 4 | 0 | 150 | -31415.9 | 0 | -4712389 |
| | | Sum: | 174269.9 | 36000000 | 23890486 |
| | | x [mm]: | 206.5761 | | |
| | | y [mm]: | 137.089 | | |


L
dL
C
r
$\bar{r}$
dA
$2\pi\bar{r}$


dA
A
C
r
$\bar{r}$
$2\pi\bar{r}$