



For part (b)

$$\bar{x} = \frac{4R}{3\pi}$$

$$I_{ZZ} = 0.5mR^2$$

$$I_{GG} \cong 0.31987mR^2$$

**FIGURE P10-6**

Problems 10-37 and 10-38

- 10-37 Figure P10-6a shows a typical binary link with full-radius ends. Figure P10-6b shows a full-radius end and gives moments of inertia about its CG and about an axis through the center point of the radius  $R$ . Table P10-1 gives data for the length  $L$  between holes of diameter  $d$ ; the end radius  $R$ ; the thickness  $t$ ; and the material of the link. For the row(s) assigned, find the moment of inertia of the link about one fixed pivot and about its CG.

- †10-38 Using the definition of the binary link in Problem 10-37, write a computer program or use an equation solver to calculate the moment of inertia of the link about either of its fixed pivots and about its CG. Use the data in row a of Table P10-1 to test your program.

† These problems are suited to solution using *Mathcad*, *Matlab*, or *TKSolver* equation solver programs.