

B/25

From the results of Prob. B/23 & the transfer theorem

$$I_{xx} = I_{yy} = m\left(\frac{r^2}{4} + \frac{l^2}{3}\right) - m\left(\frac{l}{2}\right)^2 = m\left(\frac{r^2}{4} + \frac{l^2}{12}\right)$$

$$I_{zz} = \frac{1}{2}mr^2$$

$$\text{For } I_{xx} = I_{yy} = I_{zz}, \quad \frac{1}{2}mr^2 = \frac{1}{4}mr^2 + \frac{1}{12}ml^2, \quad \underline{l = r\sqrt{3}}$$