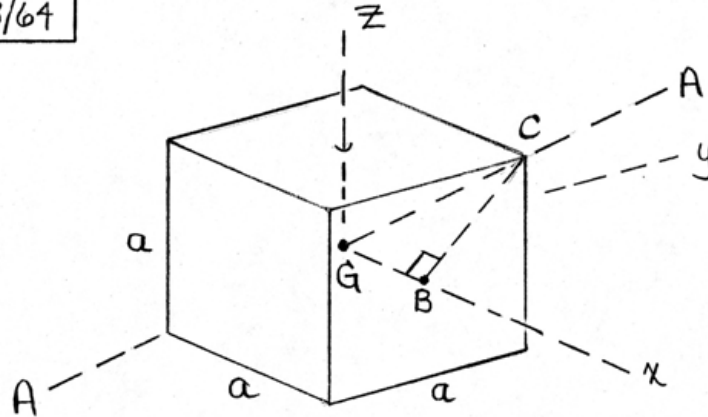


B/64



Choose origin of x - y - z axes at center G

By symmetry, the direction cosines of AA

are $l = m = n = \cos \angle BGC$

$$\overline{GB} = \frac{a}{2}, \overline{BC} = \frac{a\sqrt{2}}{2}, \overline{GC} = \frac{a}{2}\sqrt{3}, \text{ so } l = m = n = \frac{1}{\sqrt{3}}$$

$$I_{xx} = I_{yy} = I_{zz} = \frac{1}{6}ma^2, I_{xy} = I_{xz} = I_{yz} = 0$$

$$\begin{aligned} \text{From Eq. B/10: } I_{AA} &= 3\left(\frac{1}{6}ma^2\right)\left(\frac{1}{\sqrt{3}}\right)^2 \\ &= \underline{\underline{\frac{ma^2}{6}}} \end{aligned}$$