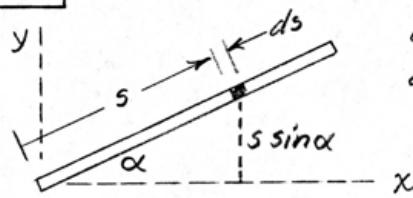


B/6

Let $p =$ mass per unit length

$$dm = p ds$$

$$dI_{xx} = (s \sin \alpha)^2 dm$$

$$I_{xx} = p \sin^2 \alpha \int_0^b s^2 ds$$

$$= \frac{1}{3} p b^3 \sin^2 \alpha$$

$$= \frac{1}{3} m b^2 \sin^2 \alpha$$

By inspection, $I_{yy} = \frac{1}{3} m b^2 \cos^2 \alpha$

For negligible z -dimensions, $I_{xx} + I_{yy} = I_{zz}$

$$I_{zz} = \frac{1}{3} m b^2 (\sin^2 \alpha + \cos^2 \alpha) = \frac{1}{3} m b^2$$