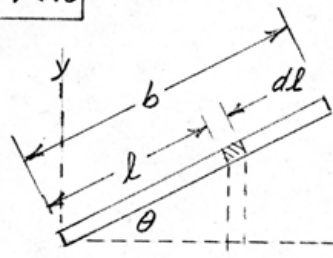


B/62



$$I_{xy} = \int xy \, dm$$

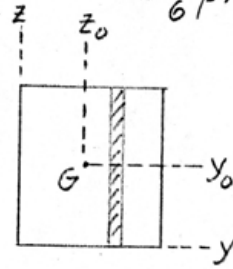
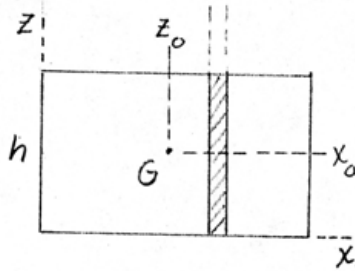
$dm = \rho h \, dl$ where ρ = mass per unit of plate area

$$x = l \cos \theta, \quad y = l \sin \theta$$

$$I_{xy} = \rho h \sin \theta \cos \theta \int_0^b l^2 \, dl$$

$$= \frac{1}{6} \rho h b^3 \sin 2\theta$$

$$= \frac{1}{6} m b^2 \sin 2\theta$$



$$I_{xz} = \bar{I}_{xz} + m d_x d_z = 0 + m \left(\frac{b}{2} \cos \theta \right) \left(\frac{h}{2} \right) = \frac{1}{4} m b h \cos \theta$$

$$I_{yz} = \bar{I}_{yz} + m d_y d_z = 0 + m \left(\frac{h}{2} \right) \left(\frac{b}{2} \sin \theta \right) = \frac{1}{4} m b h \sin \theta$$