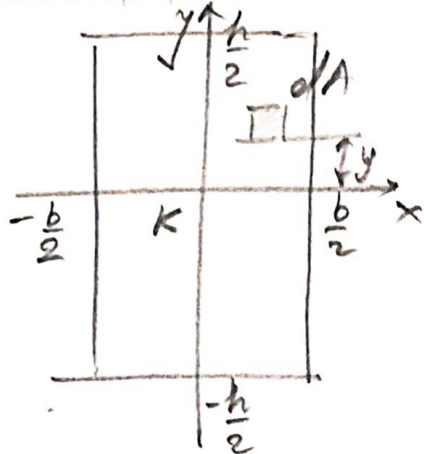


Opd. waplko

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2)



$$I_{xx} = \int_A y^2 dA = \int_{-\frac{h}{2}}^{\frac{h}{2}} y^2 dy \int_{-\frac{b}{2}}^{\frac{b}{2}} dx =$$

( $dA = dx dy$ )

$$= \frac{y^3}{3} \Big|_{-\frac{h}{2}}^{\frac{h}{2}} \times \Big|_{-\frac{b}{2}}^{\frac{b}{2}} = \frac{1}{3} \left( \frac{h^3}{8} + \frac{h^3}{8} \right) \left( \frac{b}{2} + \frac{b}{2} \right) =$$

$$\Rightarrow \boxed{I_{xx} = \frac{bh^3}{12}} \quad (26.4)$$

$$I_{yy} = \int_A x^2 dA = \int_{-\frac{b}{2}}^{\frac{b}{2}} x^2 dx \int_{-\frac{h}{2}}^{\frac{h}{2}} dy = \frac{x^3}{3} \Big|_{-\frac{b}{2}}^{\frac{b}{2}} \cdot y \Big|_{-\frac{h}{2}}^{\frac{h}{2}} = \frac{1}{3} \left( \frac{b^3}{8} + \frac{b^3}{8} \right) \left( \frac{h}{2} + \frac{h}{2} \right) =$$

$$\Rightarrow \boxed{I_{yy} = \frac{hb^3}{12}} \quad (26.8)$$