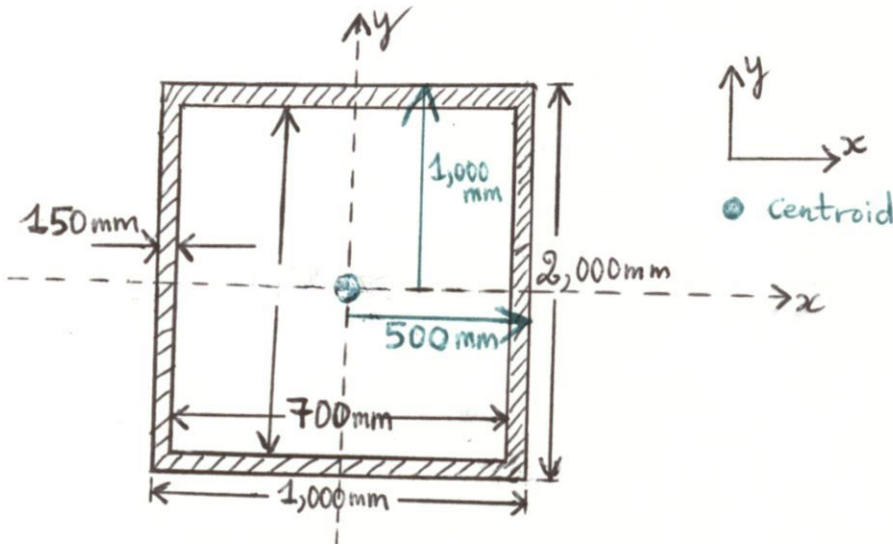


Date: 5th December 2018



$$I_{tot} = I_{out} - I_{in}$$

$$I_{out} = \frac{(1,000 \text{ mm})(2,000 \text{ mm})^3}{12} = 6.666 \times 10^{11} \text{ mm}^4 \Rightarrow$$

$$\boxed{I = \frac{bh^3}{12}} \quad \begin{matrix} h = 2,000 \\ b = 1,000 \text{ mm} \end{matrix}$$

$$I_{in} = \frac{(700 \text{ mm})(1,700 \text{ mm})^3}{12} = 2.866 \times 10^{11} \text{ mm}^4 \Rightarrow$$

$$\boxed{I = \frac{bh^3}{12}} \quad \begin{matrix} h = 1,700 \text{ mm} \\ b = 700 \text{ mm} \end{matrix}$$

$$I_{tot} = I_{out} - I_{in}$$

$$= (6.666 \times 10^{11} \text{ mm}^4) - (2.866 \times 10^{11} \text{ mm}^4)$$

$$= 3.8 \times 10^{11} \text{ mm}^4 \left(\frac{1 \times 10^{-12} \text{ m}^4}{1 \text{ mm}^4} \right)$$

$$\boxed{I_{x(tot)} = 0.38 \text{ m}^4 = 3.8 \times 10^{11} \text{ mm}^4}$$