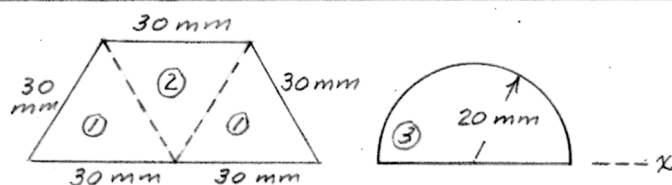


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$$\textcircled{1} \quad I_x = 2 \left(\frac{1}{12} \right) (30) \left(30 \frac{\sqrt{3}}{2} \right)^3 = \frac{81}{16} \sqrt{3} (10^4) \text{ mm}^4$$

$$\textcircled{2} \quad I_x = \frac{1}{4} (30) \left(30 \frac{\sqrt{3}}{2} \right)^3 = \frac{243}{32} \sqrt{3} (10^4) \text{ mm}^4$$

$$\textcircled{3} \quad I_x = -\frac{1}{2} \left(\frac{1}{4} \pi [20]^4 \right) = -2\pi (10^4) \text{ mm}^4$$

$$\text{Total } I_x = \underline{15.64(10^4) \text{ mm}^4}$$

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