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For area (a)
$$T_{\chi} = \frac{1}{12}bh^{3}$$
For area (b)
$$T_{\chi} = \frac{1}{12}\frac{b}{3}h^{3} + 2\left[\frac{1}{12}h\left(\frac{b}{3}\right)^{3} + h\frac{b}{3}\left(\frac{h}{2} + \frac{b}{6}\right)^{2}\right]$$

$$= \frac{hb}{9}\left(\frac{7}{4}h^{2} + \frac{2}{9}b^{2} + hb\right)$$
If $h = 200 \text{ mm}$ and $b = 60 \text{ mm}$, we have

(a) $T_{\chi} = \frac{1}{12}(60)(200)^{3} = 40(10^{6}) \text{ mm}^{4}$
(b) $T_{\chi} = \frac{200(60)}{9}\left(\frac{7}{4}(200)^{2} + \frac{2}{9}(60)^{2} + 200(60)\right)$

$$= 110.4(10^{6}) \text{ mm}^{4}$$
Percent increase $h = \frac{110.4 - 40}{40}(1007_{0}) = 176.07_{0}$