



Without hole, $I_x = \frac{1}{12} (4R)(4R)^3 = \frac{64}{3} R^4$
 $(21.3 R^4)$

With hole, $I_x = \frac{64}{3} R^4 - \frac{1}{4} (\pi R^2) R^2$
 $= \underline{20.5 R^4}$

(a 3.68% reduction)

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