



I. Square $I_x = I_y = \frac{1}{3} (4a^2)(2a)^2 = \frac{16}{3} a^4$

II. Semicircle $I_x = \frac{1}{8} \pi a^4$

$I_y = \frac{1}{8} \pi a^4 + \frac{1}{2} \pi a^2 (a^2) = \frac{5}{8} \pi a^4$

Combined: $I_x = \frac{16}{3} a^4 - \frac{\pi}{8} a^4 = 4.94 a^4$

$I_y = \frac{16}{3} a^4 - \frac{5}{8} \pi a^4 = 3.37 a^4$

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