

B/15 From Sample Problem B/3, $I_{yy} = \frac{1}{12} m(a^2 + 4l^2)$

$$m = 1300(0.4)(0.36)(0.10) = 18.72 \text{ kg}$$

$$I_{yy} = \frac{1}{12}(18.72)([0.36]^2 + 4[0.4]^2) = \underline{1.201 \text{ kg}\cdot\text{m}^2}$$

$$\text{For } I_{xx}, \text{ \% error } |e| = \frac{\frac{1}{12}ma^2}{\frac{1}{12}m(a^2 + 4l^2)} 100\% = \frac{100\%}{1 + (2l/a)^2}$$

$$\text{where } a = 0.1 \text{ m}, l = 0.4 \text{ m} \text{ so } |e| = \frac{100\%}{1 + (0.8/0.1)^2} = \underline{1.538\%}$$