

MATH 2020 Advanced Calculus II

A comment on HW5

In §15.6 Q22, almost all the students have given the numerical answers $I_x = 208$, $I_y = 280$ and $I_z = 360$ by assuming the density δ of the solid to be 1. One should not make this assumption and should express δ in terms of the mass m , i.e. $\delta = \frac{m}{V}$ where V is the volume ($=72$ in our case) so that the answers are $I_x = 208 \times \frac{m}{72} = \frac{26}{9}m$, $I_y = 280 \times \frac{m}{72} = \frac{35}{9}m$ and $I_z = 360 \times \frac{m}{72} = 5m$.