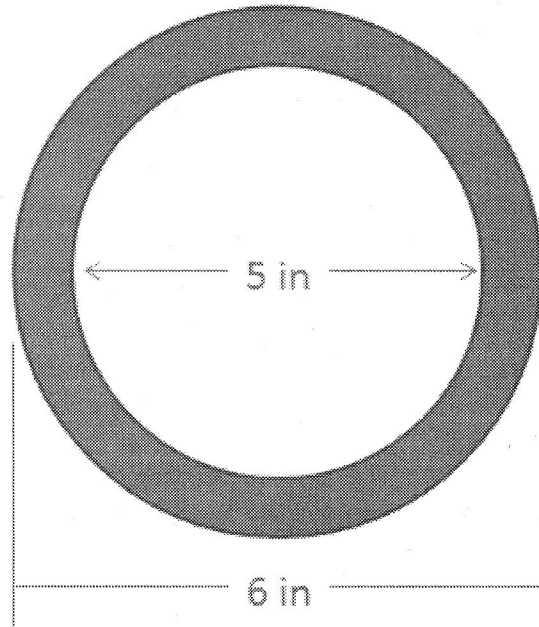


Find the polar moment of inertia of this hollow circular shape about its centroid.



$$J_{zz} = \int_{2.5}^3 dA r^2$$

$$J_{zz} = \int_{2.5}^3 (2\pi r)(r^2) dr$$

$$J_{zz} = 2\pi \left| \frac{r^4}{4} \right|_{2.5}^3$$

$$J_{zz} = 2\pi \left( \frac{3^4}{4} - \frac{2.5^4}{4} \right) = \boxed{65.9 \text{ in}^4}$$