

FIND  $I$  about  $z$  axis

$$\rho = 5000 \text{ kg/m}^3$$

USE INFINITESIMAL DISK ELEMENT

$$\text{mass} = \rho dV = \rho(\pi x^2 dz)$$

$$I_G \text{ of Disk} = \frac{1}{2} dm R^2$$

(from last e.g.)

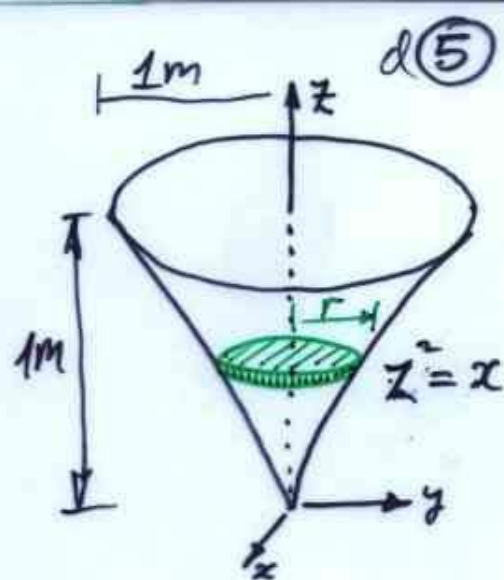
$$\Rightarrow dI_z = \frac{1}{2} dm x^2$$

$$= \frac{1}{2} [\rho \pi x^2 dz] x^2$$

$$x = z^2; \quad I_z = \int_0^1 dI_z$$

$$= \frac{\rho \pi}{2} \int_0^1 z^8 dz$$

$$= 873 \text{ kg m}^2$$



ought to  
use "r" not  
x or y