

Likewise for  $\bar{z}$ ,

$$\bar{z} = \frac{\int_V z \, dV}{\int_V dV}$$

\*  ~~$\int_V z \, dV$~~

$$= \frac{\int_V z \cdot \frac{1}{2} \pi z^2 \, dy}{\int_V dV}$$

$$= \frac{\int_V \frac{1}{2} \pi z^3 \, dy}{\int_V dV}$$

$$= \frac{\int_V \frac{\pi}{2} \left(\frac{a}{h} y\right)^3 \, dy}{\int_V dV}$$

Students continue to completion !