

## Exercise for you:

Starting from Eqn 3.1

using  $da = r^2 \sin \theta d\theta d\phi$

and  $R = [z^2 + r^2 - 2zr \cos \theta]^{1/2}$

show that  $\oint \frac{da}{R} = \frac{4\pi r^2}{z}$  For all  $r < z$ .