Show your work!

(1) Use cylindrical co-ordinates to set up the integral giving the volume of the region in Example 14.7.4.

(2) Use spherical co-ordinates to *set up* the integral giving the volume of the region in Example 14.7.1. **Do not** evaluate the integral. (HINT: Use symmetry to re-write the integral as $2\boxed{\text{something}}$, and use the order of integration $\mathrm{d}\rho\,\mathrm{d}\phi\,\mathrm{d}\theta$. Your integral will split into two parts, depending on whether $\phi \leq \underline{\text{arcsin}(2\sin(\theta)/3)}\,\text{arcsin}(\sin(\theta))$ or $\phi \geq \underline{\text{arcsin}(2\sin(\theta)/3)}\,\text{arcsin}(\sin(\theta))$.)

- **Seven** book problems: #14.7.10, 11, 14, 15, 19, 33, 34. (For #14.7.14, 15, ignore the instructions and set up and evaluate only *one* integral each. For #14.7.34, note that the equation is $x^2 + y^2 + z^2 = z$, not $x^2 + y^2 + z^2 = c^2$.)