Singular n-Chains- HW Problems

1. For I^3
   a. Find all six faces $I_{(i,\alpha)}$ and expand ∂I^3 in terms of the $I_{(i,\alpha)}$.
   b. Let $c: [0,1]^3 \rightarrow \mathbb{R}^3$, by
      $$c(\rho, \varphi, \theta) = (\rho cos 2\pi\theta sin\pi\varphi, \rho sin 2\pi\theta sin\pi\varphi, \rho cos\pi\varphi).$$
      Find the six $c_{(i,\alpha)}$ and ∂c.