Assignment 3 (Tues. Feb. 24)

1. Given $m_1 = m_2$ =proton, what beam energy would be needed for the fixed target experiment to have the same CM energy ($\sqrt{s}$)as the LHC at 14 TeV? An SSC14 TeV?
2. End of chapter problem 1.7
3. Compute the mass density of two nuclei of your choice.
4. Compute the de Broglie wavelengths for
   - Protons in CERN's Large Hadron Collider (14TeV)
   - 500 GeV electrons in the International Linear Collider
5. Compute the actual value of the nuclear magneton