1. Consider the fission of $^{236}\text{U}$ into two fragments $A_1$ and $A_2 = 236 - A_1$. The Coulomb barrier associated with these two fragments is equal to

$$V = \frac{1}{4\pi\varepsilon_0} \frac{Z_1 Z_2 e^2}{R_1 + R_2}$$

where $R_1$ and $R_2$ are the radii of the two fragments and $Z_1$ and $Z_2$ are the charge of each fragment. Approximately plot the Coulomb repulsion energy as if they form with their radii just touching at their surfaces. Assume that $Z/A$ is equal to the same ratio for $^{236}\text{U}$. Suggest a reason for the fission yield curve shown in Fig. 10.2 on page 265.

2. Do Problem 11.2 in the textbook, and also consider the reaction $d(d, p)^3\text{He}$. 