36. Our calculation is very similar to that in Sample Problem 44-4 except that we are now using R appropriate to two Lithium-7 nuclei coming into "contact," as opposed to the $R = 1.0\,\text{fm}$ value used in the Sample Problem. If we use

$$R = r = r_0 A^{1/3} = (1.2\,\text{fm})\sqrt[3]{7} = 2.3\ \text{fm}$$

and $q = Ze = 3e$, then our K is given by (see Sample Problem 44-4)

$$K = \frac{Z^2 e^2}{16\pi\varepsilon_0 r} = \frac{3^2(1.6 \times 10^{-19}\,\text{C})^2}{16\pi(8.85 \times 10^{-12}\,\text{F/m})(2.3 \times 10^{15}\,\text{m})}$$

which yields $2.3 \times 10^{-13}\,\text{J} = 1.4\,\text{MeV}$. We interpret this as the answer to the problem, though the term "Coulomb barrier height" as used here may be open to other interpretations.