

80. From Eq. 28-37, we have

$$Q = -\Delta Mc^2 = -(3(4.00151 \text{ u}) - 11.99671 \text{ u}) c^2 = -(0.00782 \text{ u})(931.5 \text{ MeV/u}) = -7.28 \text{ MeV} .$$

Thus, it takes a minimum of 7.28 MeV supplied to the system to cause this reaction. We note that the masses given in this problem are strictly for the nuclei involved; they are not the “atomic” masses which are quoted in several of the other problems in this chapter.