

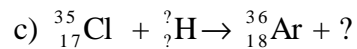
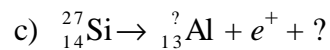
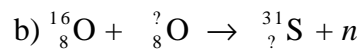
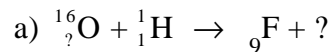
Astronomy 45

Introduction to Astrophysics

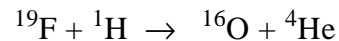
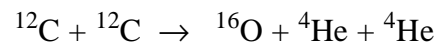
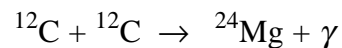
Problem Set 9 Due Friday April 20, 2001

1. If ${}^A_Z\text{X}$ represents a nucleus of atomic mass number A and nuclear charge Z ,

complete the reactions

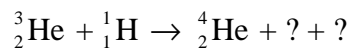


2. Calculate the energies in MeV released and absorbed in the following reactions



The masses of ${}^{12}\text{C}$, ${}^{24}\text{Mg}$, ${}^{16}\text{O}$, ${}^4\text{He}$, ${}^{19}\text{F}$ and ${}^1\text{H}$ are respectively 12.0000, 23.9850, 15.9949, 4.0026, 18.9984 and 1.0078 amu.

3. Complete



and explain your choices.