

1.) $\Delta m =$ | Sum of masses of nucleons - Mass of nucleus

$$= \{Zm_p + (A - Z)m_n\} - M = \{Zm_p + Zm_e + (A - Z)m_z\} - M'$$

2.) Binding energy = $\Delta m \cdot c^2 = [\{m_p Z + m_n (A - Z)\} - M] \cdot c^2$ |

3.) Binding energy per nucleon

$$= \frac{\text{Total binding energy}}{\text{Mass number (i. e. total number of nucleons)}} \left| = \frac{\Delta m \times 931}{A} \frac{\text{MeV}}{\text{Nucleon}} \right|$$