

Worksheet: Nuclei

IB · Class 12 · Physics · 5 questions · 13 marks

Name: _____

Date: _____

Score: _____ / 13

Q1. A substance has a 10-day half-life. How much of a 1 g sample remains after 30 days? *[2 marks]*

Q2. A sample's activity falls from 240 Bq to 30 Bq in 6 hours. Find the half-life. *[3 marks]*

Q3. Find the binding energy of helium-4 ($m_p = 1.007825$, $m_n = 1.008665$, $m_{\text{He}} = 4.002603$ u). *[3 marks]*

Q4. A nuclide decays to 1/16 of its amount in 20 days. Find half-life and decay constant. *[2 marks]*

Q5. Find the energy released when 1 g of U-235 fissions (~200 MeV each). *[3 marks]*
