

HONORS CHEMISTRY
HOMEWORK 13b.

Name: _____

1. Write a balanced nuclear equation for each of the following:

a. Alpha decay of ${}_{86}^{222}\text{Rn}$

b. Electron capture: ${}_{19}^{40}\text{K} + {}_{-1}^0\text{e} \rightarrow ?$

2. The isotope ${}^{14}\text{C}$ has a half-life of 5730 years. A carbon sample from an old spear handle found at an archaeological site has 1/512 of the present-day level of ${}^{14}\text{C}$. How old is the spear?