

CHM 152 Summer 2009 Group Work 7 Names: _____

1. What nuclear particle has basically zero mass and a plus one charge?
a. electron b. positron c. alpha d. beta e. proton
2. Bismuth-208 (Bi) is the daughter of electron capture. What is the parent isotope?
a. ${}_{82}^{208}\text{Pb}$ b. ${}_{83}^{209}\text{Bi}$ c. ${}_{84}^{208}\text{Po}$ d. ${}_{82}^{207}\text{Pb}$ e. ${}_{84}^{209}\text{Po}$
3. This radioactive decay process occurs when an atom is metastable.
a. alpha b. beta c. positron d. electron capture e. gamma
4. Radon-222 undergoes alpha emission with a half-life of 3.823 days. If 50.0 grams of radon gas were in a closed basement, how many grams would be left after 19.00 hours?
a. 43.3g b. 1.60g c. 31.0g d. 40.7g e. 18.1g
5. Carbon-14 has a half-life of 5730 years. How old is a bone that has 77.2% of its carbon-14 remaining?
a. 4420y b. 2140y c. $3.60 \times 10^4\text{y}$ d. 1.209y e. 21.39y