

College Prep Chemistry of the Earth System

Assignment 3O

40 Points

Nuclear Decay Review

1. For the following nuclear isotopes determine the number of protons and neutrons
 - a. $^{222}_{88}\text{Ra}$
 - b. $^{208}_{84}\text{Po}$
 - c. $^{185}_{75}\text{Pt}$
 - d. ^6_2He
 - e. $^{24}_{11}\text{Na}$
 - f. $^{42}_{19}\text{K}$
2. For the nuclear decay isotopes above complete the nuclear decay equations
 - a. $^{222}_{88}\text{Ra}$ (α decay)
 - b. $^{208}_{84}\text{Po}$ (α decay)
 - c. $^{185}_{75}\text{Pt}$ (α decay)
 - d. ^6_2He (β^- decay)
 - e. $^{24}_{11}\text{Na}$ (β^- decay)
 - f. $^{42}_{19}\text{K}$ (β^- decay)
3. For the following isotopes that undergo chain decay complete the decay process
 - a. $^{232}_{90}\text{Th}$, α , β^- , β^- , α
 - b. $^{216}_{84}\text{Po}$, α , β^- , β^- , α