Name _____ Period _____

College Prep Chemistry

Assignment 1N – Alpha (α) Decay Processes 20 Points

Answer the following questions based on the in class notes

What is an alpha decay particle?	Why does alpha (α) decay occur in an atom?
$2p^+$ and $2n^0$ OR ^4_2He nucleus ($no\ e^-$)	Atom too Large Z ratio > 1.5

Complete the following nuclear decay equations showing the alpha decay of common alpha emitting isotopes.

(Right : −) 222 − 4 ↖ 88 − 2

222 88	Ra	→	4 2	He	+	218 86	Rn
208 92	U	→	4 2	He	+		
208 84	Po	→	4 2	He	+		
204 84	Po	→	4 2	He	+		
249 98	Cf	→	4 2	He	+		
235 93	Np	→	4 2	He	+		
232 94	Pu	→	4 2	He	+		

(Left : +) 4 + 172 ↖ 2 + 73

176 75	Re	→	4 2	He	+	172 73	Ta
		→	4 2	He	+	181 77	Ir
		→	4 2	He	+	233 95	Am
		→	4 2	He	+	207 81	Tl
		→	4 2	He	+	233 91	Pa
		→	4 2	He	+	209 81	Tl
		→	4 2	He	+	221 87	Fr