

Name \_\_\_\_\_ Period \_\_\_\_\_

CP Chemistry of the Earth

Assignment 1S – Unit 1 Review

20 Points

Answer the following questions based on the in class notes

Isotope A - X		Atomic #	Mass #	Protons (p <sup>+</sup> )	Electrons (e <sup>-</sup> )	Neutrons (n <sup>o</sup> )	Atomic Mass ( <i>amu</i> )
51	V						
23							
Zinc-65							
		74	184				
Tin - _____				50		69	

Complete the following Chart to find the average atomic mass

Cobalt has the following isotopes

Isotope	Fractional Abundance
Co-57	0.098
Co-58	0.182
Co-59	0.720

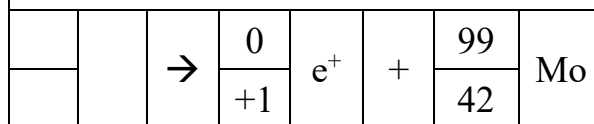
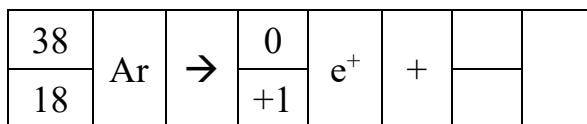
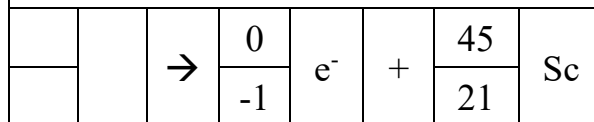
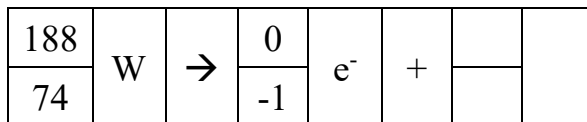
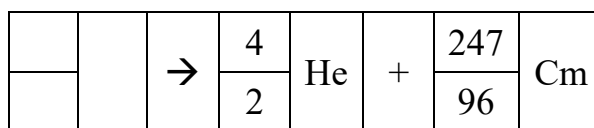
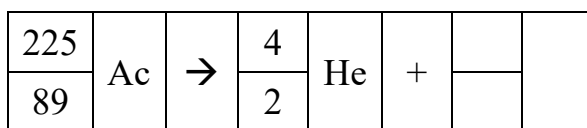
Calculate the Average Atomic Mass of Lu

Isotope	Atomic Mass		Frac. Abund.		Ratio
Co-57		x		=	
Co-58		x		=	
Co-59		x		=	

Ratio Co-57	Ratio Co-58	Ratio Co-59	Avg Atomic Co

+                      +                      =

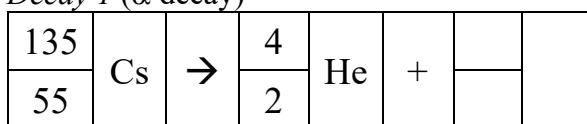
Complete the following nuclear decay equations



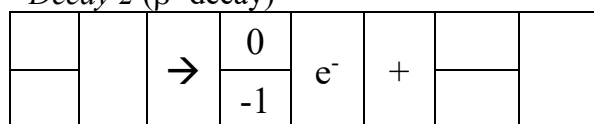
Complete the following nuclear decay chain

Cesium-135 Decay Chain

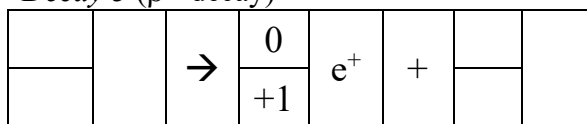
Decay 1 (α decay)



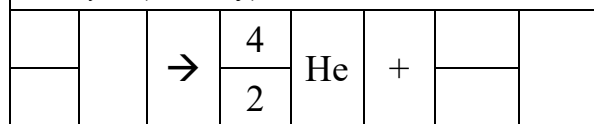
Decay 2 (β<sup>-</sup> decay)



Decay 3 (β<sup>+</sup> decay)



Decay 4 (α decay)



Complete the following charts based on the half-life of nuclear particles

Isotope	Starting Particles ( $N^o$ )	Number HL passed ( $n$ )	Remaining Particles ( $N_t$ )	Number HL passed ( $n$ )	Remaining Particles ( $N_t$ )
<sup>10</sup> Be	100000	4		8	

Isotope	Starting Particles ( $N^o$ )	HL Time	Total Time	# HL Passed	Remaining Particles ( $N_t$ )
<sup>33</sup> P	100000	15.6days	93.6days		