## WS 5.8 Review

Determine the missing particle, and *label the following* as ec, natural decay, induced, fission, or fusion.

1.	<sup>243</sup> Bk + <sup>1</sup> p> <sup>96</sup> Zr +	50Ti +	
2.	+ <sup>0</sup> e> <sup>26</sup> Si		
3.	<sup>108</sup> Ag + <sup>1</sup> <sub>0</sub> n>	+ <sup>109</sup> Ru	(hint: look-up atomic #'s)

- A francium-224 atom gets hit by a deutron (must have been a drive-by).
  What type of reaction is it? \_\_\_\_\_\_What isotope is produced? \_\_\_\_\_\_
- 5. A Pa-235 undergoes a series of alpha and/or beta decays to eventually become a Fr-227. How many alpha decays? \_\_\_\_\_ beta decays? \_\_\_\_\_
- 6. Zn-65 has a half-life of 244 days. What percent will decay in 1 year?
- 7. If a newly cut piece of wood gives a C-14 Geiger tube reading of 150 cpm, and a wooden artifact gives reading of 65 cpm, how old is the artifact?
- 8. Explain 2 reasons why C-14 dating cannot be used to date the age of your pet cat. ("I don't have a pet cat" is not an acceptable answer)
- 9. Burns to the skin is an example of [ acute / chronic / genetic ] damage by radiation.
- 10. Calculate the energy change (per mole) for the following... Use the table on WS 5.7...

 ${}^{59}_{27}$ Co +  ${}^{1}_{1}$ p --->  ${}^{58}_{28}$ Ni + 2  ${}^{1}_{0}$