1. Alpha particle corresponds to which element?  
   ______________

2. If the half life of C-14 is 5730 years, and if I start with 2 mCi of sample, in 17190 years, the radioactive sample remaining is  
   ______________

3. Balance the following nuclear reactions:
   a. $^{235}$U $\rightarrow$ $^3_4$ + $^2_2$ + __________
   b. $^{11}$C $\rightarrow$ $^0_1$ + $^0_0$ + __________
   c. $^3$H + $^3$H $\rightarrow$ $^1$n + __________
   d. $^{14}$C $\rightarrow$ $^0_0$ + __________

4. What is this? $^0_1$ + __________

5. What is the nuclear fission?  
   ______________

6. What is nuclear fusion?  
   ______________

7. Give four applications of radioactive processes  
   ______________

8. Complete the following fission reaction:  
   $^{235}$U + $^1$n $\rightarrow$ $^{131}$Sn + __________ + 2 $^1$n + energy

9. Energy in stored form is called  
   ______________

10. Energy in motion is called  
    ______________

11. 458 °C is equivalent to how many K?  
    ______________

12. 76.8 °F equivalent to how many °C?  
    ______________

13. What is a calorie defined as?  
    ______________

14. If there is loss of heat from the system, that process is called  
    ______________

15. Given specific heat of copper to be 0.385 J/g °C, if I want to heat 30 gram piece of copper at 21 °C to 78°C, the amount heat needed is  
    ______________ joules.

16. 500 calories = how many joules?  
    ______________

17. One food calorie is equivalent to how many calories?  
    ______________