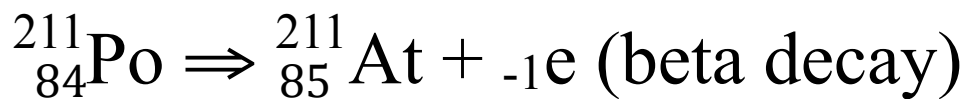
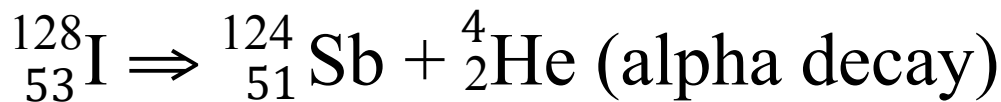
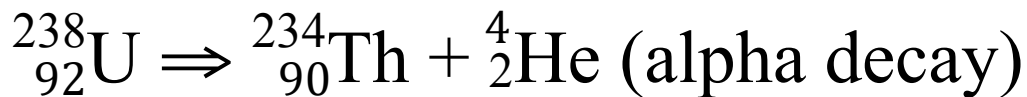
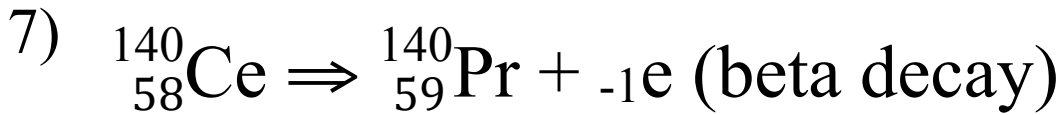


- 1)  
An unstable nucleus releases energy by emitting radiation during radioactive decay.
- 2)  
The 3 main types of radiation are alpha ( $\alpha$ ), beta ( $\beta$ ) and gamma ( $\gamma$ )
- 3)  
The nucleus undergoes change during radioactive decay.
- 4)  
During alpha decay, the atomic number decreases by 2.  
During beta decay, the atomic number increases by 1.  
The emission of gamma radiation does not change the atomic number.
- 5)  
During alpha decay, the atomic mass decreases by 4.  
During beta decay, the atomic mass remains constant.  
The emission of gamma radiation does not change the mass number.

6)

Gamma radiation is the most penetrating of the 3 radiation types discussed.



8)

a)  $\alpha$ , +2    b)  $\beta$ , -1    c)  $\gamma$ , 0

9)

a) During beta decay, A doesn't change, Z increases by 1.

b) During alpha decay, Z decreases by 2, A decreases by 4.

c) During gamma decay, neither Z nor A changes.

