Name: Period: Seat#:

Alpha Decay - For each nuclide given, write a complete alpha decay equation.

- 1) $^{208}_{84}Po$
- **2)** $^{211}_{86}Rn$
- 3) $^{211}_{87}Fr$
- 4) $^{222}_{88}Ra$
- **5)** $^{225}_{91}Pa$

Beta Decay - For each nuclide given, write a complete beta decay equation.

- 6) ${}_{2}^{6}He$
- 7) ${}_{3}^{8}Li$
- 8) $^{10}_{4}Be$
- 9) $^{13}_{5}B$
- **10)** $^{14}_{6}C$

Positron Decay – For each nuclide given, write a complete positron decay equation.

- **11)** $^{13}_{7}N$
- **12)** $^{15}_{8}O$
- 13) $^{18}_{9}F$
- **14)** $^{19}_{10}Ne$
- **15)** $^{21}_{11}Na$

Decay Series - Write each decay series

- **16)** Protactinium-229 goes through two alpha decays, until francium-221 is formed:
- **17)** Po-210 undergoes 2 alpha decays followed by a beta decay followed by another alpha decay.
- **18)** Ac-226 undergoes neutron bombardment of a single neutron, followed by an alpha decay, two beta decays, a positron emission, then another alpha decay.

19) Label the graph with what type of decay each step was. The time each step takes is included just because it is interesting, you don't need that information to do the problem.

