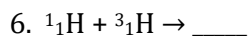
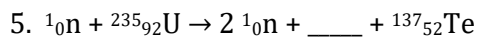
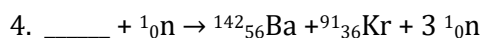
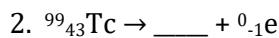
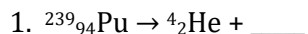


**Problem Set #16**

Name:

Part 1 - Balance the following nuclear equations and identify the type of nuclear reaction.



Part 2 - Solve the following problems involving half-life.

- Neptunium-239 has a half-life of 2.356 days. If 2.34375 grams of neptunium-239 remain after 11.78 days, how many grams of neptunium were in the original sample?
- What is the half-life of hydrogen-3 (tritium) if 1.875 grams remains of a 30 gram sample after 49.28 years?
- How long does it take a 160 gram sample of americium-241 to decay to 0.625 grams if the half-life of americium-241 is 432.2 years?
- How much of a 125 gram sample of oxygen-22 remains after 13.5 seconds if the half-life of oxygen-22 is 2.25 seconds?