

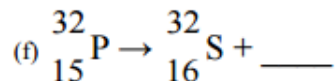
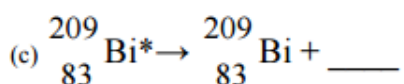
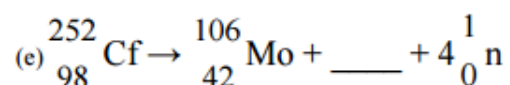
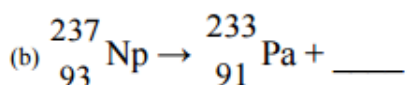
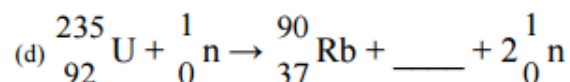
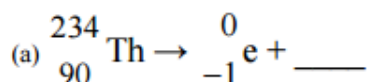
Nuclear Chemistry

Review

1. Give the nuclide symbol for the following atoms
 - a. Cadmium-110
 - b. Barium-137

2. For each of the following statements, state which type (s) of radiation they describe.
 - a. Has the highest penetrating power
 - b. Has the same structure as an electron
 - c. Has the same structure as a helium nucleus
 - d. Can be stopped by a piece of paper
 - e. Can be stopped by aluminum foil
 - f. Can result in a transmutation
 - g. Is energy released from an excited electron
 - h. Is a type of particle

3. Complete the following nuclear reactions



4. Iodine-131 has a half-life of 8.0 days
 - a. How long would it take for a 6400 gram sample to decay to 100.0 gram?

 - b. How much of a 512 gram sample would remain after 72 days?

Name: _____ Per _____

5. Sodium-24 has a half-life of 15.02 hours.
 - a. How long would it take for a 400 gram sample to decay to 12.5 g?

 - b. How much of an 80 gram sample would remain after 45.06 hours.

 - c. How long would it take for a sample to decay to 25.00 % of the original amount?

6. A 30.00 g sample of radium-226 decays to 7.500 g in 3200 years. What is the half-life of this isotope?

7. Rhodium-108 has a half-life of 17 seconds. After 85 seconds, there are 3.0 gram of a sample remaining. What was the mass of the original sample?