Half-life Practice Worksheet

Name _____
Period _____ Date _____

1. The half-life of cobalt-60 is 5.26 years. How many half-lives have passed in 10.52 years?

2. 12.5% of a radioactive sample are left. How many half-lives have passed?

3. After 3 half-lives, how much of a 400 gram sample of radioactive uranium remains?

4. After 4 half-lives 10 grams of uranium remains. How much uranium did you start with?

5. How old is an artifact if four half-lives have occurred and the half-live of carbon-14 is 5730 years?

6. How much time has passed if carbon-14 has a half-life of 5730 years and 2 half-lives have passed?

7. A rock that originally had a mass of 1.00 gram of uranium-238 now has only 0.50 grams. How old is the rock if the half-live of uranium-238 is 4.5 billions of years.

8. The radioisotope radon-222 has a half-life of 3.8 days. How much of a 10 g sample of radon-222 would be left after 15.2 days?

9. A piece of wood found in an ancient burial mound contains only half as much carbon-14 as a piece of wood cut from a living tree growing nearby. It the half-life for carbon-14 is 5730 years, what is the approximate age of the ancient wood?

10. Iodine-131 has a half-life of 8 days. If the amount of iodine-131 in a sample is 8 g, how much iodine-131 will remain after 32 days?