## Carnival: Radiometric Dating Practice

**Directions:** Answer the multiple choice questions.

**Questions**

1. 100 grams of a radioactive atom decays for 30 hours. At the end of 30 hours, only 50 grams of the sample is left. What is the half-life of the atom?
1.5 days
0.5 days
10 hours
30 hours

2. The half-life of carbon14 is 5,730 years. If a fossil has a carbon-14 amount corresponding to 2 half-lives, what is the fossil's age?
11,460 years
5,730 years
2,865 years
19,000 years

3. If a radioactive atom has a half-life of 1.3 billion years, how old is a rock that has 50% of this atom remaining?
1.3 billion years
2.6 billion years
3.9 billion years
5.2 billion years

4. The half-life of C14 is 5730 years. How old is a fossil that contains 12.5% of the original C14?
5,730 years
11,460 years
17,190 years
22,920 years

5. The half-life of C14 is 5730 years. How old is a piece of charcoal that has 50% of the original C14?
22,920 years
17,190 years
11,460 years
5,730 years

6. Which method of dating is best for materials that were once living things?
potassium-argon
uranium-lead
carbon-14
all of these

7. Which method of dating is best for dating very old rocks?
carbon-14
potassium-argon
uranium-lead
all of these


8. Which method of dating is best used on the mineral zircon?
carbon-14
potassium-argon
uranium-lead
all of these


**Answers**

1. 30 hours

2. 5,730 years

3. 1.3 billion

4. 5,730 years

5. 5,730 years

6. carbon-14

7. potassium-argon

8. uranium-lead