**Half-Life Practice Problems:**

**Name: Date: Period:**

1. 1. The half-life of iodine-131 is 8.1 days. How long will it take for three-fourths of a sample of iodine-131 to decay?
2. 2. Radon-222 is a radioactive gas with a half-life of 3.82 days. How long would it take for fifteen-sixteenths of a sample of radon-222 to decay?
3. 3. Uranium-238 decays very slowly, with a half-life of 4.47 billion years. What percentage of a sample of uranium-238 would remain after 13.4 billion years?
4. 4. A sample of Strontium-90 is found to have decayed to one-eighth of its original amount after 87.3 years. What is the half-life of strontium-90?
5. 5. A sample of Francium-212 will decay to one-sixteenth its original amount after 80 minutes. What is the half-life of francium-212?
6. 6. The ratio of carbon-14 to carbon-12 is a prehistoric wooden artifact is measured to be one-eighth of the ratio measured in a fresh sample of wood from the same region. The half-life of carbon-14 is 5,715 years. Determine its age.
7. 7. Health officials are concerned about radon levels in homes. The half-life of radon-222 is 3.82 days. If a sample of gas contains 4.38 micrograms of radon-222, how much will remain in the sample after 15.2 days?