**Half Life Practice** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

YOU MUST SHOW YOUR WORK!!!

1. An isotope of cesium (cesium-137) has a half-life of 30 years.
If 1.0 mg of cesium-137 disintegrates over a period of 90 years, how many mg of cesium-137 would remain?

0.125 mg

1. A 2.5 gram sample of an isotope of strontium-90 was formed in the explosion of an atomic bomb.  The half-life of strontium-90 is 28 years.  How many years will pass so that only 0.625 grams of this strontium-90 remain?

56 years

1. Thallium-201 has a half-life of 73 hours. If 4.0 mg of thallium-201 disintegrates over a period of 146 hours, how many mg of thallium-201 will remain?
2. mg
3. The half-life of isotope X is 2.0 years.  How many years would it take for a 4.0 mg sample of X to decay and have only 0.50 mg of it remain?

6 years

1. Selenium-83 has a half-life of 25 minutes.  How many minutes would it take for a 10.0 mg sample to decay and have only
1.25 mg of it remain?

75 min

1. Radioactive iodine-131 has a half-life of eight days. What much would be left of a 200.0g sample after 32 days?

12.5 g

1. The half-life of iodine-125 is 60 days. How much iodine-125 would be left after 360 days if you started with 2,500g?

39.0625 g

1. The half-life of radium 226 is 1602 years. How much of a 60 g sample would remain after 9612 years?

0.9375 g