Name: _____ Period:

Half-Life Worksheet

Calculate the answer to the following problems. Be sure to show your work!

1. Barium-139 has a half-life of 86 minutes. Suppose you have a 17.8gram sample of barium-139. How much of the sample remains unchanged after 5 hours and 44 minutes?

2. A sample of cobalt-60 has a half-life of 5.26 years. If 98 grams of this radioisotope remain unchanged after approximately 15.78 years, what was the mass of the original sample?

3. After one year and 124 days, approximately 150 grams of a sample of calcium-45 remain unchanged. If the original sample had a mass of 1200 grams, what is the half-life of calcium-45? [The half-life will be in days.]

4. Phosphorus-33 has a half-life of 25.4 days. Suppose you have a 46.8gram sample of phosphorus-33. How much of the sample remains unchanged after 101.6 days?