

Half Life Problems

1. The half life of Cs-137 is 30.2 years. If the initial mass of the sample is 1.00kg, how much will remain after 151 years?
2. Carbon-14 has a half life of 5730 years. Consider a sample of fossilized wood that when alive would have contained 24g of C-14. It now contains 1.5g. How old is the sample?
3. A 64g sample of Germanium-66 is left undisturbed for 12.5 hours. At the end of that period, only 2.0g remain. What is the half life of this material?
4. With a half life of 28.8 years, how long will it take 1g of strontium-90 to decay to 125mg?
5. Co-60 has a half life of 5.3 years. If a pellet that has been in storage for 26.5 years contains 14.5g of Co-60, how much of this radioisotope was present when the pellet was put in storage?
6. A 1.000kg block of phosphorus-32, which has a half life of 14.3 days, is stored for 100.1 days. At the end of this period, how much phosphorus-32 remains?