HALF-LIFE PROBLEMS

1. How many half-lives will it take for 75% of the radioactive atoms to decay?
2. How many half-lives will it take for 87.5% of the daughter atoms to be present?
3. How many half-lives will it take for 1/16 of parent atoms to remain?
4. How many half-lives will it take for a sample to have a ratio of parent to daughter isotopes of 125:875?
5. The half-life of carbon-14 is 5730 years.
6. How old will the sample be after 2 half-lives?
7. How old will the sample be after 3 half-lives?
8. How old will the sample be after 4 half-lives?