

12	¹³⁷ Cs was released in Chernobyl accident in 1986 and the activity was 6 MCi. What is the half-life (in years) if the 2016 value was an activity of 3 MCi?	1/4	Iodine-131 has a half-life of 8 days. What percent of the sample remains after 24 days?
7	Tritium (H-3) has a $t_{1/2}$ of 12.26 years. What was the original mass (in g) of the sample if 3.5 g remained after 49 years?	30	A patient needs 5.5 mCi of ¹³¹ I. The solution contains 1.5 mCi/mL. What volume (in mL) should be given to the patient?
12.5	Iodine-131 has a half-life of 8 days. What fraction of the sample remains after 24 days?	1/8	Radium-226 has a half-life of 1600 years. What mass (in g) of an 80 g sample remains after 3200 years?
56	⁶⁰ Co ($t_{1/2} = 5.26$ years) had an initial activity of 192 mCi. What is its activity in mCi after 21 years?	100	Iodine-131 has a half-life of 8 days. What percent of the sample remains after 8 days?
20	56 g of cobalt-60 ($t_{1/2} = 5.26$ years) decays for ~21 years. What mass in grams remains?	START	Iodine-131 has a half-life of 8 days. What percent of the sample is present at 0 days?

3.7	A 68 kg patient is given ^{90}Y for treatment of cancer. Dose is 0.75 mCi/kg. Vial contains 16 mCi/mL. What volume (in mL) should be given?	3.5	A 16 g sample of Zn-71 decays to 2.0 g in 7.2 minutes. What is its half-life in minutes?
25	Iodine-131 has a half-life of 8 days. What fraction of the sample remains after 16 days?	1/2	Iodine-131 has a half-life of 8 days. What percent of the sample remains after 16 days?
2.4	How many days will it take for 30 g of Pd-100 ($t_{1/2} = 3.6$ days) to decay to 0.94 g?	50	Iodine-131 has a half-life of 8 days. What fraction of the sample remains after 8 days?
370	I-123 is given to a patient for a thyroid scan. Dosing is 0.076 mCi per 10 kg body weight. What dose (in mCi) is given to a 26 kg patient?	0.20	STOP
3.2	1.0 g of U-235 releases 3.4×10^8 kcal of energy, the same amount as burning 1 ton (2000 lbs) of coal. How much energy (in kcal) is released by 1.0 g of coal?	18	How many half-lives will pass for Os-182 to go from 141 g to 1.1 g?