Nuclear Walk Around Practice Answers
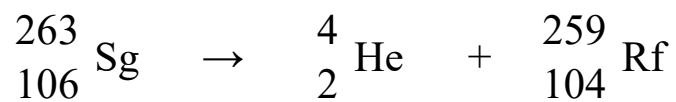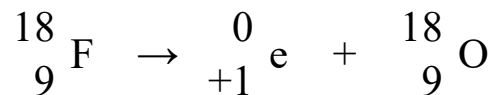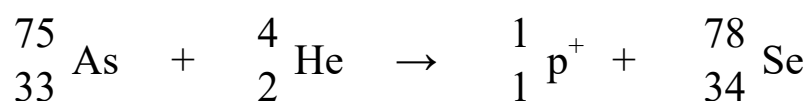
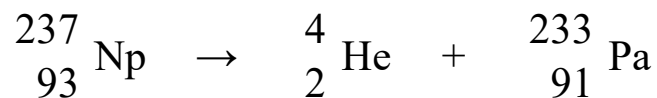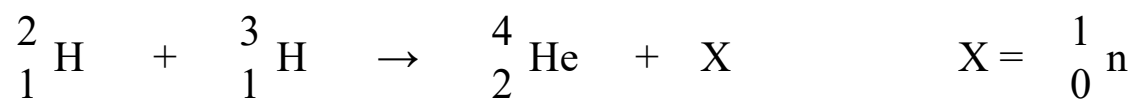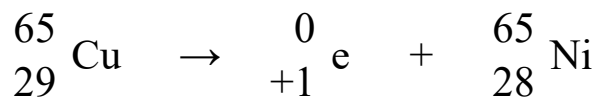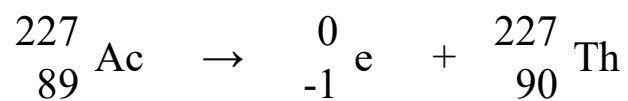|	
1	$^{263}_{106}\text{Sg} \rightarrow ^{4}_{2}\text{He} + ^{259}_{104}\text{Rf}$
2	$^{18}_{9}\text{F} \rightarrow ^{0}_{+1}\text{e} + ^{18}_{9}\text{O}$
3	$^{75}_{33}\text{As} + ^{4}_{2}\text{He} \rightarrow ^{1}_{1}\text{p}^{+} + ^{78}_{34}\text{Se}$
4	$^{237}_{93}\text{Np} \rightarrow ^{4}_{2}\text{He} + ^{233}_{91}\text{Pa}$
5	$^{2}_{1}\text{H} + ^{3}_{1}\text{H} \rightarrow ^{4}_{2}\text{He} + \text{X} \qquad \text{X} = ^{1}_{0}\text{n}$
6	$^{65}_{29}\text{Cu} \rightarrow ^{0}_{+1}\text{e} + ^{65}_{28}\text{Ni}$
7	$^{227}_{89}\text{Ac} \rightarrow ^{0}_{-1}\text{e} + ^{227}_{90}\text{Th}$

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8	$$^{63}_{28}\text{Ni} \rightarrow {}^{0}_{-1}\text{e} + {}^{63}_{29}\text{Cu}$$

9

100g	50g	25g	12.5g	6.25g	3.125g	(1.56g)
Start	1HL	2HL	3HL	4HL	5HL	6HL
Minutes	2.40	4.80	7.20	9.60	12.0	14.4

10

100g	50g	25g	(12.5g)
Start	1HL	2HL	3HL
Weeks	135	270	405

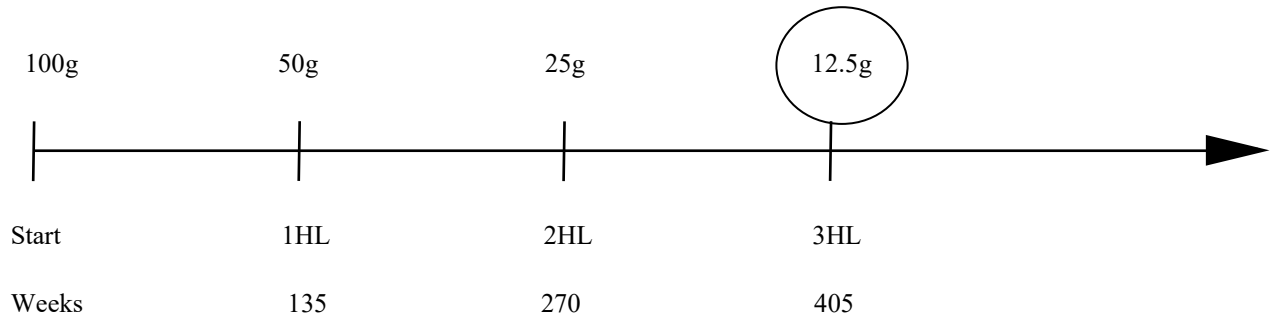**11**

These are the true statements: A, B, C, and G

I-131 is used to treat diseases of the thyroid AND diagnose thyroid disease.
Co-60 is used to treat cancer (radiation treatment, this emits beta particles)

C-14 and C-12 ratios date previously living stuff, up to about 50,000 years

12

In the reactor a chain reaction called fission makes the heat. The steam generator absorbs that heat to make steam, which pushes the blades of the turbine. A turbine is a sort of propeller, which is turned by the steam. It's attached to big magnets, which spin around wires, which creates electricity. Another product is hot water/heat. Fission is the reaction (not fusion). Wastes are radioactive and dangerous, and they last thousands of years. No CO_2 is released by nuclear power plants, this lessens global warming.