

Nuclear Chemistry Practice Problems

- 1) What is the difference between nuclear fusion and nuclear fission?

- 2) How many protons, neutrons, and electrons are in ^{147}Pm ? What is this nuclide called?

- 3) Write the equations for the following nuclear reactions:
 - The alpha decay of $^{242}_{94}\text{Pu}$.

 - Magnesium-25 undergoes positron emission.

 - Americium-243 undergoes beta emission.

- 4) Isotope X has a half-life of 120 seconds. If I initially have an 80 grams sample of isotope X...
 - How many grams will be present after 120 seconds?

 - How many grams will be present after 240 seconds?

 - How many grams will be present after 480 seconds?