NUCLEAR DECAY

Name _____

Predict the products of the following nuclear reactions.

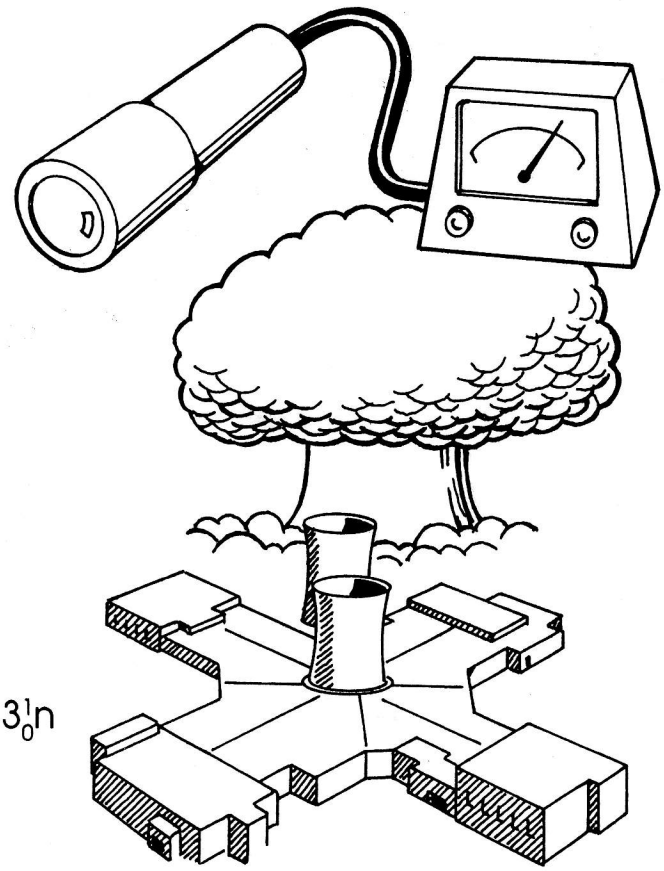
1. $^{42}K \rightarrow {}^{0}_{-1}e$ + _____

2. $^{239}Pu \rightarrow {}^{4}_{2}He$ + _____

3. $^{235}_{92}U \rightarrow$ _____ + $^{231}_{90}Th$

4. $^{1}_{1}H + {}^{3}_{1}H \rightarrow$ _____

5. $^{6}_{3}Li + {}^{1}_{0}n \rightarrow {}^{4}_{2}He$ + _____



6. $^{27}_{13}Al + {}^{4}_{2}He \rightarrow {}^{30}_{15}P$ + _____

7. $^{9}_{4}Be + {}^{1}_{1}H \rightarrow$ _____ + $^{4}_{2}He$

8. $^{37}K \rightarrow {}^{0}_{+1}e$ + _____

9. _____ + $^{1}_{0}n \rightarrow {}^{142}_{56}Ba + {}^{91}_{36}Kr + 3{}^{1}_{0}n$

10. $^{238}_{92}U + {}^{4}_{2}He \rightarrow$ _____ + $^{1}_{0}n$

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Name: _____ Block: _____

Nuclear Chemistry Worksheet

Using your knowledge of nuclear chemistry, write the equations for the following processes:

1) The alpha decay of iridium-174

2) The beta decay of platinum-199

3) Positron emission from sulfur-31

4) Krypton-76 undergoes electron capture

5) Write the symbols for an alpha particle, beta particle, gamma ray, and positron.

6) If the half-life for the radioactive decay of zirconium-84 is 26 minutes and I start with a 175 gram sample, how much will be left over after 104 minutes?