

BLITZ: Nuclear Form S

Name _____ Period _____

This is a Take Home Exam. You may use your notes but you may NOT use help from human beings.

You MUST HAND WRITE THIS EXAM!! NO TYPED PAPERS WILL BE ACCEPTED!

1. ${}_6\text{C}^{12} + ? \rightarrow {}_{102}\text{No}^{245} + 2{}_0\text{n}^1$
2. ${}_{99}\text{Es}^{254} + {}_2\text{He}^4 \rightarrow ? + 2{}_0\text{n}^1$
3. ${}_6\text{C}^{12} + ? \rightarrow {}_{102}\text{No}^{254} + 2{}_0\text{n}^1$
4. $? + {}_0\text{n}^1 \rightarrow {}_{94}\text{Pu}^{241}$
5. ${}_{45}\text{Rh}^{107} \rightarrow {}_{46}\text{Pd}^{107} + ?$
6. ${}_1\text{H}^2 + {}_1\text{H}^2 \rightarrow ? + {}_0\text{n}^1$
7. ${}_{92}\text{U}^{235} + {}_0\text{n}^1 \rightarrow {}_{59}\text{Pr}^{147} + ? + 3{}_0\text{n}^1$
8. ${}_2\text{He}^4 + {}_{13}\text{Al}^{27} \rightarrow {}_{14}\text{Si}^{30} + ?$
9. ${}_{94}\text{Pu}^{239} + {}_0\text{n}^1 \rightarrow ?$
10. ${}_3\text{Li}^6 + {}_0\text{n}^1 \rightarrow ? + {}_1\text{H}^3$

EXPLAIN IN COMPLETE SENTENCES AND GIVE EXAMPLES:

11. List five properties of radioactivity.
12. Discuss the meaning of half-life, and give an example.
13. Using a diagram, tell how radioactivity was discovered by Becquerel.
14. Explain critical mass and how to make an A-Bomb.
15. Using a diagram, describe the discovery of Ions and the Proton.
16. Using a diagram, tell the function of the five parts of a nuclear reactor.
17. Explain nuclear fission and fusion and give an example of each.
18. Describe TWO methods of separating isotopes.
19. Define alpha, beta, and gamma rays and, using a diagram, tell how they were discovered.
20. Using a diagram, enlighten us on the discovery isotopes.

When finished, please STAPLE this exam onto your papers and turn in on due date.