Name_

receive credit.

Per.____

Ion Formation / Periodic Trends / Nuclear Reactions

Directions: Indicate the ion that will be formed for each atom. Some of the ions have been provided. Also provide the ion formation equation for each atom. If an ion will not be formed, write "NO ION FORMED"

Atom	Ion	Ion Formation Equation	
.			
L1			
Ag			
Br			
Xe			
Ti	Ti ²⁺		
N			
Fe	Fe ³⁺		

8. In each of the element pairs listed below, circle the one that has the largest atomic radius.

A. potassium	sodium	B. carbon	boron	C. phosphorous	argon
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9. In the following pairs of elements **circle** the element with the **highest 1st ionization energy**.

- A. potassium zinc B. aluminum indium C. antimony tin
- 10. In each of the element pairs listed below, **circle** the one that has the **largest electronegativity**.
 - A. potassium sodium B. carbon boron C. phosphorous sulfur

11. Classify the following elements as metals, nonmetals or metalloids.

A.	Silver	C.	Astatine	
B.	Sulfur	D.	Argon	
12. Tł	ne neutron-to-proton ratio for an atom of ¹⁶⁵ H	Show your work to		

- 13. Write the alpha decay reaction for 241 Am.
- 14. Write the beta decay reaction for 137 Cs.

15. The half-life of ²³⁴Np is 4.4 days. If you start with 640.0 g, it will be ______ days before only 2.5 g remains. Show your work to receive credit.

16. The half-life of ²⁴⁹Es is 1.70 hours. If you start with 495 mg of ²⁴⁹Es, _____ mg will remain after 10.2 hours. Show your work to receive credit.