

1. Give the name and symbol of the ion formed when:  
a) a sulfur atom gains two electrons.      b) an aluminum atom loses 3 electrons.
2. How many electrons are lost or gained in forming each ion?  
a)  $\text{Ba}^{+2}$       b)  $\text{As}^{-3}$       c)  $\text{Cu}^{+2}$
3. List 3 characteristic that distinguish ionic compounds from molecular compounds.  
a)  
b)  
c)

4. Cation is \_\_\_\_\_ Anion is \_\_\_\_\_

How are they relate to the terms metal and nonmetal? \_\_\_\_\_

5. What does the presence of an -ide ending on the name of an ion tell you about that ion?

6. What are the only elements that exist in nature as isolated atoms? \_\_\_\_\_  
What term is used to describe such elements? \_\_\_\_\_

8. Write the symbol and name for the cation formed when  
a) potassium atom loses one electron.      b) zinc atom loses two electrons.

9. Write the symbol and name for the anion formed when  
a) fluorine atom gains one electron      b) sulfur atom gains two electrons

10. What is the lowest whole-number ratio of lead:  
Compound A:      Compound B:  
Pb = 2.98 g      Pb = 9.89 g  
O<sub>2</sub> = 0.461 g      O<sub>2</sub> = 0.763 g

11. Is the sample nitrous oxide? Explain. (Show work) P. 142

12. Chemical formula is \_\_\_\_\_

Molecular formula is \_\_\_\_\_

Formula unit is \_\_\_\_\_

13. How are experimental data used to show that a compound obeys the law of definite proportions? \_\_\_\_\_

45. Describe the two ways that an ion forms from an atom.