Assignment 7-2, 7-3

Name _____

Class Period _____

Date _____

1. What is another name for **ionic bonding**?

2. What are **ions**?

3. How are ions formed during ionic bonding?

4. For the following elements, fill in the boxes with the correct numbers for **number of valence electrons** and **valence number**.

Element	No. of Valence Electrons	Valence No.
sodium		
chlorine		
lithium		
fluorine		
potassium		
bromine		

Element	No. of Valence Electrons	Valence No.
magnesium		
oxygen		
calcium		
sulfur		
barium		
carbon		

5. When atoms become ions it is because they either lost or gained one or more electrons. Metallic elements usually **lose** their electrons, while nonmetallic elements usually **gain** electrons in order to arrive at a full outer energy level. Assuming that this has happened with each of the elements below, print the symbols for ions of the following elements (See page 179 for examples.)

Element	Ion Symbol
sodium	
chlorine	
lithium	
fluorine	
potassium	
bromine	

Element	Ion Symbol
magnesium	
oxygen	
calcium	
sulfur	
barium	
carbon	

Element	Ion Symbol
cesium	
boron	
selenium	
iodine	
rubidium	
hydrogen	

6. What does the term **ionization** mean?

Please continue on the other side.

7. What does the term **ionization energy** mean?

8. What is meant by the term **electron affinity**?

9. What is meant by the term **crystal lattice**?

10. List four substances that form crystal lattice structures in their solid form.

11. How many basic crystal shapes, or systems are there?

12. What is the difference between **covalent bonding** and **ionic bonding**?

13. What happens to the valence electrons of atoms that are covalently bonded?

14. What is the simplest kind of covalent bond?

15. In the boxes below, draw electron dot diagrams for each of the elements listed in #5.
Print the element symbol in the center of the diagram and place the dots in pairs around the outside of the symbol. Remember… the outside energy level can only have 8 electrons, so you can't have more than eight dots.

Example:  **Ra** radium	Example:  **Sn** tin			

16. What is a **molecule**?

17. What is a **polyatomic ion**?

18. Name two substances that form **network solids**.