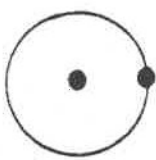
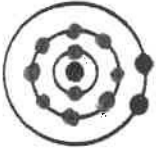
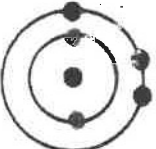


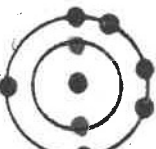
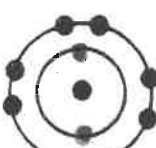
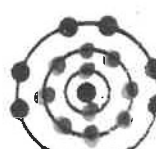


Valence Clues Name: _____

The diagrams below represent various atoms in which only the valence electrons are shown. Use the diagrams to provide the missing information.

	Element	Number of Valence Electrons	Metal, Nonmetal, Semi-Metal, Noble Gas	Group Number	Period Number
1.		_____	_____	_____	_____
2.		_____	_____	_____	_____
3.		_____	_____	_____	_____
4.		_____	_____	_____	_____
5.		_____	_____	_____	_____
6.		_____	_____	_____	_____
7.		_____	_____	_____	_____
8.		_____	_____	_____	_____

**ELEMENTS AND THE PERIODIC TABLE
SIMPLE IONS**

Name _____
Date _____

Bik _____

Complete the following table. Note that the name of a *nonmetallic* ion ends in *ide* while the name for a *metallic* ion uses the full name of the metal.

Ion Name	Ion Symbol	Number of Protons	Number of Electrons	Number of Electrons Lost or Gained	Same Electrons as What Noble Gas?
e.g., fluoride	F^{-1}	9	10	gained one	neon
1.		53	54		
2.		16		gained two	
3. potassium				lost one	
4.	Ca^{2+}				
5.		35	36		
6.	Sr^{2+}				
7.	H^{+1}				(none)
8.		8		gained two	
9.		12		lost two	
10. aluminum			10		
11.		34	36		
12.	H^{-1}				
13. lithium				lost one	
14.	Rb^{+1}				
15.		17	18		

On the ALCHEM periodic table that has been provided with this course the symbol for the calcium ion is listed as Ca^{2+} . This $^{2+}$ symbol is recommended by IUPAC (The International Union of Pure and Applied Chemistry) (Section 1.31). The incorrect designation $+2$ is sometimes confused as indicating a positive number rather than indicating a positive *charge*.