

Chem I

Name _____

Date _____ Per _____

Worksheet # C20: Monatomic Ions (pgs 203-208 in Modern Chemistry)

1. Complete the following tables:

Symbol	Element Name	Ion Symbol	Cation Name
Li			
Cs			
		Cr^{+3}	
Mg			
Al			
	Gallium		
			Beryllium ion
		Pb^{+4}	

Symbol	Element Name	Ion Symbol	Anion Name
Br			
			oxide ion
F			
		N^{-3}	
	Sulfur		
P			
I			
			chloride ion

2. An atom with the same number of protons as electrons has a charge of _____.

3. When an atom loses one electron, the ion formed has a charge of _____.

4. What kind of elements tend to lose electrons? _____ Gain electrons? _____

5. An ion with two more protons than electrons has a charge of _____.

7. For each of the positive ions listed in the first column, use the periodic table to find the total number of electrons that ions contains. Match with the correct letter in the second column. Answers may be used more than once.

_____ 1. Al^{+3}	a. 2
_____ 2. Fe^{+3}	b. 10
_____ 3. Mg^{+2}	c. 21
_____ 4. Sn^{+2}	d. 23
_____ 5. Co^{+2}	e. 24
_____ 6. Co^{+3}	f. 25
_____ 7. Li^{+1}	g. 36
_____ 8. Cr^{+3}	h. 48
_____ 9. Rb^{+1}	i. 76
_____ 10. Pt^{+2}	j. 81

8. For each of the following ions, indicate the total number of protons and electrons present in the ion:

a. Na^{+1} <u>ex: 11p⁺/ 10e⁻</u>	e. N^{-3} _____
b. As^{-3} _____	f. Sc^{+3} _____
c. Fe^{+2} _____	g. Sr^{+2} _____
d. Ca^{+2} _____	

9. Use the periodic chart to answer the following:

- Atoms in group 1 tend to form ions with a _____ charge.
- Atoms in group 2 tend to form ions with a _____ charge.
- Atoms in group 13 tend to form ions with a _____ charge.
- Atoms in group 15 tend to form ions with a _____ charge.
- Atoms in group 16 tend to form ions with a _____ charge.
- Atoms in group 17 tend to form ions with a _____ charge.

10. Why don't the noble gases form ions? _____
