WS 6.2 **Name:**_____ **p.**_____

1. The elements in column group 18 on the periodic table are called the _____ gases or the _____ gases, because they do not tend to react. They are unreactive because they have a stable number and arrangement of electrons around the nucleus. Other elements often react in order to gain or lose electrons and obtain the same number of electrons as a noble gas.

If an element gains electrons, it will form a _____ ion called a/an _____.
If an element loses electrons, it will form a _____ion called a/an _____.

2.

Element	# of electrons in the **atom**	Nearest Noble Gas	# electrons gained or lost to form an ion	# electrons in the **ion**	Ion symbol
Fluorine	_____	_____	_____	_____	_____
oxygen	_____	_____	_____	_____	_____
sodium	_____	_____	_____	_____	_____
aluminum	_____	_____	_____	_____	_____
phosphorus	_____	_____	_____	_____	_____
barium	_____	_____	_____	_____	_____
potassium	_____	_____	_____	_____	_____
sulfur	_____	_____	_____	_____	_____
nitrogen	_____	_____	_____	_____	_____
iodine	_____	_____	_____	_____	_____
calcium	_____	_____	_____	_____	_____
chlorine	_____	_____	_____	_____	_____
magnesium	_____	_____	_____	_____	_____

3. Out of these ions: Mg^{+2} , Br^{-1}, $Fe^{+3,}$ Li^{+1}
a. Which ion does NOT have the same number of electrons as a noble gas?_____
b. Explain why some ions do not have the same number of electrons as a noble gas.

4. List 4 ions that have the same number of electrons as the noble gas NEON.
Show the charge on each. (You can find these in the chart in #2) _____ _____
_____ _____

5. List 3 ions that have the same number of electrons as the noble gas Krypton.
Show the charge on each. Include at least one cation and at least one anion. _____ _____ _____

6. Determine the number of protons, neutrons, and electrons in each ion:

	protons	neutrons	electrons
a. $^{74}As^{-3}$	_____	_____	_____
b. $^{210}Bi^{+3}$	_____	_____	_____
c. $^{218}At^{-1}$	_____	_____	_____

WS 6.1 **Name:**_____ **p.**____

Fill in the missing formula or name for the following ionic compounds:

1. Aluminum chloride
2. Aluminum sulfide
3. Copper(II) sulfate (aka "cupric sulfate")
4. NaCl
5. Na_3N
6. $NaNO_3$
7. Copper (II) Nitrate (aka "cupric nitrate")
8. $Na_2Cr_2O_7$
9. Iron (III) sulfide (aka "ferric sulfide")
10. K_2CrO_4
11. CuO _____ or _____
12. FeO _____ or _____
13. Fe_2O_3 _____ or _____
14. $SnCl_2$
15. $Sn(SO_4)_2$
16. Ammonium nitrate
17. $AgNO_3$
18. Aluminum permanganate
19. Al_2O_3
20.. $Cu_3(PO_4)_2$
21. $FePO_4$
22. PbS_2
23. CuS
24. Cu_2S
25. Na_2O
26. Iron (III) sulfate
27. Silver dichromate