CH30S **Review of SC10F and SC20F**

Use your review notes and your periodic table to answer the following questions in the space provided.

1. Name of group VI. Chalcogens
2. C^{2-} has the same number of electrons as what gas?
   C → #6 → 6p⁺ & 6e⁻, So C^{2-} has 8e⁻ = Oxygen.
3. What family gains two electrons to become stable?
   Chalcogens
4. What has 18 electrons, 20 neutrons and 19 protons? K^+
5. Normal ion charge of Ba. 2+
6. Formula for oxide of sodium. Na_2O
7. Number of neutrons in Ca^+ 20 n°
8. Atomic number represents... #p+
9. What has 7 protons, 7 neutrons and 9 electrons? N^{2-}
10. Br^{2+} has how many electrons? 33 e⁻
11. Formula for mercury (II) phosphate. $Hg_3(PO_4)_2$
12. What element is found in period 2, group III?
    Boron
13. What two families do you think would form the strongest ionic bond?
    Alkali metals & halogens
14. Formula for trinitrogen heptoxide.
    N_3O_7
15. Give the key words that describe ionic bonding.
    - transfer of e⁻
    - metals & non metals
    - charges.
16. Briefly explain why Calcium bonds with Chlorine in a ratio of 1:2.
    Ca^{2+} — Cl^-
    \ Cl^- ⇒ $CaCl_2$
17. Give an example of a metalloid.
    B, Si, Ge, As, Sb, Te, At

18. List three properties of metals.

Shiney, malleable, ductile, conductive.

19. What general rules can be used to identify and differentiate between ionic and covalent compounds?

Ionic = metals + non.

20. Label the following as ionic or covalent compounds.

Al_2O_3	NaF	SO_2	$MgBr_2$
I	I	C	I

21. Complete the following table by writing the compound formula in the space provided. A couple have been done as an example.

	Fluoride F^-	**Oxide** O^{2-}	**Bromide** Br^-	**Sulfide** S^{2-}
Sodium Na^+	NaF	Na_2O	$NaBr$	Na_2S
Barium Ba^{2+}	BaF_2	BaO	$BaBr_2$	BaS
Silver Ag^+	AgF	Ag_2O	$AgBr$	Ag_2S
Iron (III) Fe^{3+}	FeF_3	Fe_2O_3	$FeBr_3$	Fe_2S_3
Cesium Cs^+	CsF	Cs_2O	$CsBr$	Cs_2S
Zinc (II) Zn^{2+}	ZnF_2	ZnO	$ZnBr_2$	ZnS

22. Write the formula for:

a) phosphorus trichloride

PCl_3

b) carbon tetrafluoride

CF_4

c) diboron hexachloride

B_2Cl_6

Challenge Problems:
Use the back side of your periodic table to answer the following questions.

23. Complete the following table by writing the compound formula in the space provided. A few have been done as an example.

	Nitrate NO_3^-	Hydroxide OH^-	Sulfate SO_4^{2-}	Hydrogen Carbonate HCO_3^-	Phosphate PO_4^{3-}	Carbonate CO_3^{2-}	Hydrogen Sulfate HSO_4^-
Lithium Li^+	$LiNO_3$	$LiOH$	Li_2SO_4	$LiHCO_3$	Li_3PO_4	Li_2CO_3	$LiHSO_4$
Strontium Sr^{2+}	$Sr(NO_3)_2$	$Sr(OH)_2$	$SrSO_4$	$Sr(HCO_3)_2$	$Sr_3(PO_4)_2$	$SrCO_3$	$Sr(HSO_4)_2$
Copper (I) Cu^+	$CuNO_3$	$CuOH$	Cu_2SO_4	$CuHCO_3$	Cu_3PO_4	Cu_2CO_3	$CuHSO_4$
Aluminum Al^{3+}	$Al(NO_3)_3$	$Al(OH)_3$	$Al_2(SO_4)_3$	$Al(HCO_3)_3$	$AlPO_4$	$Al_2(CO_3)_3$	$Al(HSO_4)_3$
Magnesium Mg^{2+}	$Mg(NO_3)_2$	$Mg(OH)_2$	$MgSO_4$	$Mg(HCO_3)_2$	$Mg_3(PO_4)_2$	$MgCO_3$	$Mg(HSO_4)_2$
Ammonium NH_4^+	NH_4NO_3	NH_4OH	$(NH_4)_2SO_4$	NH_4HCO_3	$(NH_4)_3PO_4$	$(NH_4)_2CO_3$	NH_4HSO_4

24. Name the following compounds:

a) $Ca(OH)_2$ Calcium hydroxide

b) $CaCO_3$ Calcium Carbonate

c) $ZnSO_4$ Zinc Sulphate

d) PbO_2 Lead (IV) oxide

e) PbO Lead (II) oxide

f) $Pb_3(PO_4)_2$ Lead (II) Phosphate.