

Chem I

Name _____

Date _____ Per _____

Ionic Compounds Review

Note: Starred Problems (*) are for those of you who really get this.

I. Ions: What ion does each of these become? (give the symbol and the charge)

a. sodium : Ex: Na^{+1}

e. barium: _____

b. oxygen: _____

f. chromium V: _____

c. copper II: _____

g. gallium: _____

d. nitrogen: _____

h. iodine: _____

II. Ionic Compounds the First: Give the formula for each of these.

a. Magnesium fluoride _____

b. Potassium nitride _____

c. Magnesium nitride _____

d. Gold III iodide _____

e. Vanadium VII phosphide _____

f. Aluminum sulfide _____

III. Ionic Compounds the Second: What is the name of each of these? Use Roman Numerals when necessary.

a. RbBr _____

b. AlN _____

c. CuF_2 _____

d. Nb_3N_9 _____

e. PbO_2 _____

f. SnCl_4 _____

IV. Grams, Moles, and Molecules

a. How many molecules are in a mole of molecules? _____

b. How many atoms are in a mole of atoms? _____

c. How many BBs are in a mole of BBs? _____

* d. One twinkie is 4.00 inches long. The nearest star is Alpha Centari, which is 4.24 light years away from the earth. One light year is 5.88×10^{12} miles. There's 5,280 feet in one mile. Could a mole of twinkies, lined up end to end, make it from here to Alpha Centari?

e. What's the mass of 7.00 moles of calcium chloride?

f. If you had 4.50×10^{12} molecules of sodium chloride how many moles would it be?

g. How many molecules would be in 100.0 grams of uranium VI fluoride?

i. How many atoms of uranium would there be? _____

ii. How many atoms of fluorine would that be? _____

*iii. Back to the uranium. If one out of 140 of those uranium atoms was U-235 (the stuff that's fissile, or can be used to make a chain reaction (and therefore a bomb), how many atoms of U-235 would that be?

*iv. Finally, how much would the U-235 atoms weigh?

h. Someone presents you with 25.0 moles of silver I chloride.

i. How much would it weigh?

ii. How many molecules would it be?

*iii. How many grams of just silver is in there (if you could get it out)?