Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chemical Reactions Exam Review

A. Name/Formula Write!

1) In the formula for a chemical compound, what do the subscripts tell you?

2) When two ions come together to form a compound, what must the total charge add up to? \_\_\_\_\_\_\_\_\_

3) What is a roman numeral needed in IUPAC naming?

4) When writing chemical formulas, which gets named first, the anion or cation? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5) How are you able to identify whether or not a compound has a polyatomic in it?

6\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_SrO 22\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ potassium sulfide

7\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_KNO2 23\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tin (II) oxide

8\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_CuF2 24\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sulfuric acid

9\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_HClO4 25\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lead (IV) oxide

10\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Al2(CO3)3 26 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_calcium perchlorate

11\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H3PO4 27 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ dichlorine monoxide

12\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_HCl 28 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ copper (II) permanganate

13\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_CF4 29 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ strontium phosphide

14\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_PbSO3 30 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nitric acid

15\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_BeBr2 31 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ iron (III) bromide

16\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_HF 32 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ammonium sulfite

17\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Pb(CO3)2 33\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ iron (II) oxalate

18\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (NH4)2Cr2O7 34\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ silver dichromate

19\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_CuO 35\_\_\_\_\_\_\_\_\_\_\_\_\_\_ aluminum permanganate

20\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Ca3(PO3)2 36\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_barium sulfide

21\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Cu2CrO4 37\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nitrogen trioxide

**B. Balance!**

1. \_\_\_Li + \_\_\_O2 🡪 \_\_\_Li2O

2. \_\_\_CuCO3 🡪 \_\_\_CuO + \_\_\_CO2

3. \_\_\_Al + \_\_\_CuCl2 🡪 \_\_\_AlCl3 + \_\_\_Cu

4. \_\_\_AuBr3 🡪 \_\_\_Au + \_\_\_Br2

5. \_\_\_Mg(OH)2 + \_\_\_H(NO3) 🡪 \_\_\_Mg(NO3)2 + \_\_\_H2O

C. Types of Chemical Reactions

1. Writing the correct chemical formula for each compound in the reaction (Hint: BrINClHOF)
2. Balancing the equation
3. Identifying the type of reaction (Synthesis, Decomposition, or Single or Double Replacement)
4. aluminum + copper (II) chloride → aluminum chloride + copper

Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. magnesium bromide + chlorine → magnesium chloride + bromine

Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. gallium oxide → gallium + oxygen

Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. potassium + water → potassium hydroxide + hydrogen

Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. potassium bromide + lithium iodide → lithium bromide + potassium iodide

Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Complete the following SINGLE REPLACEMENT reactions by:

1. Determining whether the reaction will happen or not *(Hint: Table J)*
2. Predict the products if the reaction will happen
3. Balance the final reaction
4. F2 + CaBr2 🡪
5. Br2 + NaCl 🡪
6. Sr + BaCl2 🡪
7. Cu + NiO 🡪

Complete the following DOUBLE REPLACEMENT reactions by predicting the correct products and balancing the reaction (INCLUDE PHASES-Table F):

1. ZnCl2 + AgBr 🡪

2. NaOH + NH4Cl 🡪

3. PbO2 + CaF2 🡪

4. Al2O3 + HOH 🡪

**D. Balancing Word Equations**

1. When dissolved beryllium chloride reacts with dissolved silver nitrate in water, aqueous beryllium nitrate and silver chloride powder are made.
2. When fluorine gas is put into contact with calcium metal at high temperatures, calcium fluoride powder is created in an exothermic reaction.
3. When sodium metal reacts with iron (II) chloride, iron metal and sodium chloride are formed.