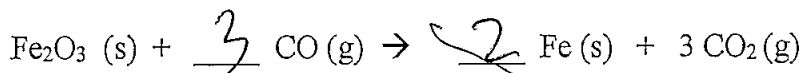


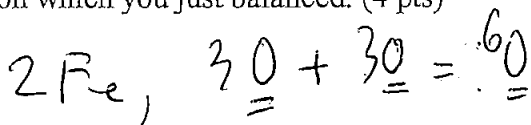
Name Keiz Print Name _____

Please show work on all questions for partial credit even on questions which do not specify. (25 total pts)

1. a. Balance the following reaction by filling in the blank for the missing coefficient. (4 pts, 2 pts each)

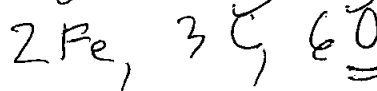


- b. Show the number of each of the elements on the reactant and product side of the above reaction which you just balanced. (4 pts)



3 C

reactant

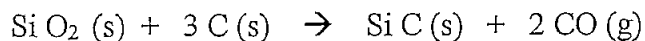


product

from chapters 2
after exam I

2. The name for HCl is
- hydrochloric acid
- (4 pts)

3. Given the following reaction, if you start with 67.2 grams of
- C
- , what is your theoretical yield of
- CO
- in grams? (MW of CO = 28.01 g/mol) (show work) (8 pts)



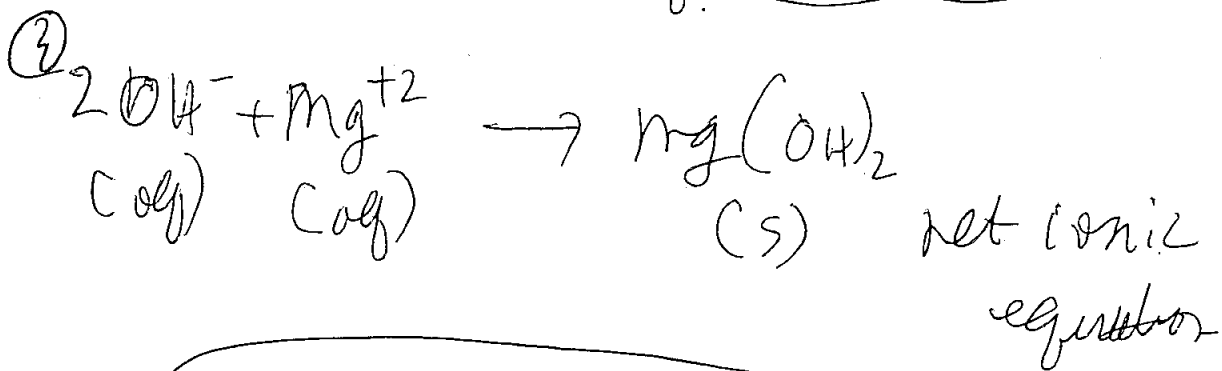
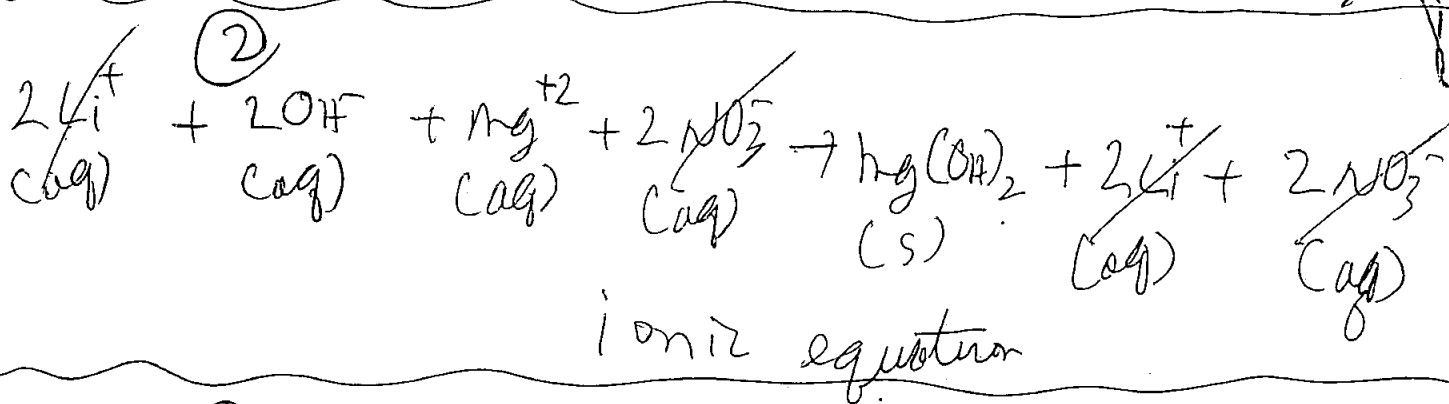
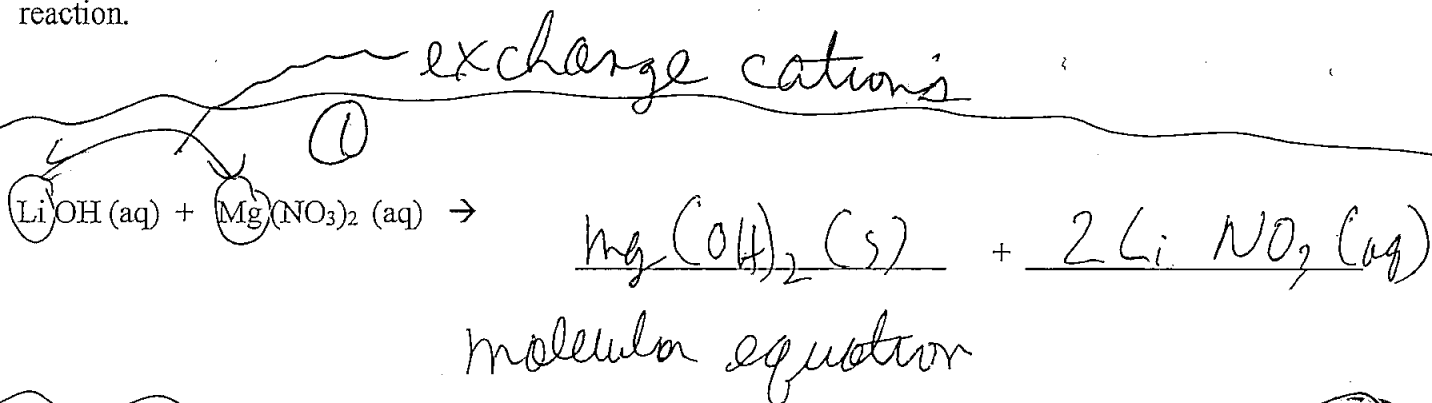
$$67.2 \text{ g C} \times \frac{1 \text{ mol C}}{12.01 \text{ g C}} \times \frac{2 \text{ mol CO}}{3 \text{ mol C}} \times \frac{28.01 \text{ g CO}}{1 \text{ mol CO}}$$

$$= 104.9 \text{ g CO}$$

4. Is $Mg(OH)_2$ [(soluble) or (insoluble)] (circle one) in water? (5 pts)

5. Extra Credit: (4 pts, 2 pts each blank)

Given the following molecular reactants, write the product of the precipitation reaction as a molecular reaction.

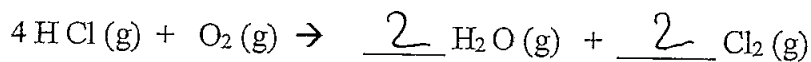


* ② & ③ are not needed to answer but are shown here to help you study for EXAM II

Name key Print Name _____

Please show work on all questions for partial credit even on questions which do not specify. (25 total pts)

1. a. Balance the following reaction by filling in the blank for the missing coefficient. (4 pts, 2 pts each)

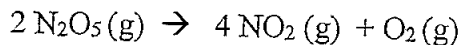


b. Show the number of each of the elements on the reactant and product side of the above reaction which you just balanced. (4 pts)

<p>4H 4Cl <u>2O</u></p>	<p>reactant</p>	<p>4H ✓ <u>2O</u> ✓ 4Cl ✓</p>	<p>product</p>	<p>from chapter 2 after exam I</p>
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2. The name for H₂SO₄ is sulfuric acid (4 pts)

3. Given the following reaction, if you want to make 18.9 grams of NO₂, how many grams of N₂O₅ do you need? (MW of N₂O₅ = 108.02 g/mol) (MW of NO₂ = 46.01 g/mol) (show work) (8 pts)



$$18.9 \text{ g NO}_2 \times \frac{1 \text{ mol NO}_2}{46.01 \text{ g NO}_2} \times \frac{2 \text{ mol N}_2\text{O}_5}{4 \text{ mol NO}_2} \times \frac{108.02 \text{ g N}_2\text{O}_5}{1 \text{ mol N}_2\text{O}_5}$$

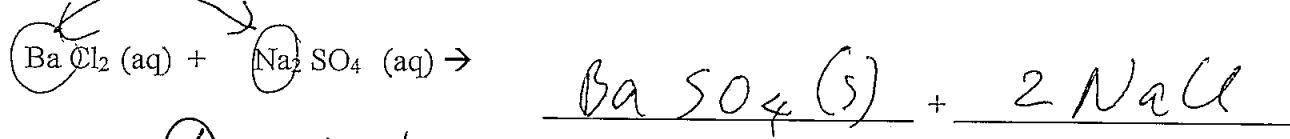
= 22.2 g N₂O₅
needed

4. Is BaSO₄ [(soluble) or (insoluble)] (circle one) in water? (5 pts)

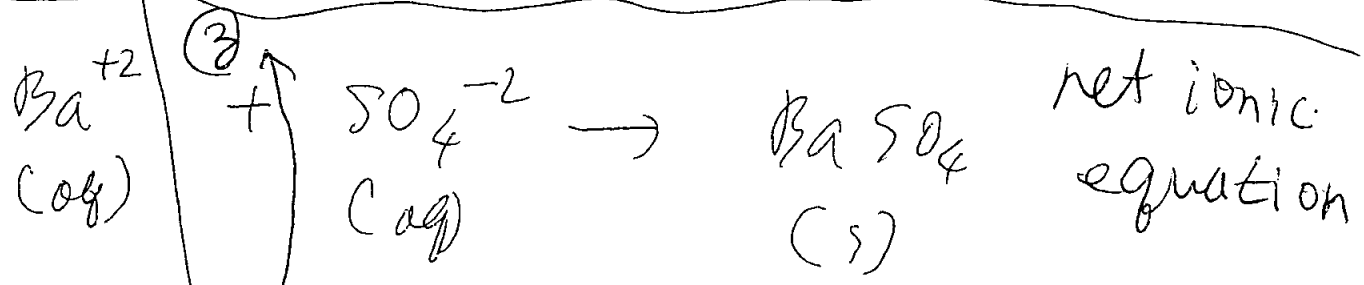
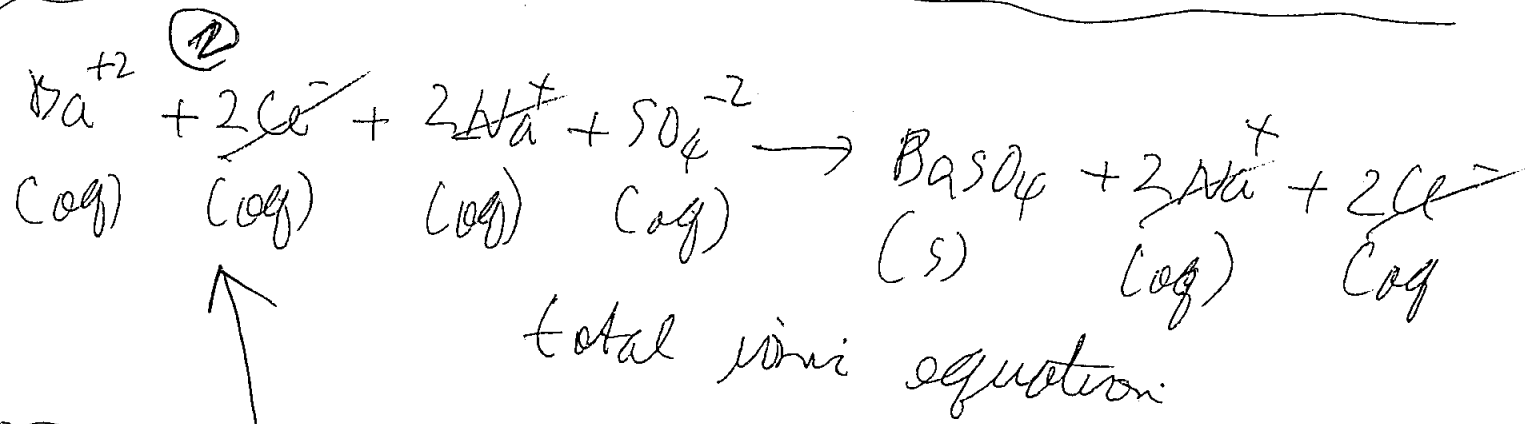
5. Extra Credit: (4 pts, 2 pts each blank)

Given the following molecular reactants, write the product of the precipitation reaction as a molecular reaction.

exchange cations



① molecular equation

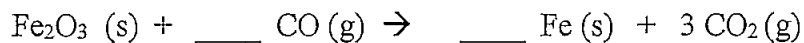


② + ③ are not needed for answer but are shown here to help you study for EXAM II

Name _____ Print Name _____

Please show work on all questions for partial credit even on questions which do not specify. (25 total pts)

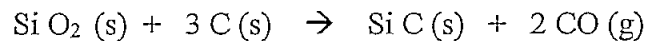
1. a. Balance the following reaction by filling in the blank for the missing coefficient. (4 pts, 2 pts each)



- b. Show the number of each of the elements on the reactant and product side of the above reaction which you just balanced. (4 pts)

2. The name for HCl is _____ (4 pts)

3. Given the following reaction, if you start the with 67.2 grams of C, what is your theoretical yield of CO in grams? (MW of CO = 28.01 g/mol) (show work) (8 pts)

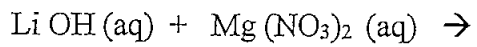


ram

4. Is $\text{Mg}(\text{OH})_2$ [(soluble) or (insoluble)] (circle one) in water ? (5 pts)

5. Extra Credit: (4 pts, 2 pts each blank)

Given the following molecular reactants, write the product of the precipitation reaction as a molecular reaction.

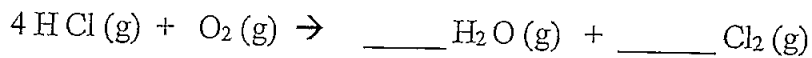


9 am

Name _____ Print Name _____

Please show work on all questions for partial credit even on questions which do not specify. (25 total pts)

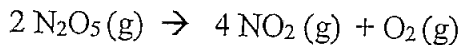
1. a. Balance the following reaction by filling in the blank for the missing coefficient. (4 pts, 2 pts each)



- b. Show the number of each of the elements on the reactant and product side of the above reaction which you just balanced. (4 pts)

2. The name for H_2SO_4 is _____ (4 pts)

3. Given the following reaction, if you want to make 18.9 grams of NO_2 , how many grams of N_2O_5 do you need? (MW of $\text{N}_2\text{O}_5 = 108.02 \text{ g/mol}$) (MW of $\text{NO}_2 = 46.01 \text{ g/mol}$) (show work) (8 pts)

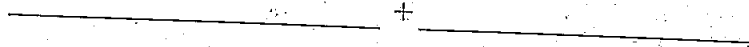
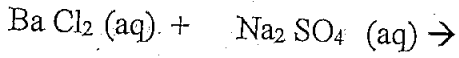


10am

4. Is Ba SO₄ [(soluble) or (insoluble)] (circle one) in water ? (5 pts)

5. Extra Credit: (4 pts, 2 pts each blank)

Given the following molecular reactants, write the product of the precipitation reaction as a molecular reaction.



10 am

Solubility

Solubility is the maximum amount of solute that will dissolve in a given quantity of solvent at a specific temperature.

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Table 4.2 Solubility Rules for Common Ionic Compounds in Water at 25 °C

Soluble Compounds	Insoluble Exceptions
Compounds containing alkali metal ions (Li^+ , Na^+ , K^+ , Rb^+ , Cs^+) and the ammonium ion (NH_4^+)	
Nitrates (NO_3^-), acetates (CH_3COO^-), bicarbonates (HCO_3^-), chlorates (ClO_3^-), and perchlorates (ClO_4^-)	
Halides (Cl^- , Br^- , I^-) Sulfates (SO_4^{2-})	Halides of Ag^+ , Ag^+ , Hg_2^{2+} , and Pb^{2+} Sulfates of Ag^+ , Ca^{2+} , Sr^{2+} , Ba^{2+} , Hg_2^{2+} , and Pb^{2+}
Insoluble Compounds	Soluble Exceptions
Carbonates (CO_3^{2-}), phosphates (PO_4^{3-}), chromates (CrO_4^{2-}), sulfides (S^{2-})	Compounds containing alkali metal ions and the ammonium ion
Hydroxides (OH^-)	Compounds containing alkali metal ions and the Ba^{2+} ion