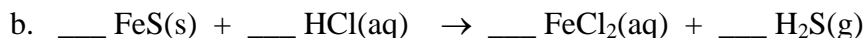
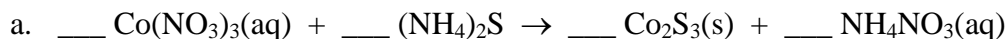


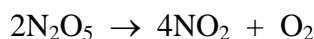
Name: _____

Quiz #5
CHEM 1411 — Fall 2009

1. Balance each of the following chemical equations: (25 pts)



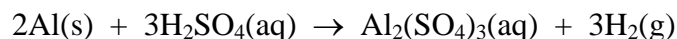
2. Consider the following balanced reaction:



How many moles of NO_2 form when 3.0 moles of N_2O_5 react? How many moles of O_2 are also produced? (25 pts)

- _____ (a) 6.0 mol NO_2 , 1.5 mol O_2
(b) 4.0 mol NO_2 , 1.0 mol O_2
(c) 2.5 mol NO_2 , 0.50 mol O_2
(d) 1.5 mol NO_2 , 2.0 mol O_2

3. Sulfuric acid dissolves aluminum metal according to the following reaction:



Suppose you wanted to dissolve an aluminum block with a mass of 15.2 g. What minimum mass of H_2SO_4 (in g) would you need? (MM Al = 26.98 g/mol, MM H_2SO_4 = 98.07 g/mol)(25 pts)

- _____ (a) 36.8 g
(b) 55.3 g
(c) 82.9 g
(d) 99.6 g

4. A compound of phosphorus and oxygen with a molecular mass of 125.95 g/mol contains 49.19% P and 50.81% O. Calculate the **empirical** and **molecular** formulas, arranging the atoms in the order PO. (25 pts)