CHM 1142   Exam 2

20 points   1)   Calculate the %Cr in $K_2Cr_2O_7$.

20 points   2)   KI is 23.6% K. How many grams of KI must you eat to consume 1.22 g of potassium?

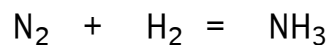40 points 3) Answer the following:

a) How many grams in 0.30 moles of $SOCl_2$

b) How many moles in 23 g of $SOCl_2$

c) How many molecules in 5.0 g of $CHCl_3$

d) what is the mass in grams of 5×10^{11} molecules of CH_3Cl

CHM 1142

Exam 2

TUD Department of Chemistry

200 points total

Fall 2017

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40 points   4)   For the reaction:

$$N_2 \ + \ H_2 \ = \ NH_3$$

a)   How many moles of N_2 reacted if 0.5 mole of NH_3 were formed?

b)   How many moles of N_2 are required to react with 2.0 moles of H_2?

c)   How many moles of NH_3 could be formed from 1 mole N_2 and 0.5 mole H_2?

d)   How many grams of NH_3 could be formed from 2.0 g of H_2 and excess N_2?

30 points   5)   Write formulas or names for:

$Cu(IO_4)_2$_____   sulfuric acid_____

sulfur dioxide _____   tin (IV) hydroxide_____

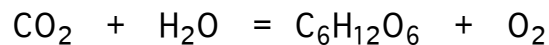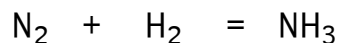potassium chlorite_____   hydrobromic acid_____

ferrous oxide_____ TiO_2_____

HNO_2_____ $Ca(MnO_4)_2$ _____

20 pts   7)   Balance the equations:

$$N_2 \ + \ H_2 \ = \ NH_3$$

$$CO_2 \ + \ H_2O \ = \ C_6H_{12}O_6 \ + \ O_2$$

$$Mg \ + \ N_2 \ = \ Mg_3N_2$$

30 points   6)   Match the formula to the correct name,

                                 a. copper (II) oxide

HCl _____   b. cuprous oxide

PCl_5 _____   c. chloric acid

CuO _____   d. hydrobromic acid

$NaOCl$ _____   e. iron (III) nitrate

Na_2CrO_4 _____   f. ferrous nitrate

$NaNO_2$ _____   g. sodium sulfite

$Fe(NO_3)_2$ _____   h. sodium sulfate

CuO _____   i. potassium pentachloride

Na_2SO_4 _____   j. hydrochloric acid

$HClO_3$ _____   k. sodium nitrite

                                   l. perchloric acid

                                   m. bromic acid

                                   n. sodium hypochlorite

                                   o. sodium chromate

                                   p. phosphorus pentachloride