Review Test 3
CHM1032C

1) Chemical equations
   a) writing chemical equations
   b) coefficients and balancing equations

2) Reaction Types
   a) Double substitution or double displacement
      i) formation of a solid, formation of a gas, formation of water
      Know how to use solubility rules but they will be provided on the test
   b) combustion reactions
   c) combination reactions
      i) oxidation/reduction
   d) single replacement reactions
      i) oxidation/reduction
   e) decomposition

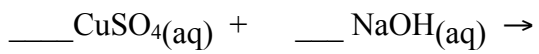
3) Moles and molecules
   a) Micro vs. the macroscopic world.
   b) Formula wt (a conversion factor)
   c) The mole & Avogadro's number

4) Gas Laws
   a) Kinetic Molecular Theory
   b) Pressure (mm Hg, atm, torr)
   c) Combined Gas Law
      $$\frac{P_1V_1}{T_1}=\frac{P_2V_2}{T_2}$$
   d) Ideal gas Law
      $$PV=nRT$$
   e) Dalton's law

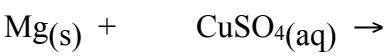
5) Solids and Liquids
   a) types of intermol. forces ionic. H-bonding, dipole-dipole, London dispersion
   b) names of interconversions
   c) boiling points

Prestest 3 CHM 1032

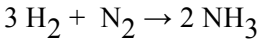
1. What are the products, include the phases(s, g, l , aq) and balance the equation: (6 pts)



2. What are the products, include the phases (s, g, l , aq) and balance the equation: (6 pts)



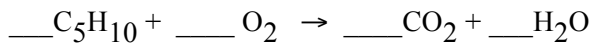
3. Consider the reaction:



How many grams of NH_3 are produced from the reaction of 9.58 g of H_2?

(Assume hydrogen is the limiting reagent)

4 Please balance the following equation. (6 pts)



Problem 5. (8 pts)

How many moles of air gas are present in the lungs if they occupy a volume of 1.183 L at 37°C and 798 mmHg?

Problem 6 (8 pts)

If a balloon containing 4.12 L of gas at 25°C is cooled to -78°C, what is the new volume?