In-class exercise #9a: chem 1114

**Acid/Base Language Practice**

**9.1 Which are Arrhenius bases in the list below:**

**KCl NaOH Na2CO3 HCl HOH NaCl**

**9.2 Which can be Bronsted bases in the list below:**

**KCl NaOH Na2CO3 HCl HOH NaCl**

**9.3. Identify the base (B), acid(A), conjugate acid (CA) and conjugate bases**

**(CB) below:**

1. **HCl + NaOH 🡪 NaCl + H2O**
2. **NH3 + HBr 🡪 NH4+ + Br-**
3. **H3PO4 + Na3PO4 🡪 NaH2PO4 + HNa2PO4**

**9.4 Circle all the characteristics below associated with acid-base reaction behavior**

* **Precipitates always form**
* **Heat often generated**
* **Reactant acid and base are ionic**
* **Indicators used to assess neutralization**
* **Electrons move**
* **Gases sometimes generated**

**9.5 Write the hydrolysis reactions occurring on**

**a) CO32-(~ Alka-seltzer)**

**b) SO4-2 (~ Epsom salts)**

**c) OCl- (~ household bleach)**

In-class exercise #9b: chem 1114

**REDOX Language**

**9.0) gain electrons=> \_\_\_\_\_\_\_\_\_\_\_ lose electrons=> \_\_\_\_\_\_\_\_\_\_\_\_**

**9.1) Assign the species being oxidized and reduced below:**

1. **Cu2+ + Feo** 🡪 **Cuo** + Fe2+
2. **2HCl + Mg🡪 Mg2+ + H2**
3. **Pb + MnO2 🡪 PbO + MnO**
4. **O2 + C 🡪 CO2**

**9.2a) Assign oxidation numbers to all the elements in the species below:**

***oxidation numbers***

1. **N2 N \_\_\_**
2. **H2O H \_\_\_ O \_\_\_**
3. **CaO Ca \_\_\_ O \_\_\_\_**
4. **MgCO3 Mg \_\_\_ C \_\_\_ O \_\_\_**
5. **H2SO4 H \_\_\_ S \_\_\_\_ O \_\_\_**

**9.2b) write the oxidation numbers above each element in the reactions of 10.1**

**9.3) Given the redox reaction below:**

**2Al + 3Cu2+ 🡪 2Al3+ + 3Cuo**

1. **Write the two half reactions**

**Oxidation half reaction**

**Reduction half reaction**

1. **Sketch an equivalent cell for the above here**
2. **Write the equivalent cell notation expression below:**

**for your sketch below**