Chemistry 51

Name:___

CHEMICAL REACTIONS & EQUATIONS Exit Ticket 8

- 1. Write a balanced equation for each reaction described below. Include state designation for each reactant and product.
 - a) Dinitrogen oxide, laughing gas is produced by heating solid ammonium nitrate. The other product formed in this reaction is gaseous water.

b) When ethanol , C_2H_6O (aq), is consumed, it reacts with oxygen gas in the body to produce gaseous carbon dioxide and liquid water.

2. Balance the following equations:

a) $\operatorname{Zn}(s) + \operatorname{HNO}_3(\operatorname{aq}) \rightarrow \operatorname{Zn}(\operatorname{NO}_3)_2(\operatorname{aq}) + \operatorname{H}_2(g)$

b)
$$AlCl_3(aq) + KOH(aq) \rightarrow Al(OH)_3(s) + KCl(aq)$$

c)
$$BaCl_2(aq) + Na_3PO_4(aq) \rightarrow Ba_3(PO_4)_2(s) + NaCl(aq)$$

3. Balance and classify each of the following reactions as synthesis, decomposition, single replacement, double replacement or combustion:

a)
$$Al_2O_3(s) \rightarrow Al(s) + O_2(g)$$

b)
$$C_2H_2(g) + O_2(g) \rightarrow CO_2(g) + H_2O(g)$$

c)
$$\operatorname{Fe}_2O_3(s) + \operatorname{C}(s) \rightarrow \operatorname{Fe}(s) + \operatorname{CO}(g)$$

4. Identify each of the following as oxidation or reduction, and complete by placing the proper number of electrons on the proper side of equation:

a)
$$Na^+$$
 (aq) $\rightarrow Na$ (s)

b) Ni (s)
$$\rightarrow$$
 Ni²⁺ (aq)

c)
$$Fe^{3+}$$
 (aq) $\rightarrow Fe^{2+}$ (aq)

d)
$$2 \operatorname{Br}^{-}(\operatorname{aq}) \rightarrow \operatorname{Br}_{2}(\operatorname{l})$$