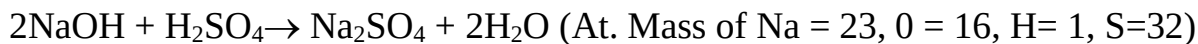
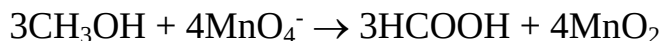


School Of Excellence Chemistry worksheet for Grade 12

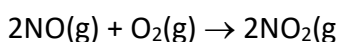
1. How many grams of H_2SO_4 is required to react completely with 44gm of NaOH ?



2. When 12 g of methanol (CH_3OH) was treated with excess oxidizing agent (MnO_4^-), 14 g of formic acid (HCOOH) was obtained. The percent yield of formic acid (At.mass of C = 12, H = 1, O = 16, Mn = 52) is:

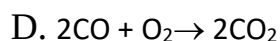
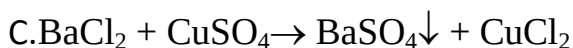
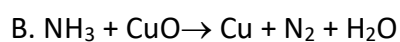
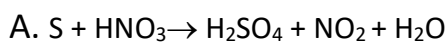


3. How many liters of NO reacts with 5 liters of O_2 at STP in the following reaction?

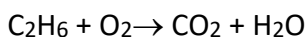


4. What mass of ZnCl_2 can be prepared from the reaction of 3.27 grams of zinc with 3.30 grams of HCl ? At.mass of Zn = 65, H = 1, Cl = 35.5) $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$

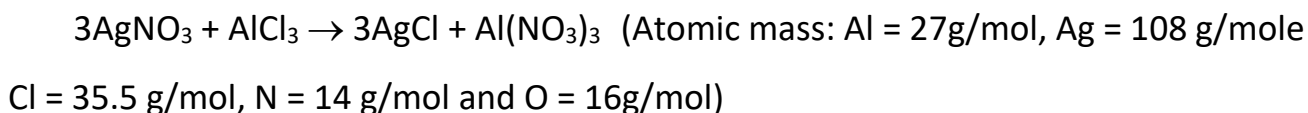
5. Which one of the following reaction is not a redox reaction?



6. The coefficient of O_2 when the following reaction completely balanced become:



7. What mass of AgCl can be prepared from 200 g of AlCl_3 and sufficient AgNO_3 ?



8. Consider the rxn: $\text{CaCO}_3 + \text{HCl} \rightarrow \text{CaCl}_2 + \text{CO}_2 + \text{H}_2\text{O}$ (unbalanced) . The percent yield of CO_2

if 3.6gm is collected actually when 10gm CaCO_3 reacts with excess HCl (At.mass of Ca = 40, C = 12,

O = 16, H = 1, Cl = 35.5) become:

9. For the rxn: $4\text{NH}_3 + 5\text{O}_2 \rightarrow 4\text{NO} + 6\text{H}_2\text{O}$, how many grams of NO will be formed from the mixture of

30gm NH_3 and 40gm O_2 ? At.mass of N = 14, O = 16, H = 1

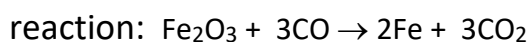
10. For the reaction: $3 \text{H}_2(\text{g}) + \text{N}_2(\text{g}) \rightarrow 2 \text{NH}_3(\text{g})$, What mass of $\text{NH}_3(\text{g})$ is produced when 2.5 L of

$\text{H}_2(\text{g})$ reacts with sufficient amount of $\text{N}_2(\text{g})$ at STP ? (At.Mass of N = 14, H=1)

11. Identify the oxidation state of the underlined atoms



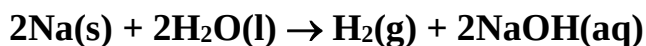
12. Identify the substance oxidized, reduced, the oxidizing agent and reducing agent for the redox



13. How many liters of carbon dioxide are produced when 200 g of calcium carbonate react with hydrochloric acid at STP? (C=12, O=16, Ca= 40, H =1)

14. Consider the reaction: $\text{C}_{10}\text{H}_{12}(\text{s}) + \text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g}) + \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{g})$. When the equation is balanced and the coefficient for O_2 is:

15. Sodium metal and water react to form sodium hydroxide and hydrogen gas. What mass of Na will react with excess water to produce 15 gmNaOH? At.mass of Na = 23, O = 16, H = 1



16. Consider the following equilibrium: $2\text{NO}_2(\text{g}) \leftrightarrow \text{N}_2\text{O}_4(\text{g})$. A 1.00 L flask contains 0.030 mole NO_2 and 0.040 mole N_2O_4 at equilibrium. The value of K_{eq} is:

17. 25g of NH_3 is mixed with of O_2 in the given reaction: $4\text{NH}_3(\text{g}) + 5\text{O}_2(\text{g}) \rightleftharpoons 4\text{NO}(\text{g}) + 6\text{H}_2\text{O}(\text{g})$. Which is the limiting reactant ?

a. What mass of NO is formed?

b. How much of the excess reactant remains unreacted?

18. In which of the following gaseous equilibrium pressure has no effect?

