HW 26

Classes of chemical compounds - 4

A. Reactions where acids and bases react with each other are called <u>reactions of neutralization</u>. In these reactions a salt and water are formed. E.g. below is a neutralization reaction between hydrochloric acid (HCl – acid) and sodium hydroxide (NaOH – base) with formation of salt (sodium chloride, NaCl) and water:

 $HCI + NaOH \rightarrow NaCI + H_2O$

 $H_2SO_4 + 2NaOH \rightarrow Na_2SO_4 + 2H_2O$

B. When acidic oxides react with water, they form acids. E.g.:

$$SO_3 + H_2O \rightarrow H_2SO_4$$

C. When basic oxides react with water, they form bases. E.g.:

$$CaO + H_2O \rightarrow Ca(OH)_2$$

D. Reactions of bases:



1. Write chemical equations for the following transformations (you can look up formulas of necessary reactants in the last lecture and above):

 $Ca \rightarrow Ca(OH)_2 \rightarrow CaO \rightarrow CaSO_4$

 Basic CaO reacts with hydrochloric acid (HCl) forming the salt of calcium chloride CaCl₂ and water. Write the chemical reaction, balance the equation, and calculate how many grams of this salt will form from 73 g HCl.