Classes of chemical compounds

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:

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

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

$$SO_3 + H_2O \rightarrow H_2SO_4$$

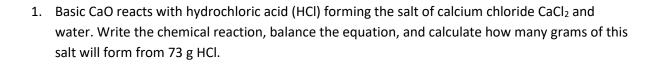
C. When basic oxides react with water, they form bases. E.g.:

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

D. Acidic oxides can react with bases with formation of water:

$$SO_3 + 2NaOH \rightarrow Na_2SO_4 + H_2O$$

E. Basic oxides can react with acids with formation of water and salt:



2. Finish and balance the following chemical equations:

$$KOH + H_2SO_4 \rightarrow$$

$$Ca(OH)_2 + H_3PO_4 \rightarrow$$

$$Ca(OH)_2 + HBr \rightarrow$$

3. Using Periodic table write down formulas of the following oxides: Ca, Ba, Fe(II), Cr(III), Cl (VII), Si (IV). Underline formulas of acidic oxides.