Name Key Schleder
Date
Hour

Practice With Writing Chemical Equations

PART A - Write the proper formulas for the equations below and balance them by placing the correct whole number coefficients in front of each formula.

1. sodium + oxygen ---> sodium oxide

$4\,Na + O_2 \rightarrow 2\,Na_2O$

2. ammonium + nitrite ---> nitrogen + water

$NH_4 + NO_2 \rightarrow N_2 + 2\,H_2O$

↑ whoops... I couldn't balance this and I realized I wrote down the wrong formula!

3. sodium + oxygen ---> sodium peroxide

$2\,Na + O_2 \rightarrow Na_2O_2$

4. potassium chlorate ---> potassium chloride + oxygen

$2\,KClO_3 \rightarrow 2\,KCl + 3\,O_2$

5. magnesium + oxygen ---> magnesium oxide

$2\,Mg + O_2 \rightarrow 2\,MgO$ Balanced

6. magnesium oxide + water ---> magnesium hydroxide

$MgO + H_2O \rightarrow Mg(OH)_2$ Balanced

7. aluminum + sulphuric acid (H_2SO_4) ---> aluminum sulphate + hydrogen

$2\,Al + 3\,H_2(SO_4) \rightarrow Al_2(SO_4)_3 + 3\,H_2$

8. copper + nitric acid ---> copper (II) nitrate + nitrogen monoxide + water

$3\,Cu + 8\,H(NO_3) \rightarrow 3\,Cu(NO_3)_2 + 2NO + 4\,H_2O$

Typo

9. sodium hydroxide + hydrochloric acid (HCl) ---> ~~aluminum~~ Sodium chloride + ~~hydrogen~~ water

$NaOH + HCl \rightarrow NaCl + H_2O$ (Balanced)

10. chlorine + carbon tetrahydride ---> hydrogen chloride + carbon tetrachloride

$4Cl_2 + CH_4 \rightarrow 4HCl + CCl_4$

PART B - Balance the following equations by placing correct whole number coefficients in the blanks. **Also identify what type of chemical reaction is occurring.**

1. ___$Ca(OH)_{2(s)}$ + 2 $HCL_{(aq)}$ ---> ___$CaCL_{2(aq)}$ + 2 $H_2O_{(l)}$
2. 2 $FeCl_{3(aq)}$ + 3 $(NH_4)_2S_{(aq)}$ ---> ___$Fe_2S_{3(s)}$ + 6 $NH_4Cl_{(aq)}$
3. 2 $KNO_{3\,(s)}$ ---> 2 $KNO_{2\,(s)}$ + ___$O_{2(g)}$
4. 2 $Ag_2O_{(s)}$ ---> 4 $Ag_{(s)}$ + ___$O_{2(g)}$
5. 2 $C_4H_{10(g)}$ + 13 $O_{2(g)}$ ---> 8 $CO_{2(g)}$ + 10 $H_2O_{(g)}$
6. ___$Br_{2(aq)}$ + 2 $KI_{(aq)}$ ---> ___$I_{2(aq)}$ + 2 $KBr_{(aq)}$
7. 2 $AsCl_{3(aq)}$ + 3 $H_2S_{\,(aq)}$ ---> ___$As_2S_{3\,(s)}$ + 6 $HCl_{\,(g)}$
8. 2 $C_5H_{12}O_{\,(l)}$ + 15 $O_{2(g)}$ --> 10 $CO_{2(g)}$ + 12 $H_2O_{\,(g)}$
9. 2 $Al_{(s)}$ + 3 $H_2SO_{4\,(aq)}$ ---> ___$Al_2(SO_4)_{3(aq)}$ + 3 $H_{2(g)}$
10. 2 $Fe_{(s)}$ + 3 $Cl_{2(g)}$ ---> 2 $FeCl_{3(s)}$