Practise problems

Chemical reactions

Balance the following reactions so that the amounts of atoms on the left side (before reaction) match those on the right side (after reaction).

1. ammonia is formed

$$N_2 + H_2 \rightarrow NH_3$$

2. methane burns

$$__CH_4 + __O_2 \rightarrow __CO_2 + __H_2O$$

3. water is separated

$$_{--}$$
 $H_2O \rightarrow _{--}$ $H_2 + _{--}$ O_2

4. hydrogen peroxide is separated

$$H_2O_2 \rightarrow H_2O + O_2$$

5. dinitrogen pentoxide separates

$$N_2O_5 \rightarrow N_2 + O_2$$

6. pentane burns

$$C_5H_{12} + C_0 \rightarrow CO_2 + H_2O$$

7. octane burns

$$_C_8H_{18} + _O_2 \rightarrow _CO_2 + _H_2O$$

8. iron nitrate reacts with magnesium oxide

$$Fe(NO_3)_3 + MgO \rightarrow Fe_2O_3 + Mg(NO_3)_2$$

9. aluminium chloride reacts with water

$$_AlCl_3 + _H_2O \rightarrow _Al(OH)_3 + _HCl$$

10. hypochlorous acid reacts with carbon

$$__HOCl + __C \rightarrow __H_2O + __CO_2 + __Cl_2$$