Homework

HW #1: Due:

Complete p. 234-236 #2, 9, 11, 15, 17, 21, 29, 33, 34, 35.

HW #2: See handout

HW #2: Balancing and Types of Reactions

Directions: Balance and determine the type of reaction for each chemical equation. Types include: synthesis, decomposition, single-replacement, double-replacement, and combustion.

1. Cu(s) + O2(g) 🡪 CuO(s)
2. H2O(l) 🡪 H2(g) + O2(g)
3. Fe(s) + H2O(g) 🡪 H2(g) + Fe3O4(s)
4. AsCl3(aq) + H2S(aq) 🡪 As2S3(s) + HCl(aq)
5. Fe2O3(s) + H2(g) 🡪 Fe(s) + H2O(l)
6. CaCO3(aq) 🡪 CaO(s) + CO2(g)
7. Fe(s) + S8(s) 🡪 FeS(s)
8. H2S(aq) + KOH(aq) 🡪 H2O(l) + K2S(aq)
9. NaCl(l) 🡪 Na(l) + Cl2(g)
10. Al(s) + H2SO4(aq) 🡪 H2(g) + Al2(SO4)3(aq)
11. H3PO4(aq) + NH4OH(aq) 🡪 H2O(l) + (NH4)3PO4(aq)
12. C3H8(g) + O2(g) 🡪 CO2(g) + H2O(g)
13. Al(s) + O2(g) 🡪 Al2O3(s)
14. CH4(g) + O2(g) 🡪 CO2(g) + H2O(g)
15. K2SO4(aq) + BaCl2(aq) 🡪 KCl(aq) + BaSO4(s)
16. C5H12(g) + O2(g) 🡪 CO2(g) + H2O(g)
17. V2O5(s) + Ca(s) 🡪 CaO(s) + V(s)
18. C7H6O3(l) + O2(g) 🡪 CO2(g) + H2O(l)
19. BN(s) + F2(g) 🡪 BF3(s) + N2(g)
20. C12H26(l) + O2(g) 🡪 Co2(g) + H2O(l)

Challenge Problems: Write, balance and determine the type of reaction.

1. A solution of lead (II) nitrate is mixed with a solution of sodium iodide to produce a solution of sodium nitrate and solid lead (II) iodide.
2. Solid zinc (II) sulfide reacts with oxygen in the air to produce zinc (II) oxide and solid sulfur (S8).
3. Liquid butane (C4H10) is ignited in air to produce carbon dioxide and water.
4. Copper metal is placed in a solution of silver (I) nitrate to produce solid silver and a solution of copper (II) nitrate.
5. A solution of aluminum sulfate is mixed with a solution of calcium hydroxide to produce a calcium sulfate solution and solid aluminum hydroxide.