

Classifying Chemical Reactions

Classify each of the following reactions:

1. $\text{CuO} + \text{H}_2 \Rightarrow \text{Cu} + \text{H}_2\text{O}$
2. $2\text{H}_2\text{O}_2 \Rightarrow 2\text{H}_2\text{O} + \text{O}_2$
3. $2\text{Ag} + \text{S} \Rightarrow \text{Ag}_2\text{S}$
4. $\text{C}_4\text{H}_8 + 6\text{O}_2 \Rightarrow 4\text{CO}_2 + 4\text{H}_2\text{O}$
5. $2\text{K} + 2\text{H}_2\text{O} \Rightarrow 2\text{KOH} + \text{H}_2$
6. $\text{HCl} + \text{NaOH} \Rightarrow \text{H}_2\text{O} + \text{NaCl}$

Balance the chemical equations that represent the following reactions and identify the reaction type:

7. The single displacement reaction between aluminum, Al, and copper (II) nitrate.
8. The formation of mercury (II) oxide from its elements.
9. The double displacement reaction of sulfuric acid, H_2SO_4 , and potassium hydroxide.
10. The combustion of cyclopentane, C_5H_{10} .
11. The combustion of C_8H_{18} .
12. The double displacement reaction between lead (II) chloride and lithium sulfate.
13. The decomposition of copper (II) oxide into two elements.
14. Copper and silver nitrate (copper II compound forms)
15. Magnesium and oxygen
16. Hydrochloric acid (HCl) and silver nitrate
17. Magnesium plus hydrochloric acid
18. Iron and oxygen (iron III compound is formed)
19. Iron and sulfur (iron II compound is formed)
20. Calcium hydroxide and sulfuric acid (H_2SO_4)
21. Zinc and sulfuric acid
22. Benzene (C_6H_6) combusting