

Chemistry

Name _____

Write the formulas for the reactants, predict the products and then balance the resulting equation.

1. magnesium + oxygen →
2. aluminum + hydrochloric acid →
3. sodium oxide + sulfur dioxide →
4. phosphoric acid →
5. sodium chlorate →
6. zinc chloride + ammonium sulfide
7. zinc sulfide + oxygen →
8. calcium carbonate →
9. mercury II sulfate + ammonium nitrate
10. iron + copper II sulfate →
11. zinc + sulfuric acid →
12. dinitrogen pentoxide + water →
13. chlorine + magnesium iodide →
14. potassium + water →
15. iron + hydrochloric acid →
16. cobalt III hydroxide + nitric acid →
17. bromine + sodium iodide →
18. sodium hydroxide + phosphoric acid →
19. ammonium sulfate + calcium hydroxide →
20. silver nitrate + potassium chloride →
21. magnesium hydroxide + phosphoric acid →
22. iron II sulfide + hydrochloric acid →
23. ammonium sulfide + iron II nitrate →
24. sulfuric acid + potassium hydroxide →
25. aluminum sulfate + calcium phosphate →
26. barium carbonate + hydrochloric acid →
27. silver acetate + potassium chromate →
28. ammonium phosphate + barium hydroxide →
29. chromium III sulfite + sulfuric acid →
30. calcium hydroxide + nitric acid →

- S ① $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$
- SR ② $2\text{Al} + 6\text{HCl} \rightarrow 2\text{AlCl}_3 + 3\text{H}_2$
- ③ $\text{Na}_2\text{O} + \text{SO}_2 \rightarrow$
- D ④ $2\text{H}_3\text{PO}_4 \rightarrow \text{P}_2\text{O}_5 + 3\text{H}_2\text{O}$
- D ⑤ $2\text{NaClO}_3 \rightarrow 2\text{NaCl} + 3\text{O}_2$
- DR ⑥ $\text{ZnCl}_2 + (\text{NH}_4)_2\text{S} \rightarrow \text{ZnS}_{(s)} + 2\text{NH}_4\text{Cl}_{(aq)}$
- ⑦ $\text{ZnS} + \text{O}_2 \rightarrow$
- D ⑧ $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
- DR ⑨ $\text{MgSO}_4 + \text{NH}_4\text{NO}_3 \rightarrow \text{Mg}(\text{NO}_3)_2_{(aq)} + (\text{NH}_4)_2\text{SO}_4_{(aq)}$ **NO RXN**
- SR ⑩ $\text{Fe}^{\text{ox. #?}} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$
- SR ⑪ $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{ZnSO}_4 + \text{H}_2$
- S ⑫ $\text{N}_2\text{O}_5 + \text{H}_2\text{O} \rightarrow 2\text{HNO}_3$
- SR ⑬ $\text{Cl}_2 + \text{MgI}_2 \rightarrow \text{MgCl}_2 + \text{I}_2$
- SR ⑭ $2\text{K} + 2\text{H}_2\text{O} \rightarrow 2\text{KOH} + \text{H}_2$
- SR ⑮ $\text{Fe}^{\text{ox. #?}} + 2\text{HCl} \rightarrow \text{FeCl}_2 + \text{H}_2$
- DR ⑯ $\text{Co}(\text{OH})_3 + 3\text{HNO}_3 \rightarrow \text{Co}(\text{NO}_3)_3_{(aq)} + 3\text{H}_2\text{O}_{(l)}$
- SR ⑰ $\text{Br}_2 + 2\text{NaI} \rightarrow 2\text{NaBr} + \text{I}_2$
- DR ⑱ $3\text{NaOH} + \text{H}_3\text{PO}_4 \rightarrow \text{Na}_3\text{PO}_4_{(aq)} + 3\text{H}_2\text{O}_{(l)}$
- DR ⑲ $(\text{NH}_4)_2\text{SO}_4 + \text{Ca}(\text{OH})_2 \rightarrow 2\text{NH}_4\text{OH}_{(aq)} + \text{CaSO}_4_{(s)}$
- DR ⑳ $\text{AgNO}_3 + \text{KCl} \rightarrow \text{AgCl}_{(s)} + \text{KNO}_3_{(aq)}$
- DR ㉑ $3\text{Mg}(\text{OH})_2 + 2\text{H}_3\text{PO}_4 \rightarrow \text{Mg}_3(\text{PO}_4)_2_{(s)} + 6\text{H}_2\text{O}_{(l)}$
- DR ㉒ $\text{FeS} + 2\text{HCl} \rightarrow \text{FeCl}_2_{(aq)} + \text{H}_2\text{S}_{(g)}$
- DR ㉓ $(\text{NH}_4)_2\text{S} + \text{Fe}(\text{NO}_3)_2 \rightarrow 2\text{NH}_4\text{NO}_3_{(aq)} + \text{FeS}_{(s)}$
- DR ㉔ $\text{H}_2\text{SO}_4 + 2\text{KOH} \rightarrow 2\text{H}_2\text{O}_{(l)} + \text{K}_2\text{SO}_4_{(aq)}$
- DR ㉕ $\text{Al}_2(\text{SO}_4)_3 + \text{Ca}_3(\text{PO}_4)_2 \rightarrow 2\text{AlPO}_4_{(s)} + 3\text{CaSO}_4_{(s)}$ \rightarrow Helena says (aq)
- DR ㉖ $\text{BaCO}_3 + 2\text{HCl} \rightarrow \text{BaCl}_2_{(aq)} + \text{H}_2\text{O} + \text{CO}_2$
- DR ㉗ $2\text{AgC}_2\text{H}_3\text{O}_2 + \text{K}_2\text{CrO}_4 \rightarrow \text{Ag}_2\text{CrO}_4_{(s)} + 2\text{KC}_2\text{H}_3\text{O}_2_{(aq)}$
- DR ㉘ $2(\text{NH}_4)_3\text{PO}_4 + 3\text{Ba}(\text{OH})_2 \rightarrow 6\text{NH}_4\text{OH}_{(aq)} + \text{Ba}_3(\text{PO}_4)_2_{(s)}$
- DR ㉙ $\text{Cr}_2(\text{SO}_3)_3 + 3\text{H}_2\text{SO}_4 \rightarrow \text{Cr}_2(\text{SO}_4)_3_{(aq)} + 3\text{H}_2\text{O}_{(l)} + 3\text{SO}_2_{(g)}$
- DR ㉚ $\text{Ca}(\text{OH})_2 + 2\text{HNO}_3 \rightarrow \text{Ca}(\text{NO}_3)_2_{(aq)} + 2\text{H}_2\text{O}_{(l)}$