

Name: _____

Types of Chemical Reactions Worksheet

Types of Reactions

There are 5 major types of reactions simplified by the following equations:

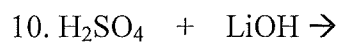
- Synthesis/Combination $A + B \rightarrow AB$
- Decomposition $AB \rightarrow A + B$
- Combustion $? + O_2 \rightarrow ?$
- Single Replacement $X + AB \rightarrow XB + A$ or $Y + AB \rightarrow AY + B$
- Double Replacement $XY + AB \rightarrow XB + AY$

Classify each of the following reactions:

1. $Zn + Cl_2 \rightarrow ZnCl_2$
2. $2 H_2S + 3 O_2 \rightarrow 2 SO_2 + 2 H_2O$
3. $Cu + 2 AgNO_3 \rightarrow Cu(NO_3)_2 + 2 Ag$
4. $Mg(OH)_2 \rightarrow MgO + H_2O$
5. $CaCl_2 + Na_2SO_4 \rightarrow CaSO_4 + 2 NaCl$
6. $CaO + H_2O \rightarrow Ca(OH)_2$
7. $Pb + 4 HCl \rightarrow PbCl_4 + 2 H_2$
8. $Li_2O + CO_2 \rightarrow Li_2CO_3$
9. $SO_2 + H_2O \rightarrow H_2SO_3$
10. $MgCO_3 \rightarrow MgO + CO_2$

Classify each of the following reactions when only the reactants are given:

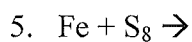
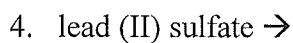
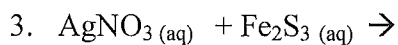
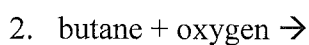
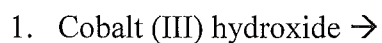
1. $Mg + N_2 \rightarrow$
2. $C_2H_6 + O_2 \rightarrow$
3. $Zn + CuCl_2 \rightarrow$
4. $Ca + H_2O \rightarrow$
5. $AgNO_3 + NaI \rightarrow$
6. $Fe(NO_3)_3 + LiOH \rightarrow$
7. $MgCO_3 \rightarrow$
8. $SO_2 + H_2O \rightarrow$
9. $HI \rightarrow$



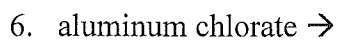
Finishing Reactions

TYPE

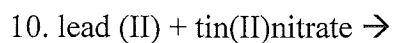
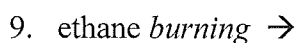
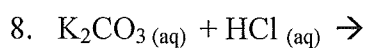
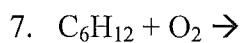
Complete the following by identifying the type of reaction AND properly writing formulas:
(HINT: double check to make sure the single replacements will work!)



(use iron (III))



TYPE



11. sulfuric acid →

12. $\text{Ca} + \text{O}_2 \rightarrow$

13. zinc + sulfuric acid →

14. $\text{CO}_2 + \text{H}_2\text{O} \rightarrow$

15. $\text{Cl}_2 + \text{LiBr} \rightarrow$

16. calcium chloride + potassium hydroxide →

17. $\text{K}_2\text{O} + \text{H}_2\text{O} \rightarrow$

TYPE

18. barium hydroxide →



19. $\text{Al} + \text{Ag}_2\text{O} \rightarrow$

20. $\text{MgO} + \text{CO}_2 \rightarrow$

21. lithium hydroxide + sulfuric acid →

22. magnesium + nitric acid →

23. Potassium + water \rightarrow

24. KCl \rightarrow

25. CuI + F₂ \rightarrow

26. Na₂SO₄ (aq) + Ba(NO₃)₂ (aq) \rightarrow

27. H₃PO₄ (aq) + NaOH (aq) \rightarrow

28. BeO + H₂O \rightarrow

29. zinc + oxygen \rightarrow