

Review – Reactions II

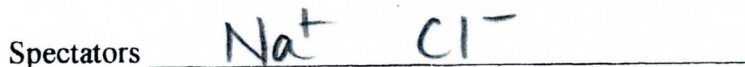
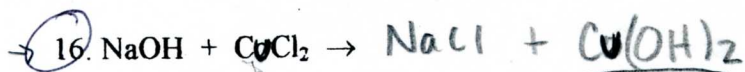
Predict whether each of the following reactions will occur. Write no reaction for those that will not occur and write the products for those that will.

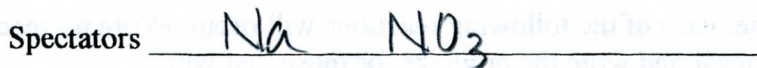
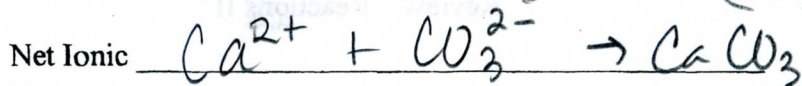
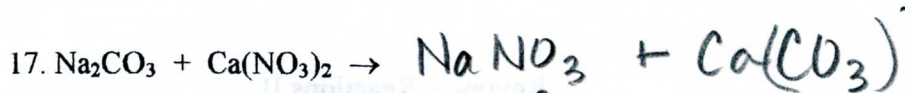
1. $\text{Mg} + \text{HCl} \rightarrow \underline{\text{MgCl}_2 + \text{H}_2}$
2. $\text{Co} + \text{H}_2\text{O}(\text{g}) \rightarrow \underline{\text{no reaction (do not react with water)}}$
3. $\text{Ca} + \text{NaOH} \rightarrow \underline{\text{Ca}(\text{OH})_2 + \cancel{\text{Na}}}$
4. $\text{I}_2 + \text{KCl} \rightarrow \underline{\text{no reaction}}$
5. $\text{Fe} + \text{O}_2 \rightarrow \underline{\text{Fe}_2\text{O}_3}$
6. $\text{Au} + \text{O}_2 \rightarrow \underline{\text{no reaction}}$
7. $\text{Ni} + \text{HCl} \rightarrow \underline{\text{NiCl}_2 + \text{H}_2}$
8. $\text{Al} + \text{Cr}(\text{NO}_3)_2 \rightarrow \underline{\text{Al}(\text{NO}_3)_3 + \text{Cr}}$
9. $\text{Fe} + \text{Mg}(\text{SO}_4) \rightarrow \underline{\text{no reaction}}$
10. $\text{Mn} + \text{H}_2\text{O}(\text{l}) \rightarrow \underline{\text{no reaction (must be steam)}}$
11. $\text{Cr} + \text{H}_2\text{O}(\text{g}) \rightarrow \underline{\text{Cr}(\text{OH})_3 + \text{H}_2}$

For each reaction determine if it will produce a precipitate, if not write no reaction. If a precipitate forms write the products and underline the precipitate.

12. $\text{KCl} + \text{Ca}(\text{NO}_3)_2 \rightarrow \underline{\text{no reaction}}$
13. $\text{BaCl}_2 + \text{Na}_2\text{SO}_4 \rightarrow \underline{\text{BaSO}_4 + \text{NaCl}}$
14. $(\text{NH}_4)_2\text{S} + \overset{\text{Zn}}{\cancel{\text{Cd}}}(\text{NO}_3)_2 \rightarrow \underline{\text{CdS} + \text{NH}_4\text{NO}_3}$
15. $\text{Ca}(\text{NO}_3)_2 + \text{CuCl}_2 \rightarrow \underline{\text{no reaction}}$

For the reactions. Write the net ionic equation and tell the spectator ions.





Define each.

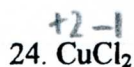
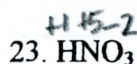
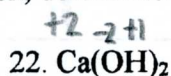
18. Oxidation - Loss of electrons

19. Reduction - Gain of electrons

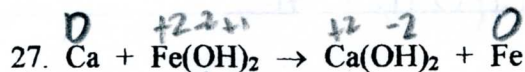
20. Oxidizing Agent something that causes loss of electrons

21. Reducing Agent something that causes gain of electrons

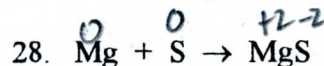
For each, determine the oxidation numbers of the elements



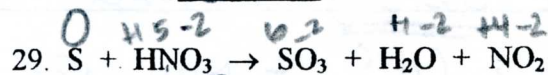
For each of the reactions identify what is oxidized and what is reduced



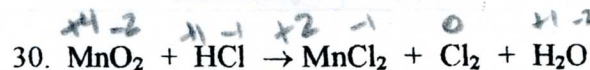
OX Ca
 RED Fe



OX Mg
 RED S



OX S
 RED N



OX Cl
 RED Mn