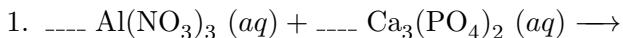


Name: _____ Class: _____ Date: _____

Complete and balance the following reactions. Indicate the state (solid, liquid or gas) of the products when known. If heat is produced as a product include it. If no reaction occurs write NR in the answer blank.



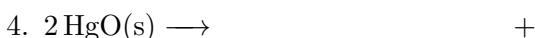
1. _____

Solution: $2\text{Al}(\text{NO}_3)_3\text{(aq)} + \text{Ca}_3(\text{PO}_4)_2\text{(aq)} \rightarrow 2\text{AlPO}_4\text{(s)} + 3\text{Ca}(\text{NO}_3)_2\text{(aq)}$ 

2. _____

Solution: $3\text{Ni(s)} + 2\text{Pb}(\text{NO}_3)_3\text{(aq)} \rightarrow 2\text{Pb (s)} + 3\text{Ni}(\text{NO}_3)_2 \text{ (aq)}$ 

3. _____

Solution: $\text{MgO(s)} + \text{H}_2\text{O(l)} \rightarrow \text{Mg(OH)}_2$ 

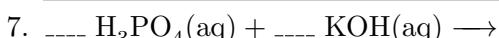
4. _____

Solution: $2\text{HgO(s)} \rightarrow 2\text{Hg(l)} + \text{O}_2\text{(g)}$ 

5. _____

Solution: $\text{PbCl}_2\text{(aq)} + (\text{NH}_4\text{)}_2\text{CO}_3\text{(aq)} \rightarrow \text{PbCO}_3\text{(s)} + 2\text{NH}_4\text{Cl(aq)}$ 

6. _____

Solution: $\text{Fe(s)} + \text{H}_2\text{SO}_4 \text{ (aq)} \rightarrow \text{FeSO}_4\text{(aq)} + \text{H}_2\text{(g)}$ 

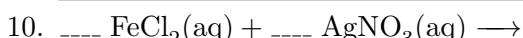
7. _____

Solution: $\text{H}_3\text{PO}_4\text{(aq)} + 3\text{KOH(aq)} \rightarrow \text{K}_3\text{PO}_4\text{(aq)} + 3\text{H}_2\text{O(l)} + \text{heat}$ 

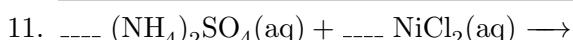
8. _____

Solution: $\text{Ag(s)} + \text{HCl(aq)} \rightarrow \text{NR}$ 

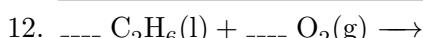
9. _____

Solution: $\text{Fe(s)} + \text{ZnCl}_2\text{(aq)} \rightarrow \text{NR}$ 

10. _____

Solution: $\text{FeCl}_2\text{(aq)} + 2\text{AgNO}_3\text{(aq)} \rightarrow \text{Fe}(\text{NO}_3)_2\text{(aq)} + 2\text{AgCl(s)}$ 

11. _____

Solution: $(\text{NH}_4\text{)}_2\text{SO}_4\text{(aq)} + \text{NiCl}_2\text{(aq)} \rightarrow \text{NR}$ 

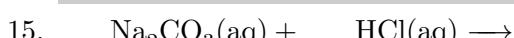
12. _____

Solution: $2\text{C}_2\text{H}_6\text{(l)} + 7\text{O}_2\text{(g)} \rightarrow 4\text{CO}_2\text{(g)} + 6\text{H}_2\text{O(l)} + \text{heat}$ 

13. _____

Solution: $\text{NH}_4\text{Br(aq)} + \text{NaOH(aq)} \rightarrow \text{NaBr(aq)} + \text{H}_2\text{O(l)} + \text{NH}_3\text{(g)}$ 

14. _____

Solution: $\text{Cl}_2\text{(g)} + 2\text{NaBr(aq)} \rightarrow 2\text{NaCl(aq)} + \text{Br}_2\text{(l)}$ 

15. _____

Solution: $\text{Na}_2\text{CO}_3\text{(aq)} + 2\text{HCl(aq)} \rightarrow 2\text{NaCl(aq)} + \text{H}_2\text{O(l)} + \text{CO}_2\text{(g)}$ 

16. _____

Solution: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O(s)} \xrightarrow{\Delta} \text{CuSO}_4\text{(s)} + 5\text{H}_2\text{O(l)}$ 

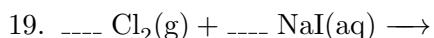
17. _____

Solution: $2\text{HNO}_3(\text{aq}) + \text{Mg}(\text{OH})_2(\text{aq}) \rightarrow \text{Mg}(\text{NO}_3)_2(\text{aq}) + 2\text{H}_2\text{O}(\text{l}) + \text{heat}$



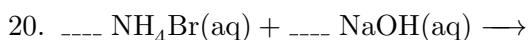
18. _____

Solution: $\text{MgSO}_4 \cdot 3\text{H}_2\text{O}(\text{s}) \xrightarrow{\Delta} \text{MgSO}_4(\text{aq}) + 3\text{H}_2\text{O}(\text{l})$



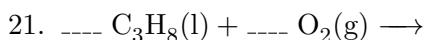
19. _____

Solution: $\text{Cl}_2(\text{g}) + 2\text{NaI}(\text{aq}) \rightarrow 2\text{NaCl}(\text{aq}) + \text{I}_2(\text{s})$



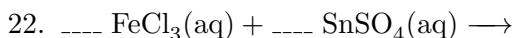
20. _____

Solution: $\text{NH}_4\text{Br}(\text{aq}) + \text{NaOH}(\text{aq}) \rightarrow \text{NaBr}(\text{aq}) + \text{H}_2\text{O}(\text{l}) + \text{NH}_3(\text{g})$



21. _____

Solution: $\text{C}_3\text{H}_8(\text{l}) + 5\text{O}_2(\text{g}) \rightarrow 3\text{CO}_2(\text{g}) + 4\text{H}_2\text{O}(\text{l}) + \text{heat}$



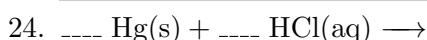
22. _____

Solution: $\text{FeCl}_3(\text{aq}) + \text{SnSO}_4(\text{aq}) \rightarrow \text{NR}$



23. _____

Solution: $\text{---Mg}(\text{s}) + \text{---ZnCl}_2(\text{aq}) \rightarrow \text{Zn}(\text{s}) + \text{MgCl}_2(\text{aq})$



24. _____

Solution: $\text{---Hg}(\text{s}) + \text{---HCl}(\text{aq}) \rightarrow \text{NR}$



25. _____

Solution: $\text{H}_2\text{SO}_3(\text{sl aq}) \rightarrow \text{H}_2\text{O}(\text{l}) + \text{SO}_2(\text{g})$