



BALANCE THE GIVEN CHEMICAL EQUATIONS

Worksheet - 27

1. $\text{Na}_2\text{CO}_3 + 2 \text{Fe}(\text{NO}_3)_3 = \text{Fe}_2(\text{CO}_3)_3 + \text{NaNO}_3$
2. $\text{Mg}(\text{OH})_2(\text{s}) + \text{HCl}(\text{aq}) = \text{MgCl}_2(\text{aq}) + \text{H}_2\text{O}(\text{l})$
3. $3 \text{Ca}(\text{OH})_2 + \text{H}_3\text{PO}_4 = \text{Ca}_3(\text{PO}_4)_2 + \text{H}_2\text{O}$
4. $3 \text{Cu} + \text{K}_4\text{Fe}(\text{CN})_6 = \text{Cu}_3[\text{Fe}(\text{CN})_6]_2(\text{s}) + \text{K}$
5. $\text{FeSO}_4(\text{aq}) + 8 \text{H}_2\text{SO}_4(\text{aq}) + 2 \text{KMnO}_4(\text{aq}) = \text{Fe}_2(\text{SO}_4)_3(\text{aq}) + 8 \text{H}_2\text{O}(\text{l}) + \text{K}_2\text{SO}_4(\text{aq}) + 2 \text{MnSO}_4(\text{aq})$
6. $(\text{NH}_4)_2\text{S}(\text{aq}) + \text{FeCl}_2(\text{aq}) = \text{NH}_4\text{Cl}(\text{aq}) + \text{FeS}(\text{s})$
7. $2 \text{W} + \text{Br}_2 = \text{WBr}$
8. $2 \text{KClO}_3 = \text{KCl} + 3 \text{O}_2$
9. $2 \text{NO}_3^{-} + \text{H}^{+} + \text{Cu} = 2 \text{NO}_2 + \text{Cu}^{2+} + \text{H}_2\text{O}$
10. $2 \text{KMnO}_4 + \text{MnO}_2 + \text{NaOH} = \text{K}_2\text{MnO}_4 + \text{Na}_2\text{MnO}_4 + 2 \text{H}_2\text{O}$
11. $2 \text{Ca}_3(\text{PO}_4)_2 + \text{SiO}_2 + 10 \text{C} = 6 \text{CaSiO}_3 + \text{CO} + \text{P}_4$
12. $3 \text{I}_2 + \text{KOH} = \text{KIO}_3 + \text{KI} + 3 \text{H}_2\text{O}$
13. $\text{Sr}(\text{OH})_2(\text{Ac}) + \text{HI}(\text{Ac}) = \text{Sr}(\text{HI})_2(\text{Ac}) + \text{OH}(\text{Ac})$
14. $\text{Mg} + \text{H}_3\text{PO}_4 = \text{Mg}(\text{PO}_4)_2 + \text{H}_2$
15. $\text{S} + \text{H}_3\text{O} = \text{H}_2\text{S} + \text{H}_2\text{O}$
16. $\text{Fe}_2(\text{CO}_3)_3 + \text{H}_2\text{SO}_4 = \text{Fe}_2(\text{SO}_4)_3 + \text{CO}_2 + 3 \text{H}_2\text{O}$
17. $8 \text{M} + \text{H}_2\text{SO}_4 = 4 \text{M}_2(\text{SO}_4)_3 + 3 \text{H}_2\text{S} + 12 \text{H}_2\text{O}$
18. $\text{M}_2\text{CO}_3 + \text{HCl} = \text{CO}_2 + \text{MCl} + \text{H}_2\text{O}$
19. $2 \text{CrCl}_3 \cdot 3\text{H}_2\text{O} + \text{Ca}(\text{ClO})_2 = 2 \text{CaCrO}_4 + 2 \text{CaCl}_2 + \text{Cl}_2 + 6 \text{H}_2\text{O}$
20. $\text{Br}_2 + \text{NaOH} = \text{NaBr} + \text{NaOBr} + \text{H}_2\text{O}$



ANSWERS

1. $3 \text{Na}_2\text{CO}_3 + 2 \text{Fe}(\text{NO}_3)_3 = \text{Fe}_2(\text{CO}_3)_3 + 6 \text{NaNO}_3$
2. $\text{Mg}(\text{OH})_2(\text{s}) + 2 \text{HCl}(\text{aq}) = \text{MgCl}_2(\text{aq}) + 2 \text{H}_2\text{O}(\text{l})$
3. $3 \text{Ca}(\text{OH})_2 + 2 \text{H}_3\text{PO}_4 = \text{Ca}_3(\text{PO}_4)_2 + 6 \text{H}_2\text{O}$
4. $3 \text{Cu} + 2 \text{K}_4\text{Fe}(\text{CN})_6 = \text{Cu}_3[\text{Fe}(\text{CN})_6]_2(\text{s}) + 8 \text{K}$
5. $10 \text{FeSO}_4(\text{aq}) + 8 \text{H}_2\text{SO}_4(\text{aq}) + 2 \text{KMnO}_4(\text{aq}) = 5 \text{Fe}_2(\text{SO}_4)_3(\text{aq}) + 8 \text{H}_2\text{O}(\text{l}) + \text{K}_2\text{SO}_4(\text{aq}) + 2 \text{MnSO}_4(\text{aq})$
6. $(\text{NH}_4)_2\text{S}(\text{aq}) + \text{FeCl}_2(\text{aq}) = 2 \text{NH}_4\text{Cl}(\text{aq}) + \text{FeS}(\text{s})$
7. $2 \text{W} + \text{Br}_2 = 2 \text{WBr}$
8. $2 \text{KClO}_3 = 2 \text{KCl} + 3 \text{O}_2$
9. $2 \text{NO}_3^{-} + 4 \text{H}^{+} + \text{Cu} = 2 \text{NO}_2 + \text{Cu}^{2+} + 2 \text{H}_2\text{O}$
10. $2 \text{KMnO}_4 + \text{MnO}_2 + 4 \text{NaOH} = \text{K}_2\text{MnO}_4 + 2 \text{Na}_2\text{MnO}_4 + 2 \text{H}_2\text{O}$
11. $2 \text{Ca}_3(\text{PO}_4)_2 + 6 \text{SiO}_2 + 10 \text{C} = 6 \text{CaSiO}_3 + 10 \text{CO} + \text{P}_4$
12. $3 \text{I}_2 + 6 \text{KOH} = \text{KIO}_3 + 5 \text{KI} + 3 \text{H}_2\text{O}$
13. $\text{Sr}(\text{OH})_2(\text{Ac}) + 2 \text{HI}(\text{Ac}) = \text{Sr}(\text{HI})_2(\text{Ac}) + 2 \text{OH}(\text{Ac})$
14. $\text{Mg} + 2 \text{H}_3\text{PO}_4 = \text{Mg}(\text{PO}_4)_2 + 3 \text{H}_2$
15. $\text{S} + 2 \text{H}_3\text{O} = \text{H}_2\text{S} + 2 \text{H}_2\text{O}$
16. $\text{Fe}_2(\text{CO}_3)_3 + 3 \text{H}_2\text{SO}_4 = \text{Fe}_2(\text{SO}_4)_3 + 3 \text{CO}_2 + 3 \text{H}_2\text{O}$
17. $8 \text{M} + 15 \text{H}_2\text{SO}_4 = 4 \text{M}_2(\text{SO}_4)_3 + 3 \text{H}_2\text{S} + 12 \text{H}_2\text{O}$
18. $\text{M}_2\text{CO}_3 + 2 \text{HCl} = \text{CO}_2 + 2 \text{MCl} + \text{H}_2\text{O}$
19. $2 \text{CrCl}_3 \cdot 3\text{H}_2\text{O} + 4 \text{Ca}(\text{ClO})_2 = 2 \text{CaCrO}_4 + 2 \text{CaCl}_2 + 5 \text{Cl}_2 + 6 \text{H}_2\text{O}$
20. $\text{Br}_2 + 2 \text{NaOH} = \text{NaBr} + \text{NaOBr} + \text{H}_2\text{O}$



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