



BALANCE THE GIVEN CHEMICAL EQUATIONS

Worksheet - 19

1. $\text{___ Zn(NO}_3\text{)}_2 = \text{___ ZnO} + \text{O}_2 + 4 \text{NO}_2$
2. $4 \text{B} + \text{___ O}_2 = 2 \text{B}_2\text{O}_3$
3. $3 \text{Cl}_2 + \text{___ NaOH} = 5 \text{NaCl} + \text{NaClO}_3 + \text{___ H}_2\text{O}$
4. $\text{___ KClO}_3 = 2 \text{KCl} + \text{___ O}_2$
5. $\text{AS}_2\text{S}_3 + \text{___ H}_2\text{SO}_4 = \text{AS}_2(\text{SO}_4)_3 + \text{___ H}_2\text{S}$
6. $2 \text{Fe(s)} + \text{___ HCl(aq)} = \text{___ FeCl}_3(\text{aq}) + \text{___ H}_2(\text{g})$
7. $\text{___ SO}_2 + \text{O}_2 = 2 \text{SO}_3$
8. $\text{KClO}_3 + \text{___ HCl} = \text{KCl} + \text{___ Cl}_2 + 3 \text{H}_2\text{O}$
9. $\text{K}_2\text{CO}_3 + 2 \text{HCl} = \text{___ KCl} + \text{H}_2\text{O} + \text{CO}_2$
10. $\text{SO}_2 + \text{___ Mg} = \text{S} + 2 \text{MgO}$
11. $3 \text{CaCO}_3 + \text{___ C}_6\text{H}_8\text{O}_7 = \text{Ca}_3(\text{C}_6\text{H}_5\text{O}_7)_2 + \text{___ H}_2\text{O} + 3 \text{CO}_2$
12. $\text{___ H}_3\text{PO}_4 = \text{P}_2\text{O}_5 + 3 \text{H}_2\text{O}$
13. $2 \text{HNO}_3 + \text{Ca(OH)}_2 = \text{Ca(NO}_3\text{)}_2 + \text{___ H}_2\text{O}$
14. $\text{___ NaOH} + \text{H}_3\text{PO}_4 = \text{Na}_3\text{PO}_4 + 3 \text{H}_2\text{O}$
15. $\text{___ Cu} + 4 \text{HNO}_3 = 3 \text{Cu(NO}_3\text{)} + \text{NO} + \text{___ H}_2\text{O}$
16. $\text{H}_2 + \text{Cl}_2 = \text{___ HCl}$
17. $\text{___ C}_7\text{H}_{17} + 140 \text{O}_2 = 140 \text{CO}_2 + \text{___ H}_2\text{O}$
18. $\text{Mg(OH)}_2 + 2 \text{CH}_3\text{COOH} = \text{Mg(CH}_3\text{COO)}_2 + \text{___ H}_2\text{O}$
19. $2 \text{KClO}_3 + 3 \text{S} = \text{___ KCl} + 3 \text{SO}_2$
20. $\text{___ H}^{(+)} + 4 \text{MnO}_4^{(-)} + 3 \text{CH}_3\text{CH}_2\text{OH} = 4 \text{MnO}_2 + \text{___ CH}_3\text{COOH} + 5 \text{H}_2\text{O}$



ANSWERS

1. $2 \text{Zn}(\text{NO}_3)_2 = 2 \text{ZnO} + \text{O}_2 + 4 \text{NO}_2$
2. $4 \text{B} + 3 \text{O}_2 = 2 \text{B}_2\text{O}_3$
3. $3 \text{Cl}_2 + 6 \text{NaOH} = 5 \text{NaCl} + \text{NaClO}_3 + 3 \text{H}_2\text{O}$
4. $2 \text{KClO}_3 = 2 \text{KCl} + 3 \text{O}_2$
5. $\text{AS}_2\text{S}_3 + 3 \text{H}_2\text{SO}_4 = \text{AS}_2(\text{SO}_4)_3 + 3 \text{H}_2\text{S}$
6. $2 \text{Fe}(\text{s}) + 6 \text{HCl}(\text{aq}) = 2 \text{FeCl}_3(\text{aq}) + 3 \text{H}_2(\text{g})$
7. $2 \text{SO}_2 + \text{O}_2 = 2 \text{SO}_3$
8. $\text{KClO}_3 + 6 \text{HCl} = \text{KCl} + 3 \text{Cl}_2 + 3 \text{H}_2\text{O}$
9. $\text{K}_2\text{CO}_3 + 2 \text{HCl} = 2 \text{KCl} + \text{H}_2\text{O} + \text{CO}_2$
10. $\text{SO}_2 + 2 \text{Mg} = \text{S} + 2 \text{MgO}$
11. $3 \text{CaCO}_3 + 2 \text{C}_6\text{H}_8\text{O}_7 = \text{Ca}_3(\text{C}_6\text{H}_5\text{O}_7)_2 + 3 \text{H}_2\text{O} + 3 \text{CO}_2$
12. $2 \text{H}_3\text{PO}_4 = \text{P}_2\text{O}_5 + 3 \text{H}_2\text{O}$
13. $2 \text{HNO}_3 + \text{Ca}(\text{OH})_2 = \text{Ca}(\text{NO}_3)_2 + 2 \text{H}_2\text{O}$
14. $3 \text{NaOH} + \text{H}_3\text{PO}_4 = \text{Na}_3\text{PO}_4 + 3 \text{H}_2\text{O}$
15. $3 \text{Cu} + 4 \text{HNO}_3 = 3 \text{Cu}(\text{NO}_3) + \text{NO} + 2 \text{H}_2\text{O}$
16. $\text{H}_2 + \text{Cl}_2 = 2 \text{HCl}$
17. $20 \text{C}_7\text{H}_{17} + 140 \text{O}_2 = 140 \text{CO}_2 + 17 \text{H}_2\text{O}$
18. $\text{Mg}(\text{OH})_2 + 2 \text{CH}_3\text{COOH} = \text{Mg}(\text{CH}_3\text{COO})_2 + 2 \text{H}_2\text{O}$
19. $2 \text{KClO}_3 + 3 \text{S} = 2 \text{KCl} + 3 \text{SO}_2$
20. $4 \text{H}^{(+)} + 4 \text{MnO}_4^{(-)} + 3 \text{CH}_3\text{CH}_2\text{OH} = 4 \text{MnO}_2 + 3 \text{CH}_3\text{COOH} + 5 \text{H}_2\text{O}$



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