



# BALANCE THE GIVEN CHEMICAL EQUATIONS

## Worksheet - 11

1.  $\text{Al} + 3 \text{I}_2 = \text{AlI}_3$
2.  $\text{C}_5\text{H}_{12}\text{O} + 45 \text{O}_2 = 50 \text{CO}_2 + \text{H}_2\text{O}$
3.  $\text{Al}_2\text{O}_3 + \text{SO}_3 = \text{Al}_2(\text{SO}_4)_3$
4.  $2 \text{H}_3\text{PO}_4 + \text{NH}_3 = (\text{NH}_4)\text{HPO}_4 + \text{H}_2$
5.  $\text{Zn} + \text{HNO}_3 = \text{Zn}(\text{NO}_3)_2 + \text{H}_2$
6.  $\text{Fe}_3\text{O}_4 + \text{CO} = \text{CO}_2 + 3 \text{Fe}$
7.  $\text{P}_4 + \text{O}_2 = \text{P}_2\text{O}_5$
8.  $8 \text{NaCN} + \text{O}_2 + \text{Au} + 2 \text{H}_2\text{O} = \text{Na}[\text{Au}(\text{CN})_2] + 4 \text{NaOH}$
9.  $\text{HClO} + \text{H}_2\text{S} = \text{HCl} + \text{H}_2\text{SO}_4$
10.  $\text{Zn} + 5 \text{H}_2\text{SO}_4 = \text{ZnSO}_4 + \text{H}_2\text{S} + 4 \text{H}_2\text{O}$
11.  $2 \text{Al}(\text{OH})_3 + \text{H}_2\text{SO}_4 = \text{Al}_2(\text{SO}_4)_3 + \text{H}_2\text{O}$
12.  $\text{C}_2\text{H}_6 + 7 \text{O}_2 = \text{CO}_2 + 6 \text{H}_2\text{O}$
13.  $\text{KClO}_3 + 5 \text{S} + 2 \text{H}_2\text{O} = \text{Cl}_2 + 3 \text{K}_2\text{SO}_4 + 2 \text{H}_2\text{SO}_4$
14.  $\text{Ba} + \text{H}_2\text{O} = \text{Ba}(\text{OH})_2 + \text{H}_2$
15.  $2 \text{AlBr}_3 + \text{K}_2\text{SO}_4 = \text{KBr} + \text{Al}_2(\text{SO}_4)_3$
16.  $\text{NaHCO}_3 = \text{Na}_2\text{CO}_3 + \text{H}_2\text{O} + \text{CO}_2$
17.  $6 \text{KClO}_3 + \text{S} + 2 \text{H}_2\text{O} = 3 \text{Cl}_2 + \text{K}_2\text{SO}_4 + 2 \text{H}_2\text{SO}_4$
18.  $\text{Fe}_2\text{O}_3 + 3 \text{C} = \text{Fe} + 3 \text{CO}_2$
19.  $\text{P}_2\text{O}_5 + \text{H}_2\text{O} = \text{H}_3\text{PO}_4$
20.  $\text{C}_5\text{H}_{12} + \text{O}_2 = 5 \text{CO}_2 + \text{H}_2\text{O}$



# ANSWERS

1.  $2 \text{ Al} + 3 \text{ I}_2 = 2 \text{ AlI}_3$
2.  $10 \text{ C}_5\text{H}_{12}\text{O} + 45 \text{ O}_2 = 50 \text{ CO}_2 + 6 \text{ H}_2\text{O}$
3.  $\text{Al}_2\text{O}_3 + 3 \text{ SO}_3 = \text{Al}_2(\text{SO}_4)_3$
4.  $2 \text{ H}_3\text{PO}_4 + 2 \text{ NH}_3 = 2 (\text{NH}_4)\text{HPO}_4 + \text{H}_2$
5.  $\text{Zn} + 2 \text{ HNO}_3 = \text{Zn}(\text{NO}_3)_2 + \text{H}_2$
6.  $\text{Fe}_3\text{O}_4 + 4 \text{ CO} = 4 \text{ CO}_2 + 3 \text{ Fe}$
7.  $\text{P}_4 + 5 \text{ O}_2 = 2 \text{ P}_2\text{O}_5$
8.  $8 \text{ NaCN} + \text{O}_2 + 4 \text{ Au} + 2 \text{ H}_2\text{O} = 4 \text{ Na}[\text{Au}(\text{CN})_2] + 4 \text{ NaOH}$
9.  $4 \text{ HClO} + \text{H}_2\text{S} = 4 \text{ HCl} + \text{H}_2\text{SO}_4$
10.  $4 \text{ Zn} + 5 \text{ H}_2\text{SO}_4 = 4 \text{ ZnSO}_4 + \text{H}_2\text{S} + 4 \text{ H}_2\text{O}$
11.  $2 \text{ Al}(\text{OH})_3 + 3 \text{ H}_2\text{SO}_4 = \text{Al}_2(\text{SO}_4)_3 + 6 \text{ H}_2\text{O}$
12.  $2 \text{ C}_2\text{H}_6 + 7 \text{ O}_2 = 4 \text{ CO}_2 + 6 \text{ H}_2\text{O}$
13.  $6 \text{ KClO}_3 + 5 \text{ S} + 2 \text{ H}_2\text{O} = 3 \text{ Cl}_2 + 3 \text{ K}_2\text{SO}_4 + 2 \text{ H}_2\text{SO}_4$
14.  $\text{Ba} + 2 \text{ H}_2\text{O} = \text{Ba}(\text{OH})_2 + \text{H}_2$
15.  $2 \text{ AlBr}_3 + 3 \text{ K}_2\text{SO}_4 = 6 \text{ KBr} + \text{Al}_2(\text{SO}_4)_3$
16.  $2 \text{ NaHCO}_3 = \text{Na}_2\text{CO}_3 + \text{H}_2\text{O} + \text{CO}_2$
17.  $6 \text{ KClO}_3 + 5 \text{ S} + 2 \text{ H}_2\text{O} = 3 \text{ Cl}_2 + 3 \text{ K}_2\text{SO}_4 + 2 \text{ H}_2\text{SO}_4$
18.  $2 \text{ Fe}_2\text{O}_3 + 3 \text{ C} = 4 \text{ Fe} + 3 \text{ CO}_2$
19.  $\text{P}_2\text{O}_5 + 3 \text{ H}_2\text{O} = 2 \text{ H}_3\text{PO}_4$
20.  $\text{C}_5\text{H}_{12} + 8 \text{ O}_2 = 5 \text{ CO}_2 + 6 \text{ H}_2\text{O}$



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