



## BALANCE THE GIVEN CHEMICAL EQUATIONS

### Worksheet - 3

1.  $\text{Fe} + 3 \text{CuO} = \text{Fe}_2\text{O}_3 + \text{Cu}$
2.  $\text{C}_3\text{H}_8(\text{g}) + \text{O}_2(\text{g}) = 3 \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{g})$
3.  $\text{HNO}_3 + 5 \text{Cu}_2\text{O} = \text{N}_2 + \text{CuO} + \text{H}_2\text{O}$
4.  $2 \text{C}_3\text{H}_6 + \text{O}_2 = 6 \text{CO}_2 + \text{H}_2\text{O}$
5.  $\text{H}_2\text{SO}_4 + \text{HI} = \text{H}_2\text{S} + 4 \text{I}_2 + \text{H}_2\text{O}$
6.  $2 \text{KClO}_3(\text{s}) = \text{KCl}(\text{s}) + 3 \text{O}_2(\text{g})$
7.  $\text{H}_2\text{SO}_4(\text{ac}) + 2 \text{Al}(\text{s}) = \text{H}_2(\text{g}) + \text{Al}_2(\text{SO}_4)_3(\text{ac})$
8.  $\text{C}_4\text{H}_{10} + 13 \text{O}_2 = \text{CO}_2 + 10 \text{H}_2\text{O}$
9.  $2 \text{NO}_2 + \text{O}_2 = \text{NO}_3$
10.  $\text{C}_4\text{H}_{10}\text{O} + \text{O}_2 = 4 \text{CO}_2 + 5 \text{H}_2\text{O}$
11.  $\text{FeCl}_2 + \text{KMnO}_4 + 8 \text{HCl} = \text{FeCl}_3 + \text{MnCl}_2 + 4 \text{H}_2\text{O} + \text{KCl}$
12.  $\text{Al} + (\text{O}_2)_3 = 6 \text{AlO}$
13.  $16 \text{H}_2\text{S} + \text{SO}_2 = \text{S}_8 + 16 \text{H}_2\text{O}$
14.  $\text{CH}_4 + \text{O}_2 = \text{CO}_2 + 2 \text{H}_2\text{O}$
15.  $2 \text{NaBrO}_3 + \text{NaBr} + 6 \text{H}_2\text{SO}_4 = 3 \text{Br}_2 + \text{NaSO}_4 + 6 \text{H}_2\text{O}$
16.  $\text{C}_8\text{H}_{16} + \text{O}_2 = 8 \text{CO}_2 + \text{H}_2\text{O}$
17.  $\text{CoCl}_2 + \text{KNO}_2 + 2 \text{C}_2\text{H}_3\text{O}_2\text{H} = \text{K}_3\text{Co}(\text{NO}_2)_6 + \text{NO} + \text{KC}_2\text{H}_3\text{O}_2 + 2 \text{KCl} + \text{H}_2\text{O}$
18.  $\text{CO}_2 + 6 \text{H}_2\text{O} = \text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2$
19.  $3 \text{Ba}(\text{NO}_3)_2 + \text{Na}_3(\text{PO}_4) = \text{Ba}_3(\text{PO}_4)_2 + \text{Na}(\text{NO}_3)$
20.  $\text{NH}_3 + 3 \text{O}_2 = 2 \text{N}_2 + \text{H}_2\text{O}$



# ANSWERS

1.  $2 \text{ Fe} + 3 \text{ CuO} = \text{Fe}_2\text{O}_3 + 3 \text{ Cu}$
2.  $\text{C}_3\text{H}_8(\text{g}) + 5 \text{ O}_2(\text{g}) = 3 \text{ CO}_2(\text{g}) + 4 \text{ H}_2\text{O}(\text{g})$
3.  $2 \text{ HNO}_3 + 5 \text{ Cu}_2\text{O} = \text{N}_2 + 10 \text{ CuO} + \text{H}_2\text{O}$
4.  $2 \text{ C}_3\text{H}_6 + 9 \text{ O}_2 = 6 \text{ CO}_2 + 6 \text{ H}_2\text{O}$
5.  $\text{H}_2\text{SO}_4 + 8 \text{ HI} = \text{H}_2\text{S} + 4 \text{ I}_2 + 4 \text{ H}_2\text{O}$
6.  $2 \text{ KClO}_3(\text{s}) = 2 \text{ KCl}(\text{s}) + 3 \text{ O}_2(\text{g})$
7.  $3 \text{ H}_2\text{SO}_4(\text{ac}) + 2 \text{ Al}(\text{s}) = 3 \text{ H}_2(\text{g}) + \text{Al}_2(\text{SO}_4)_3(\text{ac})$
8.  $2 \text{ C}_4\text{H}_{10} + 13 \text{ O}_2 = 8 \text{ CO}_2 + 10 \text{ H}_2\text{O}$
9.  $2 \text{ NO}_2 + \text{O}_2 = 2 \text{ NO}_3$
10.  $\text{C}_4\text{H}_{10}\text{O} + 6 \text{ O}_2 = 4 \text{ CO}_2 + 5 \text{ H}_2\text{O}$
11.  $5 \text{ FeCl}_2 + \text{KMnO}_4 + 8 \text{ HCl} = 5 \text{ FeCl}_3 + \text{MnCl}_2 + 4 \text{ H}_2\text{O} + \text{KCl}$
12.  $6 \text{ Al} + (\text{O}_2)_3 = 6 \text{ AlO}$
13.  $16 \text{ H}_2\text{S} + 8 \text{ SO}_2 = 3 \text{ S}_8 + 16 \text{ H}_2\text{O}$
14.  $\text{CH}_4 + 2 \text{ O}_2 = \text{CO}_2 + 2 \text{ H}_2\text{O}$
15.  $2 \text{ NaBrO}_3 + 4 \text{ NaBr} + 6 \text{ H}_2\text{SO}_4 = 3 \text{ Br}_2 + 6 \text{ NaSO}_4 + 6 \text{ H}_2\text{O}$
16.  $\text{C}_8\text{H}_{16} + 12 \text{ O}_2 = 8 \text{ CO}_2 + 8 \text{ H}_2\text{O}$
17.  $\text{CoCl}_2 + 7 \text{ KNO}_2 + 2 \text{ C}_2\text{H}_3\text{O}_2\text{H} = \text{K}_3\text{Co}(\text{NO}_2)_6 + \text{NO} + 2 \text{ KC}_2\text{H}_3\text{O}_2 + 2 \text{ KCl} + \text{H}_2\text{O}$
18.  $6 \text{ CO}_2 + 6 \text{ H}_2\text{O} = \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2$
19.  $3 \text{ Ba}(\text{NO}_3)_2 + 2 \text{ Na}_3(\text{PO}_4) = \text{Ba}_3(\text{PO}_4)_2 + 6 \text{ Na}(\text{NO}_3)$
20.  $4 \text{ NH}_3 + 3 \text{ O}_2 = 2 \text{ N}_2 + 6 \text{ H}_2\text{O}$



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