



## BALANCE THE GIVEN CHEMICAL EQUATIONS

### Worksheet - 33

- $\text{Cu(s)} + \text{ \_\_\_\_ AgNO}_3(\text{aq}) = \text{Cu(NO}_3)_2(\text{aq}) + \text{ \_\_\_\_ Ag(s)}$
- $\text{WO}_3 + \text{ \_\_\_\_ H}_2 = \text{W} + 3 \text{H}_2\text{O}$
- $4 \text{HCl} + 3 \text{As}_2\text{O}_3 + \text{ \_\_\_\_ NaNO}_3 + 7 \text{H}_2\text{O} = 4 \text{NO} + 6 \text{H}_3\text{AsO}_4 + \text{ \_\_\_\_ NaCl}$
- $\text{ \_\_\_\_ Na} + \text{S}_8 = \text{ \_\_\_\_ Na}_2\text{S}$
- $\text{ \_\_\_\_ Cl}_2 + 6 \text{OH}^{\{-\}} = \text{ClO}_3^{\{-\}} + \text{ \_\_\_\_ Cl}^{\{-\}} + 3 \text{H}_2\text{O}$
- $3 \text{NaSnCl}_4 + \text{BiCl}_3 + \text{ \_\_\_\_ NaOH} = \text{Bi} + 15 \text{NaCl} + \text{ \_\_\_\_ Na}_2\text{Sn(OH)}_6$
- $3 \text{K}_2\text{O} + \text{ \_\_\_\_ H}_3\text{PO}_4 = 2 \text{K}_3\text{PO}_4 + \text{ \_\_\_\_ H}_2\text{O}$
- $\text{Na}_2\text{S} + \text{Zn(NO}_3)_2 = \text{ZnS} + \text{ \_\_\_\_ NaNO}_3$
- $14 \text{KMnO}_4 + \text{ \_\_\_\_ C}_3\text{H}_8\text{O}_3 = 7 \text{K}_2\text{CO}_3 + 7 \text{Mn}_2\text{O}_3 + \text{ \_\_\_\_ CO}_2 + 16 \text{H}_2\text{O}$
- $2 \text{NaCl(s)} + \text{H}_2\text{SO}_4(\text{l}) = \text{ \_\_\_\_ HCl(g)} + \text{Na}_2\text{SO}_4(\text{s})$
- $2 \text{Ci} + \text{ \_\_\_\_ O}_2 = 2 \text{CiO}_7$
- $\text{ \_\_\_\_ LiPO}_3 + \text{V}_2\text{O}_5 + \text{C}_2\text{H}_6\text{O}_6 = \text{ \_\_\_\_ LiVOPO}_4 + 2 \text{CO}_2 + 3 \text{H}_2\text{O}$
- $\text{BrF}_3 = \text{Br} + \text{ \_\_\_\_ F}$
- $6 \text{Li} + \text{N}_2 = \text{ \_\_\_\_ Li}_3\text{N}$
- $13 \text{SiO}_2\text{Na}_2\text{O} + \text{ \_\_\_\_ CaF}_2 + 3 \text{C}_4\text{H}_{10} + 13 \text{MnO} = 13 \text{SiMn} + 28 \text{CaO} + \text{ \_\_\_\_ NaF} + 12 \text{CO}_2 + 30 \text{HF}$
- $\text{C}_4\text{H}_{10}\text{O} + \text{ \_\_\_\_ O}_2 = 4 \text{CO}_2 + \text{ \_\_\_\_ H}_2\text{O}$
- $3 \text{Cu}_2\text{O} + \text{ \_\_\_\_ Al} = \text{Al}_2\text{O}_3 + \text{ \_\_\_\_ Cu}$
- $2 \text{Na} + \text{F}_2 = \text{ \_\_\_\_ NaF}$
- $\text{XeF}_4 + \text{ \_\_\_\_ H}_2\text{O} = \text{Xe} + \text{O}_2 + \text{ \_\_\_\_ HF}$
- $\text{ \_\_\_\_ Al(OH)}_3 = \text{Al}_2\text{O}_3 + \text{ \_\_\_\_ H}_2\text{O}$



# ANSWERS

1.  $\text{Cu(s)} + 2 \text{AgNO}_3(\text{aq}) = \text{Cu(NO}_3)_2(\text{aq}) + 2 \text{Ag(s)}$
2.  $\text{WO}_3 + 3 \text{H}_2 = \text{W} + 3 \text{H}_2\text{O}$
3.  $4 \text{HCl} + 3 \text{As}_2\text{O}_3 + 4 \text{NaNO}_3 + 7 \text{H}_2\text{O} = 4 \text{NO} + 6 \text{H}_3\text{AsO}_4 + 4 \text{NaCl}$
4.  $16 \text{Na} + \text{S}_8 = 8 \text{Na}_2\text{S}$
5.  $3 \text{Cl}_2 + 6 \text{OH}^{\{-\}} = \text{ClO}_3^{\{-\}} + 5 \text{Cl}^{\{-\}} + 3 \text{H}_2\text{O}$
6.  $3 \text{NaSnCl}_4 + \text{BiCl}_3 + 18 \text{NaOH} = \text{Bi} + 15 \text{NaCl} + 3 \text{Na}_2\text{Sn(OH)}_6$
7.  $3 \text{K}_2\text{O} + 2 \text{H}_3\text{PO}_4 = 2 \text{K}_3\text{PO}_4 + 3 \text{H}_2\text{O}$
8.  $\text{Na}_2\text{S} + \text{Zn(NO}_3)_2 = \text{ZnS} + 2 \text{NaNO}_3$
9.  $14 \text{KMnO}_4 + 4 \text{C}_3\text{H}_8\text{O}_3 = 7 \text{K}_2\text{CO}_3 + 7 \text{Mn}_2\text{O}_3 + 5 \text{CO}_2 + 16 \text{H}_2\text{O}$
10.  $2 \text{NaCl(s)} + \text{H}_2\text{SO}_4(\text{l}) = 2 \text{HCl(g)} + \text{Na}_2\text{SO}_4(\text{s})$
11.  $2 \text{Ci} + 7 \text{O}_2 = 2 \text{CiO}_7$
12.  $2 \text{LiPO}_3 + \text{V}_2\text{O}_5 + \text{C}_2\text{H}_6\text{O}_6 = 2 \text{LiVOPO}_4 + 2 \text{CO}_2 + 3 \text{H}_2\text{O}$
13.  $\text{BrF}_3 = \text{Br} + 3 \text{F}$
14.  $6 \text{Li} + \text{N}_2 = 2 \text{Li}_3\text{N}$
15.  $13 \text{SiO}_2\text{Na}_2\text{O} + 28 \text{CaF}_2 + 3 \text{C}_4\text{H}_{10} + 13 \text{MnO} = 13 \text{SiMn} + 28 \text{CaO} + 26 \text{NaF} + 12 \text{CO}_2 + 30 \text{HF}$
16.  $\text{C}_4\text{H}_{10}\text{O} + 6 \text{O}_2 = 4 \text{CO}_2 + 5 \text{H}_2\text{O}$
17.  $3 \text{Cu}_2\text{O} + 2 \text{Al} = \text{Al}_2\text{O}_3 + 6 \text{Cu}$
18.  $2 \text{Na} + \text{F}_2 = 2 \text{NaF}$
19.  $\text{XeF}_4 + 2 \text{H}_2\text{O} = \text{Xe} + \text{O}_2 + 4 \text{HF}$
20.  $2 \text{Al(OH)}_3 = \text{Al}_2\text{O}_3 + 3 \text{H}_2\text{O}$



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