

# SOLUTIONS

## Balancing Chemical Equations

Balance the equations below:

$N=2$  ✓  
 $H=3$  ✓  
 $O=6$  ✓  
 $K=2$  ✓  
 $Cl=2$  ✓

$N=1 \times 2$  ✓  
 $H=3 \times 2$  ✓

$O=6$  ✓  
 $K=1 \times 2$  ✓  
 $Cl=1 \times 2$  ✓  
Lowest common denominator.

- 1)  $\underline{4} \text{ N}_2 + \underline{3} \text{ H}_2 \rightarrow \underline{2} \text{ NH}_3$
- 2)  $\underline{2} \text{ KClO}_3 \rightarrow \underline{2} \text{ KCl} + \underline{3} \text{ O}_2$
- 3)  $\underline{2} \text{ NaCl} + \underline{\quad} \text{ F}_2 \rightarrow \underline{2} \text{ NaF} + \underline{\quad} \text{ Cl}_2$
- 4)  $\underline{2} \text{ H}_2 + \underline{\quad} \text{ O}_2 \rightarrow \underline{2} \text{ H}_2\text{O}$
- 5)  $\underline{\quad} \text{ Pb(OH)}_2 + \underline{2} \text{ HCl} \rightarrow \underline{2} \text{ H}_2\text{O} + \underline{\quad} \text{ PbCl}_2$
- 6)  $\underline{2} \text{ AlBr}_3 + \underline{3} \text{ K}_2\text{SO}_4 \rightarrow \underline{6} \text{ KBr} + \underline{\quad} \text{ Al}_2(\text{SO}_4)_3$
- 7)  $\underline{\quad} \text{ CH}_4 + \underline{2} \text{ O}_2 \rightarrow \underline{\quad} \text{ CO}_2 + \underline{2} \text{ H}_2\text{O}$
- 8)  $\underline{\quad} \text{ C}_3\text{H}_8 + \underline{5} \text{ O}_2 \rightarrow \underline{3} \text{ CO}_2 + \underline{4} \text{ H}_2\text{O}$
- \* 9)  $\underline{2} \text{ C}_8\text{H}_{18} + \underline{25} \text{ O}_2 \rightarrow \underline{16} \text{ CO}_2 + \underline{18} \text{ H}_2\text{O}$
- 10)  $\underline{\quad} \text{ FeCl}_3 + \underline{3} \text{ NaOH} \rightarrow \underline{\quad} \text{ Fe(OH)}_3 + \underline{3} \text{ NaCl}$
- 11)  $\underline{4} \text{ P} + \underline{5} \text{ O}_2 \rightarrow \underline{2} \text{ P}_2\text{O}_5$
- 12)  $\underline{2} \text{ Na} + \underline{2} \text{ H}_2\text{O} \rightarrow \underline{2} \text{ NaOH} + \underline{\quad} \text{ H}_2$
- 13)  $\underline{2} \text{ Ag}_2\text{O} \rightarrow \underline{4} \text{ Ag} + \underline{\quad} \text{ O}_2$
- 14)  $\underline{\quad} \text{ S}_8 + \underline{12} \text{ O}_2 \rightarrow \underline{8} \text{ SO}_3$
- 15)  $\underline{6} \text{ CO}_2 + \underline{6} \text{ H}_2\text{O} \rightarrow \underline{\quad} \text{ C}_6\text{H}_{12}\text{O}_6 + \underline{6} \text{ O}_2$
- 16)  $\checkmark \text{ K} + \checkmark \text{ MgBr} \rightarrow \checkmark \text{ KBr} + \checkmark \text{ Mg}$
- 17)  $\underline{2} \text{ HCl} + \underline{\quad} \text{ CaCO}_3 \rightarrow \underline{\quad} \text{ CaCl}_2 + \underline{\quad} \text{ H}_2\text{O} + \underline{\quad} \text{ CO}_2$
- 18)  $\checkmark \text{ HNO}_3 + \checkmark \text{ NaHCO}_3 \rightarrow \checkmark \text{ NaNO}_3 + \checkmark \text{ H}_2\text{O} + \checkmark \text{ CO}_2$
- 19)  $\underline{2} \text{ H}_2\text{O} + \underline{\quad} \text{ O}_2 \rightarrow \underline{2} \text{ H}_2\text{O}_2$
- 20)  $\underline{2} \text{ NaBr} + \underline{\quad} \text{ CaF}_2 \rightarrow \underline{2} \text{ NaF} + \underline{\quad} \text{ CaBr}_2$
- 21)  $\underline{\quad} \text{ H}_2\text{SO}_4 + \underline{2} \text{ NaNO}_2 \rightarrow \underline{2} \text{ HNO}_2 + \underline{\quad} \text{ Na}_2\text{SO}_4$