

3 Formulae and equations – Part 1

—Answers

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Work through these after trying the questions yourself.

3.1 The molecular formula gives the actual number of each atom in a molecule; the empirical formula gives the simplest whole-number ratio of the atoms.

3.2 MgCl_2 (one Mg^{2+} needs two Cl^- to balance the charge).

3.3 $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$.

3.4 Aqueous —dissolved in water.

3.5 $\text{Zn}(s) + 2\text{HCl}(aq) \rightarrow \text{ZnCl}_2(aq) + \text{H}_2(g)$.

3.6 $4\text{Fe} + 3\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3$ (Fe: 4 each side; O: 6 each side).