



## CHAPTER 3: CHEMICAL FORMULAE AND EQUATIONS



### Extra Practice

#### Objective Questions

- Which of the following is the correct name for the compound with the molecular formula  $\text{N}_2\text{O}$ ?
  - Nitrous oxide
  - Nitrogen monoxide
  - Dinitrogen monoxide
  - Nitric oxide
- What is the empirical formula for hydrogen peroxide?
  - $\text{H}_2\text{O}$
  - $\text{H}_2\text{O}_2$
  - $\text{HO}$
  - $\text{H}_3\text{O}_5$
- How many atoms are there in  $22.4 \text{ dm}^3$  of helium and  $22.4 \text{ dm}^3$  of bromine gas?
  - $6.02 \times 10^{23}$  and  $1.204 \times 10^{24}$
  - $6.02 \times 10^{23}$  and  $6.02 \times 10^{23}$
  - $6.02 \times 10^{23}$  and  $3.01 \times 10^{23}$
  - $1.204 \times 10^{24}$  and  $6.02 \times 10^{23}$
- The valence of an element is usually determined by...
  - the number of electrons in the outer shell.
  - the atomic mass.
  - the number of protons in the nucleus.
  - the atomic number.
- The following equation is written for the reaction between calcium metal and water.
$$\text{Ca(s)} + 2\text{H}_2\text{O(l)} \longrightarrow \text{Ca}^{2+}(\text{aq}) + 2\text{OH}^-(\text{aq}) + \text{H}_2(\text{g})$$
In this equation,
  - the total charge on each side is zero.
  - the element are not balanced.
  - $\text{H}_2$  should be written as  $2\text{H}$ .
  - the left side of the equation should have two negative charges.

- 6** The number of moles of oxygen atoms in 2 moles of calcium ethanoate,  $\text{Ca}(\text{CH}_3\text{COO})_2$ , is...
- A** 2
  - B** 4
  - C** 6
  - D** 8
- 7** A flask contains 7.0 g of sulphuric acid. How many moles of sulphuric acid does it contain?
- A** 0.07 moles
  - B** 0.71 moles
  - C** 1.4 moles
  - D** 0.17 moles