

Solutions

Each answer shows the steps, then the **result**.

2.1

- $6.02 \times 10^{23} \text{ mol}^{-1}$; the number of particles (atoms/molecules/ions) in one mole

2.2

- $n = 36/18 = 2.0 \text{ mol}$

3.1 C

- $2.0 \times 6.02 \times 10^{23} = 1.2 \times 10^{24}$

3.2 C

- $M = m/n = 22/0.25 = 88 \text{ g mol}^{-1}$

3.3

- $n = m/M = 5.85/58.5 = 0.100 \text{ mol}$

3.4

- moles of NaCl = 0.100, so moles of Cl^- = 0.100; number = $0.100 \times 6.02 \times 10^{23} = 6.02 \times 10^{22}$