

1 Moles and formulas – Part 1 — Answers

Answers

Work through these after you have tried the questions yourself.

2.1 $n = \frac{m}{M} = \frac{22.0}{44.0} = 0.50 \text{ mol.}$

2.2 $N = n N_A = 0.50 \times 6.022 \times 10^{23} = 3.0 \times 10^{23} \text{ molecules.}$

2.3 $A_r = (20)(0.60) + (22)(0.40) = 12 + 8.8 = 20.8.$

2.4 $m = nM = 3.0 \times 18.0 = 54 \text{ g.}$

2.5 $S = \frac{50}{32} = 1.56, O = \frac{50}{16} = 3.13$; dividing by 1.56 gives 1 : 2, so the empirical formula is SO_2 .