Data sheet 1

Important values, constants and standards

Molar gas constant	$R = 8.31$ J K^{-1} mol^{-1}
Faraday constant	$F = 9.65 \times 10^4$ C mol^{-1}
Avogadro constant	$L = 6.02 \times 10^{23}$ mol^{-1}
Planck constant	$h = 6.63 \times 10^{-34}$ J s
Speed of light in a vacuum	$c = 3.00 \times 10^8$ m s^{-1}
Rest mass of proton, $_1^1 \text{H}$	$m_p = 1.67 \times 10^{-27}$ kg
Rest mass of neutron, $_0^1 \text{n}$	$m_n = 1.67 \times 10^{-27}$ kg
Rest mass of electron, $_{-1}^{0} \text{e}$	$m_e = 9.11 \times 10^{-31}$ kg
Electronic charge	$e = -1.60 \times 10^{-19}$ C
Molar volume of gas	$V_m = 22.4$ dm^3 mol^{-1} at s.t.p. $V_m = 24.0$ dm^3 mol^{-1} under room conditions (where s.t.p. is expressed as 101 kPa, approximately, and 273 K (0 °C)
Ionic product of water	$K_w = 1.00 \times 10^{-14}$ mol^2 dm^{-6} (at 298 K (25 °C))
Specific heat capacity of water	$= 4.18$ kJ kg^{-1} K^{-1} ($= 4.18$ J g^{-1} K^{-1})