CHEMISTRY
Unit 4 Trial Examination

DATA SHEET

Directions to students

Detach this data sheet during reading time. This data sheet is provided for your reference.

Physical constants

Avogadro's Number N_A	=	6.02×10^{23} mol^{-1}
Gas Molar Volume at SLC, V_m	=	24.5 mol^{-1}
Gas Molar Volume at STP, V_m	=	22.4 mol^{-1}
Faraday's constant, F	=	96 500 C mol^{-1}
Gas constant, R	=	8.31 J K^{-1} mol^{-1}
1 atm	=	101 325 Pa = 760 mm Hg
0°C	=	273 K

Ideal gas equation

$pV = nRT$

The Electrochemical Series

		E^o / V
$F_2(g) + 2e^- \rightleftharpoons 2F^-(aq)$		+2.87
$H_2O_2(aq) + 2H^+(aq) + 2e^- \rightleftharpoons 2H_2O(l)$		+1.77
$Au^+(aq) + e^- \rightleftharpoons Au(s)$		+1.68
$Cl_2(g) + 2e^- \rightleftharpoons 2Cl^-(aq)$		+1.36
$O_2(g) + 4H^+(aq) + 4e^- \rightleftharpoons 2H_2O(l)$		+1.23
$Br_2(l) + 2e^- \rightleftharpoons 2Br^-(aq)$		+1.09
$Ag^+(aq) + e^- \rightleftharpoons Ag(s)$		+0.80
$Fe^{3+}(aq) + e^- \rightleftharpoons Fe^{2+}(aq)$		+0.77
$I_2(aq) + 2e^- \rightleftharpoons 2I^-(aq)$		+0.54
$O_2(g) + 2H_2O(l) + 4e^- \rightleftharpoons 4OH^-(aq)$		+0.40
$Cu^{2+}(aq) + 2e^- \rightleftharpoons Cu(s)$		+0.34
$S(s) + 2H^+(aq) + 2e^- \rightleftharpoons H_2S(g)$		+0.14
$2H^+(aq) + 2e^- \rightleftharpoons H_2(g)$		0.00
$Pb^{2+}(aq) + 2e^- \rightleftharpoons Pb(s)$		-0.13
$Sn^{2+}(aq) + 2e^- \rightleftharpoons Sn(s)$		-0.14
$Ni^{2+}(aq) + 2e^- \rightleftharpoons Ni(s)$		-0.23
$Co^{2+}(aq) + 2e^- \rightleftharpoons Co(s)$		-0.28
$Fe^{2+}(aq) + 2e^- \rightleftharpoons Fe(s)$		-0.44
$Zn^{2+}(aq) + 2e^- \rightleftharpoons Zn(s)$		-0.76
$2H_2O(l) + 2e^- \rightleftharpoons H_2(g) + 2OH^-(aq)$		-0.83
$Mn^{2+}(aq) + 2e^- \rightleftharpoons Mn(s)$		-1.03
$Al^{3+}(aq) + 3e^- \rightleftharpoons Al(s)$		-1.67
$Mg^{2+}(aq) + 2e^- \rightleftharpoons Mg(s)$		-2.34
$Na^+(aq) + e^- \rightleftharpoons Na(s)$		-2.71
$Ca^{2+}(aq) + 2e^- \rightleftharpoons Ca(s)$		-2.87
$K^+(aq) + e^- \rightleftharpoons K(s)$		-2.93
$Li^+(aq) + e^- \rightleftharpoons Li(s)$		-3.02

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