

Physical Science 430/ 416 . . .2004

Formulas

$\rho = \frac{m}{V}$	ρ : density m : mass V : volume	$I = \frac{q}{t}$	I : current intensity q : electric charge t : time
$Q = mc\Delta T$	Q : quantity of heat m : mass c : specific heat capacity ΔT : change in temperature	$E = VIt$	E : energy V : potential difference I : current intensity t : time
$R_{eq} = R_1 + R_2 + \dots$	R_{eq} : equivalent resistance	$E = Pt$	E : energy P : power t : time
$\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \dots$	R_{eq} : equivalent resistance		
$R = \frac{V}{I}$	R : resistance V : potential difference I : current intensity	$P = IV$	P : power I : current intensity V : potential difference
$G = \frac{I}{V}$	G : conductance I : current intensity V : potential difference	$P = I^2R$	P : power I : current intensity R : resistance

- For most metals $Mc = 25$, where M = molar mass; c = specific heat capacity

QUANTITIES		
NAME	SYMBOL	VALUE (for water)
Specific heat capacity	c	4190 J/(kg•°C) or 4.19 J/(g•°C)
Density	ρ	1.0 g/mL or 1.0 kg/L or 1000 kg/m ³

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IA 1												VIII A 18																		
II A 2												III A 13	IV A 14	V A 15	VI A 16	VII A 17	2 He 4,00													
1	1 H 1,01											5 B 10,81	6 C 12,01	7 N 14,01	8 O 16,00	9 F 19,00	10 Ne 20,18													
2	3 Li 6,94	4 Be 9,01											11 Na 22,99	12 Mg 24,31	VIII			13 Al 26,98	14 Si 28,09	15 P 30,97	16 S 32,07	17 Cl 35,45	18 Ar 39,95							
3			III B 3	IV B 4	V B 5	VI B 6	VII B 7	VIII 8 9 10			IB 11	II B 12	19 K 39,10	20 Ca 40,08	21 Sc 44,96	22 Ti 47,90	23 V 50,94	24 Cr 52,00	25 Mn 54,94	26 Fe 55,85	27 Co 58,93	28 Ni 58,71	29 Cu 63,55	30 Zn 65,39	31 Ga 69,72	32 Ge 72,59	33 As 74,92	34 Se 78,96	35 Br 79,90	36 Kr 83,80
4	37 Rb 85,47	38 Sr 87,62	39 Y 88,91	40 Zr 91,22	41 Nb 92,91	42 Mo 95,94	43 Tc 98,91	44 Ru 101,07	45 Rh 102,91	46 Pd 106,40	47 Ag 107,87	48 Cd 112,41	49 In 114,82	50 Sn 118,71	51 Sb 121,75	52 Te 127,60	53 I 126,90	54 Xe 131,30												
5	55 Cs 132,91	56 Ba 137,33	57-71 La-Lu	72 Hf 178,49	73 Ta 180,95	74 W 183,85	75 Re 186,21	76 Os 190,20	77 Ir 192,22	78 Pt 195,09	79 Au 196,97	80 Hg 200,59	81 Tl 204,37	82 Pb 207,20	83 Bi 208,98	84 Po (209)	85 At (210)	86 Rn (222)												
6	87 Fr (223)	88 Ra (226)	89-103 Ac-Lr	104 Rf (261)	105 Ha (262)																									
7					57 La 138,91	58 Ce 140,12	59 Pr 140,91	60 Nd 144,24	61 Pm 145	62 Sm 150,35	63 Eu 151,96	64 Gd 157,25	65 Tb 158,92	66 Dy 162,50	67 Ho 164,93	68 Er 167,26	69 Tm 168,93	70 Yb 173,04	71 Lu 174,97											
					89 Ac 227,03	90 Th 232,04	91 Pa 231,04	92 U 238,03	93 Np 237,05	94 Pu (244)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (254)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)											

