L2-CHEMMR

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Te Mātauranga Matū, Kaupae 2, 2014

2.00 i te ahiahi Rātū 11 Whiringa-ā-rangi 2014

PUKA RAUEMI MŌ 91164M, 91165M, 91166M

Tirohia tēnei puka hei whakautu i ngā pātai i roto i ō pukapuka Pātai, Whakautu hoki.

Tirohia mehemea kei roto nei ngā whārangi 2–3 e raupapa tika ana, ā, kāore hoki he whārangi wātea.

KA TAEA TĒNEI PEPA TE PUPURI HEI TE MUTUNGA O TE WHAKAMĀTAUTAU.

TE TAKA PŪMOTU

18		He	4.0	10	Ne	20.2	18	Ar	40.0	36	Kr	83.8	54	Xe	131	98	Rn	222			
	2		7	1	r-		18	_		3(75			8					
			17	6		19.0	17	_	35.5	35	Br	79.9	53		127	85	At	210			
			91	8	0	16.0	16	S	32.1	34	Se	79.0	52	Te	128	84	Po	210	116	Lv	292
			15	7	Z	14.0	15	Ь	31.0	33	As	74.9	51	$\mathbf{S}\mathbf{p}$	122	83	Bi	209			
			14	9	C	12.0	14	Si	28.1	32	Ge	72.6	50	\mathbf{Sn}	119	82	Pb	207	114	F	289
			13	5	B	10.8	13	A	27.0	31	Сa	69.7	49	In	115	81	I	204			
									12	30	Zn	65.4	48	Cd	112	08	$_{ m Hg}$	201	112	Cn	277
			nol ⁻¹						II	29	Cu	63.5	47	Ag	108	62	Au	197	1111	$\mathbf{R}_{\mathbf{g}}$	272
			Papatipu Rāpoi Ngota/g mol-1						0I	28	Z	58.7	46	Pd	106	78	Pt	195	110	Ds	271
			ı Rāpoi N						6	27	Co	58.9	45	Rh	103	77	Ir	192	109	Mt	268
			Papatipu						8	26	Fe	55.9	44	Ru	101	9/	Os	190	108	Hs	265
		Н	1.0						7	25	Mn	54.9	43	Tc	6.86	75	Re	186	107	Bh	264
·	Tau Iraoho			•					9	24	Cr	52.0	42	Mo	95.9	74	*	184	106	S	263
	Tar								5	23	>	50.9	41	Nb	92.9	73	Ta	181	105	Db	262
									4	22	Τi	47.9	40	\mathbf{Zr}	91.2	72	Ht	179	104	Rf	261
									3	21	Sc	45.0	39	Y	88.9	71	Lu	175	103	Lr	262
			2	4	Be	0.6	12	Mg	24.3	20	Ca	40.1	38	\mathbf{Sr}	9.78	99	Ba	137	88	Ra	226
			1	3	Li	6.9	11	Na	23.0	19	×	39.1		Rb	85.5	55	Cs	133	87	Fr	223

	57	58	59	09	61	62	63	64	65	99	29	89	69	70
Raupapa	La	Ce	Pr	Nd	Pm	Sm	Eu	Сd	$\mathbf{T}\mathbf{b}$	Dy	Ho	Er	Tm	ΛP
Lanthanide	139	140	141	144	147	150	152	157	159	163	165	167	169	173
	68	06	91	92	93	94	95	96	26	86	66	100	101	102
Raupapa	Ac	Th	Pa	n	Np	Pu	Am	Cm	Bķ	Cf	Es	Fm	Md	No
Actinide	227	232	231	238	237	239	241	244	249	251	252	257	258	259

PERIODIC TABLE OF THE ELEMENTS

<i>18</i> He 4.0	0 Ne	Ar	40.0		Kr	3.8		, te	131		Rn	222			
1 2 E	1	-		36	_		54			98	<u>~</u>	2			
17	9 F	177 CI	35.5	35	Br	79.9	53	Ι	127	85	At	210			
16	8	16 S	32.1	34	Se	79.0	52	Te	128	84	P_0	210	116	Lv	292
15	7 N	15 P	31.0	33	As	74.9	51	$\mathbf{S}\mathbf{p}$	122	83	Bi	209			
14	6 C 12.0	14 Si	28.1	32	Ge	72.6	50	Sn	119	82	Pb	207	114	F	289
13	5 B	113 Al	27.0	31	Са	69.7	49	In	115	81	I	204			
· ·			12	30	Zn	65.4		Cd	112		Hg	201	112	Cn	277
			II	29	Cu	63.5	47	Ag	108	62	Au	197	111	Rg	272
<u>-</u> -			0I	28	Z	58.7	46	Pd	106	78	Pt	195	110	Ds	271
Molar mass/g mol ⁻¹			6	27	Co	58.9	45	Rh	103	77	Ir	192	109	Mt	268
Molar m			8	26	Fe	55.9	44	Ru	101	92	Os	190	108	Hs	265
1 H 1.0			7	25	Mn	54.9		Tc	6.86	75	Re	186	107	Bh	264
number			9	24	$C_{\mathbf{r}}$	52.0	42	Mo	95.9	74	*	184	106	S	263
Atomic number			5	23	>	50.9	41	qN	92.9	73	Га	181	105	Db	262
			4	22	Ï	47.9	40	\mathbf{Zr}	91.2	72	Ht	179	104	Rf	261
			3	21	Sc	45.0	39	Λ	6.88	71	Lu	175	103	Lr	262
~	4 Be	12 Mg	24.3	20	Ca	40.1	38	Sr	9.78	99	Ba	137	88	Ra	226
7	3 Li 69		23.0	19	K	39.1	37	Rb	85.5	55	Cs	133	87	Fr	223

02 69	Tm Yb	169 173		p	
89	Er	167	100	Fm	0.0
29	H_0	165	66	Es	0,0
99	Dy	163	86	Cf	7.7
65	Γ	159	26	Bk	2
64	Вd	157	96	Cm	7
63	Eu	152	95	Am	5
62	Sm	150	94	Pu	000
61	Pm	147	93	Np	000
09	Nd	144	92	Ω	000
59	Pr	141	91	Pa	,
58	Ce	140	06	Th	,,,
57	La	139	68	Ac	7
	Lanthanide	Series		Actinide	Spripe

English translation of the wording on the front cover

Level 2 Chemistry, 2014

2.00 pm Tuesday 11 November 2014

RESOURCE SHEET for 91164, 91165, 91166

Refer to this sheet to answer the questions in your Question and Answer Booklets.

Check that this booklet has pages 2–3 in the correct order and that none of these pages is blank.

YOU MAY KEEP THIS SHEET AT THE END OF THE EXAMINATION.