Chemistry: Periodically Puzzling

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Molly left us a voicemail with these pieces of information about the VILE agent:

She used to have three dozen antique doilies but apparently she lost a trio of them over the years. She has some kind of obsession with aged lace and other things.

She doubled the high score of an arcade game and chose a ring as her prize.

Her vacation was originally a fortnight but she extended it by an extra day. The travel agent's face glowed with rage when they realized how much rescheduling they needed to do!

She used to complain that it was gross to remove two pounds of muck from her horse's stable (it might have been more – she's not very good at conversions). Anyway, that horse was the center of her universe.

Her garden is really pretentious – all stone and with half a half dozen reflecting pools.

1]																2
H Hydrogen		_															He Helium
3	4											5	6	7	8	9	10
Li	Be											В	С	N	0	F	Ne
Lithium	Beryllium											Boron	Carbon	Nitrogen	Oxygen	Fluorine	Neon
11	12											13	14	15	16	17	18
Na	Mg											Al	Si	P	S	CI	Ar
Sodium	Magnesium		1		1	I	1	I	1	1	1	Aluminum	Silicon	Phosphorus	Sulfur	Chlorine	Argon
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zi	Ga	Gr	As	Se	Br	Kr
K Potassium	Ca Calcium	Sc Scandium	Ti Titanium	V Vanadium	Cr Chromium	Mn Manganese	Fe Iron	Co Cobalt	Ni Nickel	Cu Copper	Zi Zinc	Ga Gallium	Gr Germanium	As Arsenic	Se Selenium	Br Bromine	Kr Krypton
l l				_	Chromium		-		Nickel				Germanium	_			
Potassium	Calcium	Scandium	Titanium	Vanadium	Chromium	Manganese	Iron	Cobalt	Nickel	Copper	Zinc	Gallium	Germanium	Arsenic	Selenium	Bromine	Krypton
Potassium 37	Calcium 38	Scandium 39	Titanium 40	Vanadium 41	Chromium 42	Manganese 43 Tc	Iron 44	Cobalt 45	Nickel 46	Copper 47	Zinc 48	Gallium 49	Germanium 50	Arsenic 51	Selenium 52	Bromine	Krypton 54
Potassium 37 Rb	38 Sr	Scandium 39	40 Zr	Vanadium 41 Nb	42 Mo	Manganese 43 Tc	44 Ru	Cobalt 45 Rh	Nickel 46 Pd	Copper 47 Ag	48 Cd	49	Germanium 50 Sn Tin	Arsenic 51 Sb Antimony	Selenium 52 Te	53	Krypton 54 Xe
Potassium 37 Rb Rubidium	Calcium 38 Sr Strontium	Scandium 39 Y Yttrium	40 Zr Zirconium	Vanadium 41 Nb Niobium	Chromium 42 Mo Molybdenum	Manganese 43 Tc Technetium	Iron 44 Ru Ruthenium	Cobalt 45 Rh Rhodium	Nickel 46 Pd Palladium	Copper 47 Ag Silver	Zinc 48 Cd Cadmium 80	Gallium 49 In Indium	Germanium 50 Sn Tin	Arsenic 51 Sb Antimony	Selenium 52 Te Tellurium	53 I lodine	Krypton 54 Xe Xenon
Potassium 37 Rb Rubidium 55	Sr Strontium	Scandium 39 Y Yttrium 57-71	Titanium 40 Zr Zirconium 72	Vanadium 41 Nb Niobium 73	Chromium 42 Mo Molybdenum 74	Manganese 43 Tc Technetium 75	Iron 44 Ru Ruthenium 76	Cobalt 45 Rh Rhodium 77	Nickel 46 Pd Palladium 78	Copper 47 Ag Silver 79	Zinc 48 Cd Cadmium	49 In Indium	Germanium 50 Sn Tin 82	Sb Antimony	Selenium 52 Te Tellurium 84	53 I lodine 85	Krypton 54 Xe Xenon 86
Rb Rubidium 55 Cs	Sr Strontium 56	Scandium 39 Y Yttrium 57-71	Titanium 40 Zr Zirconium 72 Hf	Vanadium 41 Nb Niobium 73 Ta	Chromium 42 Mo Molybdenum 74 W	Manganese 43 Tc Technetium 75 Re	Ru Ru Ruthenium	Cobalt 45 Rh Rhodium 77	Nickel 46 Pd Palladium 78 Pt Platinum	Copper 47 Ag Silver 79 Au	Zinc 48 Cd Cadmium 80 Hg	Gallium 49 In Indium 81 TI	Sn Tin 82	Sb Antimony 83 Bi	Selenium 52 Te Tellurium 84 Po	53 I lodine 85 At	Krypton 54 Xe Xenon 86 Rn
37 Rb Rubidium 55 Cs Cesium	Sr Strontium 56 Ba Barium	Scandium 39 Y Yttrium 57-71 *	Titanium 40 Zr Zirconium 72 Hf Hafnium	Vanadium 41 Nb Niobium 73 Ta Tantalum 105 Db	Chromium 42 Mo Molybdenum 74 W Tungsten	Manganese 43 Tc Technetium 75 Re Rhenium	Ru Ruthenium 76 Os Osmium	Cobalt 45 Rh Rhodium 77 Ir	Nickel 46 Pd Palladium 78 Pt Platinum	Copper 47 Ag Silver 79 Au Gold 1111 Rg	Zinc 48 Cd Cadmium 80 Hg Mercury	Gallium 49 In Indium 81 Tl Thallium	Germanium 50 Sn Tin 82 Pb Lead	Sb Antimony 83 Bi Bismuth 115 Mc	Selenium 52 Te Tellurium 84 Po Polonium	Bromine 53 I Iodine 85 At Astatine	54 Xe Xenon 86 Rn Radon

* Lanthanide	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
Series	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Но	Er	Tm	Yb	Lu
	Lanthanum	Cerium	Prasedymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbiium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium	Lutetium
** Actinide	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
Series	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
Series	Actinium	Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium	Lawrencium

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She used to have *three dozen* antique doilies but apparently she *lost* a *trio* of them over the years. She has some kind of obsession with <u>aged lace</u> and other things.

She doubled the high score of an arcade game and chose a sparkly ring as her prize.

Her vacation was originally a *fortnight* but she *extended* it by *an extra day*. The travel agent's face <u>glowed</u> with rage when they realized how much rescheduling they needed to do!

She used to complain that it was *gross* to *remove two pounds* of muck from her horse's stable (it might have been more – she's not very good at *conversions*). Anyway, that horse was the <u>center of her universe</u>.

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	agnesium											Aluminum	Silicon	Phosphorus	Sulfur	Chlorine	Argon
19 20	0 :	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zi	Ga	Gr	As	Se	Br	Kr
Potassium Ca	Calcium	Scandium	Titanium	Vanadium	Chromium	Manganese	Iron	Cobalt	Nickel	Copper	Zinc	Gallium	Germanium	Arsenic	Selenium	Bromine	Krypton
37 38	8	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Rb	Sr	Υ	Zr	Nb	Мо	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	ı	Xe
Rubidium Stro	trontium	Yttrium	Zirconium	Niobium	Molybdenum	Technetium	Ruthenium	Rhodium	Palladium	Silver	Cadmium	Indium	Tin	Antimony	Tellurium	Iodine	Xenon
55 56	6	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
Cs I	Ва	*	Hf	Та	w	Re	Os	lr	Pt	Au	Hg	TI	Pb	Bi	Po	At	Rn
Cesium Ba	Barium		Hafnium	Tantalum	Tungsten	Rhenium	Osmium	Iridium	Platinum	Gold	Mercury	Thallium	Lead	Bismuth	Polonium	Astatine	Radon
87 88	8	89-103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
Fr	Ra	**	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	FI	Mc	Lv	Ts	Og
Francium Ra	Radium		Rutherfordium	Dubnium	Seaborgium	Bohrium	Hassium	Meitnerium	Darmstadtium	_	Copernicum	Nihonium	Flerovium	Muscovium	Livermorium	Tennessine	Oganesson

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Series	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Но	Er	Tm	Yb	Lu
	Lanthanum	Cerium	Prasedymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbiium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium	Lutetium
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Series	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
Series	Actinium	Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium	Lawrencium

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Each factoid contains math keywords and contextual clues.

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(36) (-) (3)

She used to have <u>three dozen</u> antique doilies but apparently she <u>lost</u> a <u>trio</u> of them over the years. She has some kind of obsession with aged lace and other things.

("arsenic and old lace")

36 - 3 = 33 (atomic # of arsenic)

(2x) (20) (cubic zirconium)

She doubled the high score of an arcade game and chose a ring as her prize.

 $2 \times 20 = 40$ (atomic # of zirconium)

(14 days) (+) (1)

Her vacation was originally a <u>fortnight</u> but she <u>extended</u> it by <u>an extra</u> day. The travel agent's face <u>glowed</u> with rage when they realized how much rescheduling they needed to do!

(emits light)

14 + 1 = 15 (atomic # of phosphorus)

(144) (-) (32 ounces)

She used to complain that it was <u>gross</u> to <u>remove two pounds</u> of muck from her horse's stable (it might have been more – she's not very good at <u>conversions</u>). Anyway, that horse was the <u>center of her universe</u>. (convert pounds to ounces)

(heliocentric theory of the universe)

144 - 32 = 112 (atomic # of copernicium)

(14 pounds) (+) ((.5x) (6)) (chlorinated water)

Her garden is really pretentious – all stone and with half a half dozen reflecting pools.

 $14 + (.5 \times 6) = 17$ (atomic # of chlorine)

1																	2
Н																	He
Hydrogen 2	1	1	N	low tha	at you l	know tl	ne circl	ed eler			E	6	7	8	9	Helium 10	
3	4 Be		"	step rig	tht up"	(step	ight ar	nd up) a	and			э В	_	/ N	_	9	_
Li Lithium	Beryllium			inscran			_					Boron	C Carbon	N Nitrogen	Oxygen	F Fluorine	▼ Ne Neon
11	12		l u	ii i 3Ci ai i	IDIC WI	iat siic	was io	OKING I	01.		13	14	15)	16	17) /	18	
Na	Mg		Al Si P S CI														
Sodium	Magnesium		Aluminum Silicon Phosphorus Sulfur Chlorine An														Argon
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33) /	34	35	36
K	Ca	Sc	Ti	_ V	Cr	Mn	Fe	Co	Ni	Cu	Zi	Ga	Gr	As	Se	Br	Kr
Potassium	Calcium	Scandium	Titanium	Vanadium	Chromium	Manganese	Iron	Cobalt	Nickel	Copper	Zinc	Gallium	Germanium	Arsenic	Selenium	Bromine	Krypton
37	38	39	40) /	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Rb	Sr	Υ	Zŕ	Nb	Мо	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	- 1	Xe
Rubidium	Strontium	Yttrium	Zirconium	Niobium	Molybdenum	Technetium	Ruthenium	Rhodium	Palladium	Silver	Cadmium	Indium	Tin	Antimony	Tellurium	Iodine	Xenon
55	56	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
Cs	Ва	*	Hf	Та	W	Re	Os	lr	Pt	Au	Hg	_ TI	Pb	Bi	Po	At	Rn
Cesium	Barium		Hafnium	Tantalum	Tungsten	Rhenium	Osmium	Iridium	Platinum	Gold	Mercury	Thallium	Lead	Bismuth	Polonium	Astatine	Radon
87	88	89-103	104	105	106	107	108	109	110	111	112)/	113	114	115	116	117	118
Fr Francium	Ra Radium	**	Rf Rutherfordium	Db	Sg Seaborgium	Bh	Hs Hassium	Mt Meitnerium	Ds Darmstadtium	Rg Roentgenium	Cn Copernicum	Nh Nihonium	FI Flerovium	Mc Muscovium	Lv Livermorium	Ts Tennessine	Og Oganesson