

Periodic Table with constants and equations for Exam 1:

																		VIII					
																		2	4.0026	He		VII	
																		10	20.180	Ne		9	
																		18	39.948	Ar		8	
																		36	79.904	Kr		7	
																		54	131.29	Xe		6	
																		86	(222)	Rn		5	
																		114	(289)	Uuq		4	
																		112	(285)	Uub		3	
																		111	(272)	Uuu		2	
																		110	(281)	Uun		1	
																		109	(268)	Uut			
																		108	(277)	Uuh			
																		107	(264)	Uuo			
																		106	(266)	Uug			
																		105	(262)	Uue			
																		104	(261)	Uuq			
																		103	(262)	Uul			
																		102	(258)	Uuo			
																		101	(257)	Uuf			
																		100	(252)	Uuq			
																		99	(252)	Uue			
																		98	(251)	Uuf			
																		97	(247)	Uub			
																		96	(247)	Uuc			
																		95	(243)	Uua			
																		94	(244)	Uup			
																		93	(237)	Uun			
																		92	238.03	U			
																		91	231.04	Pa			
																		90	232.04	Th			
																		89	(227)	Ac			
																		88	(226)	Ra			
																		87	(223)	Fr			
																		86	(222)	At			
																		85	(210)	Po			
																		84	(209)	Bi			
																		83	208.98	Pb			
																		82	207.2	Tl			
																		81	204.38	Pb			
																		80	199.97	Au			
																		79	196.97	Ag			
																		78	195.08	Pt			
																		77	192.22	Ir			
																		76	190.23	Os			
																		75	186.21	Re			
																		74	183.84	W			
																		73	180.95	Ta			
																		72	178.49	Hf			
																		71	174.97	Lu			
																		70	173.33	Ba			
																		69	173.04	Tm			
																		68	173.04	Yb			
																		67	164.93	Ho			
																		66	162.50	Dy			
																		65	158.93	Tb			
																		64	157.25	Gd			
																		63	151.96	Eu			
																		62	150.36	Sm			
																		61	(145)	Pm			
																		60	144.24	Nd			
																		59	140.91	Pr			
																		58	140.12	Ce			
																		57	138.91	La			
																		56	137.33	Ba			
																		55	132.91	Cs			
																		54	126.90	I			
																		53	127.60	Te			
																		52	127.60	Se			
																		51	121.76	Sb			
																		50	118.71	Sn			
																		49	114.82	In			
																		48	112.41	Cd			
																		47	107.87	Ag			
																		46	106.42	Pd			
																		45	102.91	Rh			
																		44	101.07	Ru			
																		43	(98)	Tc			
																		42	95.94	Mo			
																		41	92.906	Nb			
																		40	91.224	Zr			
																		39	88.906	Y			
																		38	87.62	Sr			
																		37	85.468	Rb			
																		36	83.798	Kr			
																		35	79.904	Br			
																		34	78.96	Se			
																		33	74.922	As			
																		32	72.64	Ge			
																		31	69.723	Ga			
																		30	65.409	Zn			
																		29	63.546	Cu			
																		28	58.693	Ni			
																		27	58.933	Co			
																		26	55.845	Fe			
																		25	54.938	Mn			
																		24	51.996	Cr			
																		23	50.942	V			
																		22	47.867	Ti			
																		21	44.956	Sc			
																		20	40.078	Ca			
																		19	39.098	K			
																		18	39.948	Ar			
																		17	35.453	Cl			
																		16	32.065	S			
																		15	30.974	P			
																		14	28.086	Si			
																		13	26.982	Al			
																		12	24.305	Mg			
																		11	22.990	Na			
																		10	20.180	Ne			
																		9	18.998	F			
																		8	15.999	O			
																		7	14.007	N			
																		6	12.011	C			
																		5	10.811	B			
																		4	9.0122	Be			
																		3	6.941	Li			
																		2	4.0026	He			

Metals
Semimetals
Nonmetals

Transition elements

Lanthanide series

Actinide series

$$c = 2.9979 \times 10^8 \text{ m/s}$$

$$h = 6.6261 \times 10^{-34} \text{ J s}$$

$$N_A = 6.022 \times 10^{23} \text{ mol}^{-1}$$

$$m_e = 9.1094 \times 10^{-31} \text{ kg}$$

$$a_0 = 5.292 \times 10^{-11} \text{ m}$$

$$1 \text{ amu} = 1.66 \times 10^{-27} \text{ kg}$$

$$R_H = 2.1799 \times 10^{-18} \text{ J}$$

$$\mathfrak{K} = R_H/h = 3.2898 \times 10^{15} \text{ Hz}$$

$$E_n = -\frac{Z^2 R_H}{n^2}$$

$$E_{nl} = -\frac{Z_{\text{eff}}^2 R_H}{n^2}$$

$$1 \text{ W} = 1 \text{ J s}^{-1}$$

$$1 \text{ J} = 1 \text{ kg m}^2 \text{ s}^{-2}$$

$$1 \text{ eV} = 1.6022 \times 10^{-19} \text{ J}$$

$$E = hv = hc/\lambda$$

$$c = v\lambda$$

$$KE = (1/2)mv^2$$

$$p = mv$$

$$\lambda = \frac{h}{p}$$

for s wavefunction:

$$RPD = 4\pi r^2 \Psi^2 dr$$

for $n_f < n_i, \dots$

$$v = \frac{Z^2 R_H}{h} \left(\frac{1}{n_f^2} - \frac{1}{n_i^2} \right)$$

for $n_f > n_i, \dots$

$$v = \frac{Z^2 R_H}{h} \left(\frac{1}{n_i^2} - \frac{1}{n_f^2} \right)$$

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