

Chem 10113, Quiz 2

September 18, 2019

Name: _____

(Please Print)

	IA (1)																		VIIIA (18)	
1	1 H 1.0080																		2 He 4.0026	
2	3 Li 6.9410	IIA (2)	4 Be 9.0122																	
3	11 Na 22.990	12 Mg 24.305																		
			IIIB (3)	IVB (4)	VB (5)	VIB (6)	VIIIB (7)	VIII (8)	VIII (9)	VIII (10)	IB (11)	IIB (12)	13 Al 26.982	14 Si 28.086	15 P 30.974	16 S 32.066	17 Cl 35.453	18 Ar 39.948		
4	19 K 39.098	20 Ca 40.078	21 Sc 44.956	22 Ti 47.880	23 V 50.942	24 Cr 51.996	25 Mn 54.938	26 Fe 55.847	27 Co 58.933	28 Ni 58.690	29 Cu 63.546	30 Zn 65.380	31 Ga 69.723	32 Ge 72.610	33 As 74.922	34 Se 78.960	35 Br 79.904	36 Kr 83.800		
5	37 Rb 85.468	38 Sr 87.620	39 Y 88.906	40 Zr 91.224	41 Nb 92.906	42 Mo 95.940	43 Tc 98.907	44 Ru 101.07	45 Rh 102.91	46 Pd 106.42	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 131.29		
6	55 Cs 132.91	56 Ba 137.33	57 La 138.91	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 204.38	82 Pb 207.20	83 Bi 208.98	84 Po 208.98	85 At 209.99	86 Rn 222.02		
7	87 Fr 223.02	88 Ra 226.03	89 Ac 227.03	104 Unq	105 Unp	106 Unh	107 Uns													

58 Ce 140.12	59 Pr 140.91	60 Nd 144.24	61 Pm 145.91	62 Sm 150.36	63 Eu 151.97	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.04	71 Lu 174.97
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90 Th 232.04	91 Pa 231.04	92 U 238.03	93 Np 237.05	94 Pu 244.06	95 Am 243.06	96 Cm 247.07	97 Bk 247.07	98 Cf 242.06	99 Es 252.08	100 Fm 257.10	101 Md 258.10	102 No 259.10	103 Lr 260.11
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1. (10 points) Complete the following table of compound names and formulas.

Formula	Name
XeF ₆	
	iridium(III) sulfide
CuSO ₄ •5H ₂ O	
	periodic acid
Hg ₂ (CN) ₂	
	potassium thiocyanate
H ₂ Se(aq)	
	aluminum dichromate
Br ₂ O ₇	
	ammonium hydrogen phosphate

2. (2 points) Write a **balanced chemical equation** for the complete combustion of methanol, CH₃OH.

3. (5 points) **SHOW ALL WORK.** A sulfide of an unknown element E has the formula E_4S_7 . A 2.500-g sample of the compound contains 1.071 g of S. Identify element E by using the *mole concept* to determine the appropriate quantity.
4. (2 points) Write a *balanced chemical equation* for the production of $Cr_2(CO_3)_3$ by a *neutralization* reaction.
5. (6 points) **SHOW ALL WORK.** Caproic acid is a foul-smelling organic compound containing carbon, hydrogen, and oxygen. The combustion analysis of a 1.250-g sample of caproic acid produced 2.84 g of CO_2 and 1.16 g H_2O . Determine the *empirical formula* of caproic acid. (molar masses: $CO_2 = 44.0$, $H_2O = 18.0$)