The Periodic Table

IA												IIIA	IVA	VA	VIA	VIIA	VIIIA
H 1 1.01	IIA																He 2 4.00
Li 3 6.94	Be 4 9.01											B 5 10.81	C 6 12.01	N 7 14.01	O 8 16.00	F 9 19.00	Ne 10 20.18
Na 11 22.99	Mg 12 24.31	IIIB	IVB	VB	VIB	VIIB	VIIIB	VIIIB	VIIIB	IB	IIB	Al 13 26.98	Si 14 28.09	P 15 30.97	S 16 32.07	Cl 17 35.45	Ar 18 39.95
K 19 39.10	Ca 20 40.08	Sc 21 44.96	Ti 22 47.88	V 23 50.94	Cr 24 52.00	Mn 25 54.94	Fe 26 55.85	Co 27 58.93	Ni 28 58.69	Cu 29 63.55	Zn 30 65.39	Ga 31 69.72	Ge 32 72.61	As 33 74.92	Se 34 78.96	Br 35 79.90	Kr 36 83.80
Rb 37 85.47	Sr 38 87.62	Y 39 88.91	Zr 40 91.22	Nb 41 92.91	Mo 42 95.94	Tc 43 (97.9)	Ru 44 101.07	Rh 45 102.91	Pd 46 106.42	Ag 47 107.87	Cd 48 112.41	In 49 114.82	Sn 50 118.71	Sb 51 121.76	Te 52 127.60	I 53 126.90	Xe 54 131.29
Cs 55 132.91	Ba 56 137.33	La 57 138.91	Hf 72 178.49	Ta 73 180.95	W 74 183.85	Re 75 186.21	Os 76 190.2	Ir 77 192.22	Pt 78 195.08	Au 79 197.97	Hg 80 200.59	Tl 81 204.38	Pb 82 207.2	Bi 83 208.98	Po 84 (209)	At 85 (210)	Rn 86 (222)
Fr 87 223.02	Ra 88 226.03	Ac 89 227.03	Rf 104 (261)	Db 105 (262)	Sg 106 (263)	Bh 107 (262)	Hs 108 (265)	Mt 109 (266)									

Ce 58 140.12	Pr 59 140.91	Nd 60 144.24	Pm 61 (145)	Sm 62 150.36	Eu 63 152.97	Gd 64 157.25	Tb 65 158.93	Dy 66 162.50	Ho 67 164.93	Er 68 167.26	Tm 69 168.93	Yb 70 173.04	Lu 71 174.97
Th 90 232.04	Pa 91 231.04	U 92 238.03	Np 93 237.05	Pu 94 (240)	Am 95 243.06	Cm 96 (247)	Bk 97 (248)	Cf 98 (251)	Es 99 252.08	Fm 100 257.10	Md 101 (257)	No 102 259.10	Lr 103 262.11

Information You May Need:

100 cm = 1 m

SID: | | | | | | | | | **Last:** _____ **First:** _____

Question 1
4 Points

A field is found to have an area of **1,000 m^2**.
Using unit analysis, show what the area of the field is in **cm^2**.

Do Not Write Here

Question 2
8 Points

A nucleus has 34 protons and 43 neutrons
Fill in the three blanks to complete the atomic symbol. ____ ____ ____

How many electrons does this atom possess? _____

Question 3
4 Point

What is the charge (both magnitude and sign) of the ions formed from the following atoms?

1. Potassium _____
2. Aluminum _____
3. Se _____
4. Be _____

Question 4
12 Points

Give the correct chemical formula and charge for the following polyatomic ions.

1. Cyanide _____
2. Chlorate _____
3. Nitrate _____
4. Sulfite _____
5. Carbonate _____
6. Ammonium _____

Question 5
6 Points

1. Alkali Metal
2. Transition Metal
3. Noble Gas
4. Non Metal
5. Halide
6. Alkali Earth Metal
7. Metalloid

Use the numbering scheme on the left to give the best classifications for the following elements. (i.e. Na, 1)

a. Fe _____
b. Xe _____
c. Be _____
d. S _____
e. K _____
f. F _____

Do Not Write Here

Question 6
9 Points

Give the correct chemical name for the following ionic compounds.

1. $CuNO_2$ _____
2. NH_4OH _____
3. Al_2O_3 _____

Question 7
8 Points

Give the correct name or formula for the following covalent compounds.

1. SO_3 _____
2. Dinitrogen tetraoxide _____
3. Boron trifluoride _____
4. CF_4 _____

Question 8
4 Points

The balanced chemical equation for the reaction between glucose and oxygen is

$$C_6H_{12}O_6(s) + 6O_2(g) = 6\ CO_2(g) + 6\ H_2O(l)$$

We can interpret this to mean that ____ moles of oxygen and ____ mole of $C_6H_{12}O_6$ react to produce ____ moles of water and ____ moles of carbon dioxide

Question 9
9 Points

When the following chemical equations are balanced using the smallest possible integer coefficients, the values of these coefficients are:

1. ___ CH_4 (g) + ___O_2(g) = ___ CO_2(g) + ____ H_2O(l)
2. ___ Fe(s) + ___ CO_2(g) = ___ Fe_2O_3(s) + ___C(s)
3. ___ CH_3OH (g) + ___O_2(g) = ___ CO_2(g) + ____ H_2O(l)

Question 10
(6 Points)

What is the percent by weight of **carbon** in $\mathbf{C_6H_{12}O_6}$?

Do Not Write Here

Ans: _____

Question 11
(6 Points)

How many **GRAMS** of **iron(II) chloride** are present in **0.48** moles of this compound ?

Do Not Write Here

Ans: _____

SID: | | | | | | | | | **Last:** _____ **First:** _____

Question 12
(10 Points)

How many **GRAMS** of **nitrogen** are present in **72.6 grams** of **dinitrogen tetrafluoride** ?

Ans: _____

Question 13
(6 Points)

A compound is found to contain **10.85** % **silicon**, **27.40** % **chlorine**, and **61.75 bromine** % by weight. What is the empirical formula for this compound?

Empirical formula: _____

Question 14
4 Points

Of the following three salts circle one that you might expect to be soluble in water?

CaO NaF Al_2S_3

Question 15
4 Points

A compound is found to contain 22.32% Vanadium (element #23) and 77.68% chlorine. What is the charge on the Vanadium atom?

Charge: _____

Score