

The Periodic Table

<i>IA</i> H 1 1.01																	<i>VIIIA</i> He 2 4.00
<i>IIA</i> Li 3 6.94	Be 4 9.01											<i>IIIA</i> B 5 10.81	<i>IVA</i> C 6 12.01	<i>VA</i> N 7 14.01	<i>VIA</i> O 8 16.00	<i>VIIA</i> F 9 19.00	Ne 10 20.18
Na 11 22.99	Mg 12 24.31	<i>IIIB</i>	<i>IVB</i>	<i>VB</i>	<i>VIB</i>	<i>VII B</i>	<i>VIII B</i>	<i>VIII B</i>	<i>VIII B</i>	<i>IB</i>	<i>IIB</i>	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:

Barium: Ba

Xenon: Xe

1000mg = 1g

Name: _____

ID: _____ - _____ - _____

<p>Question 1 (4 points)</p> <p style="text-align: center;">Do Not Write Here</p>	<p>A quarter is found to have a mass of 5.34 grams. Using unit analysis, show what the mass of the quarter is in milligrams.</p>
<p>Question 2 (12 Points)</p> <p style="text-align: center;">Do Not Write Here</p>	<p>How many protons, neutrons and electrons are there in an atom of the isotopes represented by:</p> <p>1. $^{107}_{47}\text{Ag}$ Protons: _____ Neutrons: _____ Electrons: _____</p> <p>2. $^{16}\text{O}^{2-}$ Protons: _____ Neutrons: _____ Electrons: _____</p>
<p>Question 3 (12 Points)</p> <p style="text-align: center;">Do Not Write Here</p>	<p>1. An ion from a given element has 13 protons and 10 electrons.</p> <p>What is the charge on the ion? _____</p> <p>What is the name of the element? _____</p> <p>What is the symbol for the ion? _____</p> <p>2. For the element potassium:</p> <p>What is the charge on the ion expected to form? _____</p> <p>What is the symbol for the ion? _____</p> <p>How many electrons are present in the ion? _____</p>
<p>Question 4 (12 Points)</p> <p style="text-align: center;">Do Not Write Here</p>	<p>1. What is the name for SO_4^{2-} ? The _____ ion</p> <p>What is the formula for the phosphate ion ? _____</p> <p>What is the formula for the chlorate ion ? _____</p> <p>2. What is the formula for the ammonium ion ? _____</p> <p>What is the name for OH^- ? The _____ ion</p> <p>What is the formula for the hydrogen sulfate ion ? _____</p>

Question 5
(12 Points)

Do Not
Write Here

1. The compound **CaBr₂** is an ionic compound. What are the ions of which it is composed?

2. What is the formula of the compound formed between the ions **F⁻** and **Fe²⁺**?

3. What is the name of the compound with the formula **Ca(CN)₂** ?

4. What is the name of the compound with the formula **NaHCO₃** ?

5. What is the name of the compound with the formula **KOH** ?

6. What is the formula for **barium nitrate** ?

7. What is the formula for **potassium carbonate** ?

8. What is the formula for **calcium phosphate** ?

9. What is the formula for **xenon trioxide** ?

10. What is the formula for **nitrogen dioxide** ?

11. What is the formula for **sulfur tetrafluoride** ?

Question 6
(9 Points)

Do Not
Write Here

1. How many **GRAMS** of **sulfur** are present in **4.34** moles of **SO₂** ?

2. How many **MOLES** of **oxygen** are present in **3.06** grams of **SO₂** ?

Name: _____

ID: _____ - _____ - _____

Question 7
(14 Points)

1. How many **GRAMS** of **phosphorus** are present in **1.86** grams of **PCl₅**?

**Do Not
Write Here**

2. How many **GRAMS** of **PCl₅** can be produced from **2.29** grams of **chlorine** ?

Question 8
(6 Points)

The percent by weight of **carbon** in **C₃H₆O₃**

**Do Not
Write Here**

<p>Question 9 (10 Points)</p> <p>Do Not Write Here</p>	<p>1. A compound is found to contain 30.45 % nitrogen and 69.55 % oxygen by weight. Determine the empirical formula for this compound.</p> <p>2. If the molecular weight for this compound was found to be 46.01 g/mol. The molecular formula for this compound is.</p>
<p>Question 10 (9 Points)</p> <p>Do Not Write Here</p>	<p>When the following molecular equations are balanced using the smallest possible integer coefficients, the values of these coefficients are:</p> <p>1. ___ Ca(OH)₂(aq) + ___ HCl (aq) → ___ CaCl₂(aq) + ___ H₂O (l)</p> <p>2. ___ NO(g) + ___ O₂(g) → ___ NO₂(g)</p> <p>3. ___ Fe₂O₃(s) + ___ C(s) → ___ Fe(s) + ___ CO₂(g)</p>

Score:

**Do Not
Write Here**