

# Chapter 2

## In-Class Problems

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Per: \_\_\_\_\_

### Section 2.7 – Introduction to the Periodic Table

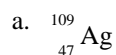
**Periodic Table of the Elements**

1	H																	2	He																
3	Li	4	Be													5	B	6	C	7	N	8	O	9	F	10	Ne								
11	Na	12	Mg													13	Al	14	Si	15	P	16	S	17	Cl	18	Ar								
19	K	20	Ca	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	28	Ni	29	Cu	30	Zn	31	Ga	32	Ge	33	As	34	Se	35	Br	36	Kr
37	Rb	38	Sr	39	Y	40	Zr	41	Nb	42	Mo	43	Tc	44	Ru	45	Rh	46	Pd	47	Ag	48	Cd	49	In	50	Sn	51	Sb	52	Te	53	I	54	Xe
55	Cs	56	Ba	57	La	72	Hf	73	Ta	74	W	75	Re	76	Os	77	Ir	78	Pt	79	Au	80	Hg	81	Tl	82	Pb	83	Bi	84	Po	85	At	86	Rn
87	Fr	88	Ra	89	Ac	104	Unq	105	Unp	106	Unh	107	Uns	108	Uno	109	Uue	110	Uun																

58	Ce	59	Pr	60	Nd	61	Pm	62	Sm	63	Eu	64	Gd	65	Tb	66	Dy	67	Ho	68	Er	69	Tm	70	Yb	71	Lu
90	Th	91	Pa	92	U	93	Np	94	Pu	95	Am	96	Cm	97	Bk	98	Cf	99	Es	100	Fm	101	Md	102	No	103	Lr

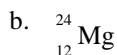
1. Given the following elements determine the number of electrons, protons and neutrons.



$p^+ =$

$n^0 =$

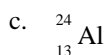
$e^- =$



$p^+ =$

$n^0 =$

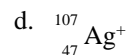
$e^- =$



$p^+ =$

$n^0 =$

$e^- =$



$p^+ =$

$n^0 =$

$e^- =$

2. Charges of common univalent cations and anions?

3. Charges of multivalent cations?

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### Section 2.8a – Binary Nomenclature

1. Write the name for each of the following.

a. NaCl \_\_\_\_\_

b. CaBr<sub>2</sub> \_\_\_\_\_c. K<sub>2</sub>S \_\_\_\_\_d. Cu<sub>3</sub>N<sub>2</sub> \_\_\_\_\_e. AlF<sub>3</sub> \_\_\_\_\_f. Ag<sub>2</sub>Se \_\_\_\_\_g. CoI<sub>3</sub> \_\_\_\_\_h. SnS<sub>2</sub> \_\_\_\_\_

2. Write the formula for each of the following.

a. Calcium sulfide \_\_\_\_\_

b. Barium fluoride \_\_\_\_\_

c. Cesium hydride \_\_\_\_\_

d. Lithium phosphide \_\_\_\_\_

e. Copper (I) oxide \_\_\_\_\_

f. Bismuth (V) sulfide \_\_\_\_\_

g. Nickel (III) bromide \_\_\_\_\_

h. Cadmium nitride \_\_\_\_\_

3. Write the name for each of the following.

a. NO \_\_\_\_\_

b. SO<sub>3</sub> \_\_\_\_\_c. NO<sub>2</sub> \_\_\_\_\_d. P<sub>4</sub>O<sub>10</sub> \_\_\_\_\_e. N<sub>2</sub>O<sub>4</sub> \_\_\_\_\_f. NF<sub>3</sub> \_\_\_\_\_g. P<sub>3</sub>N<sub>5</sub> \_\_\_\_\_h. CCl<sub>4</sub> \_\_\_\_\_

4. Write the formula for each of the following.

a. Silicon dioxide \_\_\_\_\_

b. Barium fluoride \_\_\_\_\_

c. Boron trichloride \_\_\_\_\_

d. Lithium phosphide \_\_\_\_\_

e. Xenon tetrafluoride \_\_\_\_\_

f. Tellurium tetraiodide \_\_\_\_\_

g. Phosphorus pentabromide \_\_\_\_\_

h. Sulfur dichloride \_\_\_\_\_

### Section 2.8b – Ternary Nomenclature

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- Write the name for each of the following.
  - $\text{NH}_4\text{NO}_3$  \_\_\_\_\_
  - $\text{NaCN}$  \_\_\_\_\_
  - $\text{KNO}_2$  \_\_\_\_\_
  - $\text{BaSO}_4$  \_\_\_\_\_
  - $\text{Ca}(\text{ClO}_4)_2$  \_\_\_\_\_
  - $\text{Hg}_2\text{O}$  \_\_\_\_\_
  - $\text{CuCO}_3$  \_\_\_\_\_
  - $\text{NaHCO}_3$  \_\_\_\_\_
- Write the formula for each of the following.
  - Lithium carbonate \_\_\_\_\_
  - Zinc nitrate \_\_\_\_\_
  - Magnesium hydroxide \_\_\_\_\_
  - Strontium sulfate \_\_\_\_\_
  - Lead (II) permanganate \_\_\_\_\_
  - Iron (III) cyanide \_\_\_\_\_
  - Chromium (III) chlorate \_\_\_\_\_
  - Lithium acetate \_\_\_\_\_

### Section 2.8c – Mixed Problems

- Write the name for each of the following.
  - $\text{Na}_2\text{SO}_3$  \_\_\_\_\_
  - $\text{MgSO}_4$  \_\_\_\_\_
  - $\text{SCl}_2$  \_\_\_\_\_
  - $\text{CrPO}_4$  \_\_\_\_\_
  - $\text{KMnO}_4$  \_\_\_\_\_
  - $\text{Co}_2(\text{CO}_3)_3$  \_\_\_\_\_
  - $\text{MnO}_2$  \_\_\_\_\_
  - $\text{SO}_3$  \_\_\_\_\_
- Write the formula for each of the following.
  - Chromium (VI) nitrite \_\_\_\_\_
  - Nickel (II) hydroxide \_\_\_\_\_
  - Sulfur dioxide \_\_\_\_\_
  - Sodium peroxide \_\_\_\_\_
  - Ammonium iodide \_\_\_\_\_
  - Osmium (VIII) oxide \_\_\_\_\_
  - Copper (II) Phosphide \_\_\_\_\_
  - Gold (III) chloride \_\_\_\_\_

### Section 2.8d – Acid Nomenclature

- Write the name for each of the following.
  - $\text{HCl} (g)$  \_\_\_\_\_
  - $\text{HClO}$  \_\_\_\_\_
  - $\text{HCl} (aq)$  \_\_\_\_\_
  - $\text{H}_2\text{SO}_4$  \_\_\_\_\_
  - $\text{HClO}_4$  \_\_\_\_\_
  - $\text{H}_2\text{SO}_3$  \_\_\_\_\_
  - $\text{H}_2\text{CO}_3$  \_\_\_\_\_
  - $\text{H}_3\text{PO}_4$  \_\_\_\_\_
- Write the formula for each of the following.
  - Hydrosulfuric acid \_\_\_\_\_
  - Acetic acid \_\_\_\_\_
  - Nitric acid \_\_\_\_\_
  - Hydrobromic acid \_\_\_\_\_
  - Hydrocyanic acid \_\_\_\_\_
  - Phosphorous acid \_\_\_\_\_
  - Periodic acid \_\_\_\_\_
  - Oxalic acid \_\_\_\_\_