

# Exercise 2.8






## Structures & Naming

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

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

**DIRECTIONS:** Complete the following in the space provided:

1. For the following illustrations below, write the formula and name the acids. (look at online to see color of spheres)

	Illustration	Formula	Name
a.			
b.			
c.			
d.			
e.			

2. Name the compounds listed below:

- |  |  |
|--|--|
| a. $\text{Na}_2\text{CO}_3$ : _____          | i. $\text{H}_2\text{SO}_4$ : _____           |
| b. $\text{NaHCO}_3$ : _____                  | j. $\text{Al}_2(\text{SO}_4)_3$ : _____      |
| c. $\text{NaOCl}$ : _____                    | k. $\text{Na}_2\text{CrO}_4$ : _____         |
| d. $\text{BaCrO}_4$ : _____                  | l. $\text{HOBr}$ : _____                     |
| e. $\text{NH}_4\text{NO}_3$ : _____          | m. $\text{NaNO}_2$ : _____                   |
| f. $\text{HC}_2\text{H}_3\text{O}_2$ : _____ | n. $\text{KMnO}_4$ : _____                   |
| g. $\text{Pb}_3(\text{PO}_4)_2$ : _____      | o. $\text{K}_2\text{Cr}_2\text{O}_7$ : _____ |
| h. $\text{KClO}_3$ : _____                   | p. $\text{H}_2\text{S}$ : _____              |

3. Write the formula for the compounds below:

- |                                       |  |
|---------------------------------------|--|
| a. Sodium dihydrogen phosphate: _____ | i. Chromium (III) carbonate: _____     |
| b. Ammonium acetate: _____            | j. Ammonium hydrogen sulfate: _____    |
| c. Cobalt (III) nitrate: _____        | k. Potassium hydrogen phosphate: _____ |
| d. Sodium dichromate: _____           | l. Ammonium sulfite: _____             |
| e. Sodium peroxide: _____             | m. Potassium cyanide: _____            |
| f. Iodous acid: _____                 | n. Nitrous acid: _____                 |
| g. Hydrofluoric acid: _____           | o. Perbromic acid: _____               |
| h. Cesium perchlorate: _____          | p. Chromium (III) hydroxide: _____     |

4. An element's most stable ion forms an ionic compound with bromine, having the formula  $\text{XBr}_2$ . If the ion of element X has a mass number of 230 and has 86 electrons, what is the identity of the element, and how many neutrons does it have?

Element: _____
# of n <sup>o</sup> : _____

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5. A binary ionic compound is known to contain a cation with 51 protons and 48 electrons. The anion contains one-third the number protons as the cation. The number of electrons in the anion is equal to the number of protons plus 1. What is the formula of this compound? What is the name of this compound?

Formula: \_\_\_\_\_

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

6. Each of the following compounds is incorrectly named. What is wrong with each name, and what is the correct name for each compound?
- $\text{FeCl}_3$ , iron chloride: \_\_\_\_\_
  - $\text{NO}_2$ , nitrogen(IV) oxide: \_\_\_\_\_
  - $\text{CaO}$ , calcium(II) oxide: \_\_\_\_\_
  - $\text{Al}_2\text{S}_3$ , dialuminum trisulfide: \_\_\_\_\_
  - $\text{FePO}_4$ , iron(II) phosphate: \_\_\_\_\_
  - $\text{P}_2\text{S}_5$ , phosphorus sulfide: \_\_\_\_\_
  - $\text{Na}_2\text{O}_2$ , sodium oxide: \_\_\_\_\_
  - $\text{HNO}_3$ , nitrate acid: \_\_\_\_\_
  - $\text{Mg}(\text{C}_2\text{H}_3\text{O}_2)_2$ , manganese diacetate: \_\_\_\_\_
  - $\text{H}_2\text{S}$ , sulfuric acid: \_\_\_\_\_
7. The formulas and common names from several substances are given below. Give the systematic name for these substances.
- Sugar of lead;  $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$ : \_\_\_\_\_
  - Blue vitriol;  $\text{CuSO}_4$ : \_\_\_\_\_
  - Quicklime;  $\text{CaO}$ : \_\_\_\_\_
  - Epsom Salts;  $\text{MgSO}_4$ : \_\_\_\_\_
  - Milk of Magnesia;  $\text{Mg}(\text{OH})_2$ : \_\_\_\_\_
  - Gypsum;  $\text{CaSO}_4$ : \_\_\_\_\_
  - Laughing gas;  $\text{N}_2\text{O}$ : \_\_\_\_\_
8. The isotope of an unknown element X, has a mass number of 79. The most stable ion of the isotope has 36 electrons and forms a binary compound with sodium having a formula of  $\text{Na}_2\text{X}$ . Identify which of the following statements is/are true. For the false statements, correct them.
- The binary compound formed between X and fluorine will be a covalent compound. (True or False)  
\_\_\_\_\_
  - The isotope of X contains 38 protons. (True or False)  
\_\_\_\_\_
  - The isotope of X contains 41 neutrons. (True or False)  
\_\_\_\_\_
  - The identity of X is strontium, Sr. (True or False)  
\_\_\_\_\_