

## Atomic and Naming

- 1.) Which of the following describes compounds?
  - a.) they have atoms as their smallest particles.
  - b.) they can be easily separated by physical methods.
  - c.) they cannot be broken down into simpler substances.
  - d.) they are composed of two or more elements in fixed proportions.
- 2.) Atoms form compounds through the interactions of which?
  - a.) nuclei.
  - b.) protons.
  - c.) neutrons.
  - d.) electrons.
- 3.) What are the valence electrons in an atom?
  - a.) the total electrons.
  - b.) the electrons in the outermost shell.
  - c.) the number of electrons that always occupy the first shell.
  - d.) the number of electrons that equal the protons.
- 4.) Which of the following is an example of an ion?
  - a.) O
  - b.)  $O^{2-}$
  - c.)  $O_2$
  - d.) 2O
- 5.) Which of the following is the smallest particle of an element?
  - a.) ion.
  - b.) atom.
  - c.) molecule.
  - d.) compound.
- 6.) What is the main difference between ionic and covalent bonding?

7.) How do ions form?

I	Atoms gain or lose protons
II	Atoms gain or lose neutrons
III	Atoms gain or lose electrons

- a.) I only
- b.) II only
- c.) III only
- d.) I and III

8.) What are the names of the following?

- a.)  $\text{Ca}^{2+}$  \_\_\_\_\_
- b.) K \_\_\_\_\_
- c.)  $\text{K}^+$  \_\_\_\_\_
- d.)  $\text{S}^{2-}$  \_\_\_\_\_
- e.)  $\text{SO}_4^{2-}$  \_\_\_\_\_
- f.)  $\text{NH}_4^+$  \_\_\_\_\_

9.) Draw Bohr diagrams for Magnesium, fluorine, and a sulphur ion.

Magnesium

Fluorine

Sulphur

10.) For each of the following elements state the nearest noble gas, the number of electrons each element will lose or gain and the symbol for the ion that will form.

- a.) H \_\_\_\_\_
- b.) Li \_\_\_\_\_
- c.) S \_\_\_\_\_
- d.) Ca \_\_\_\_\_

11.) Which of the following is barium nitrate?

- a.)  $Ba_3N_2$
- b.)  $BaNO_3$
- c.)  $Ba(NO_3)_2$
- d.)  $Ba(NO_2)_2$

12.) Classify the following as ionic or covalent and write its chemical formula.

- a.) ammonium sulphate \_\_\_\_\_
- b.) lead (II) chloride \_\_\_\_\_
- c.) aluminum sulphide \_\_\_\_\_
- d.) carbon disulphide \_\_\_\_\_

13.) Classify the following as ionic or covalent and write its chemical name or formula.

- a.)  $KCl$  \_\_\_\_\_
- b.)  $(NH_4)_3N$  \_\_\_\_\_
- c.)  $P_3Br_6$  \_\_\_\_\_
- d.)  $Cr_2O_3$  \_\_\_\_\_
- e.)  $Mg_3(PO_4)_2$  \_\_\_\_\_
- f.)  $NBr_3$  \_\_\_\_\_
- g.) lead(IV) oxide \_\_\_\_\_
- h.)  $Ca(MnO_4)_2$  \_\_\_\_\_
- i.) magnesium sulphate \_\_\_\_\_