

1. Write formulas for the following compounds.
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|----------------------------|------------------------|
| a. Dinitrogen Triphosphide | b. Iron(II) Nitrite |
| c. Barium Acetate | d. Hypochlorous acid |
| e. Ammonium Chloride | f. Trisulfur Tetroxide |
| g. Hydroiodic acid | h. Potassium Phosphide |
| i. Rubidium Peroxide | j. Sulfur Tetriodide |

2. Write names for the following compounds.
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|---|-------------------------------|
| a. $\text{HF}_{(\text{aq})}$ | b. $\text{Ni}(\text{NO}_2)_2$ |
| c. $\text{Al}(\text{CO}_3)_3$ | d. PCl_3 |
| e. $\text{H}_2\text{C}_2\text{O}_4_{(\text{aq})}$ | f. NaCl |
| g. I_2Br_3 | h. Na_2O_2 |
| i. AuCl_3 | j. UF_6 |

3. Draw **electron dot structures** for the following compounds. For any compound that contains a covalent structure, give the **electron pair geometry**, the **molecular geometry**, and state whether or not it is **polar**.



4. Calculate the relative average atomic mass of an element that has two isotopes. The first isotope has an abundance of 38.95% and a relative mass of 228.96314 amu. The second isotope has a relative mass of 230.991863 amu.

5. Complete the following table:

Name of Element	Isotope symbol	Mass Number	Atomic Number	Number of Protons	Number of Neutrons	Number of Electrons
	$^{99}_{43}\text{Tc}$			43		43
Iodine		128	53	53		
			74		110	74
				15	16	15

3. Give the **electron configuration** and **orbital diagrams** for the elements below.

a. Uranium

b. Silver

c. Selenium

d. Strontium

5. Classify the following as pure substances, homogeneous mixtures, or heterogeneous mixtures.

a. water _____

b. Sea water (excluding plants and animals) _____

c. urine _____

d. mayonnaise _____

e. apple juice _____

f. air _____

7. Complete the following table.

Name of Element	Symbol
Helium	
	Be
	Ne
Nitrogen	
Sodium	
	Si
	P
Iron	
	Ag
Gold	
Tin	
	Zn