

Topics/concepts covered on quiz:

how to write the name given the formula  
 what a Roman numeral stands for  
 prefixes mono- to deca-  
 organic chemistry  
 number of bonds carbon makes  
 -ane -ene -yne cyclo-  
 isomers

how to write a formula given the name  
 Roman numerals I to VIII  
 names, symbols, and charges of 15 ions  
 hydrocarbons  
 carbon prefixes (meth- to deca-)  
 calculating the oxidation number of an atom  
 alcohols (-OH)

Practice questions:

1. In a chemical name, what does a Roman numeral stand for? \_\_\_\_\_

\_\_\_\_\_

2. **Name** the following covalent compounds using prefixes:

CO<sub>2</sub> \_\_\_\_\_ N<sub>2</sub>I<sub>3</sub> \_\_\_\_\_

SBr<sub>3</sub> \_\_\_\_\_ NO \_\_\_\_\_

XeF<sub>4</sub> \_\_\_\_\_ PCl<sub>5</sub> \_\_\_\_\_

3. Write the **formula** for the following covalent compounds:

diphosphorus pentoxide \_\_\_\_\_ carbon tetrabromide \_\_\_\_\_

sulfur hexafluoride \_\_\_\_\_ iodine heptafluoride \_\_\_\_\_

oxygen difluoride \_\_\_\_\_ triphosphorus octachloride \_\_\_\_\_

4. Write the **name** of the following ionic compounds using Roman numerals:

(a) CoF<sub>3</sub>

(c) Cu<sub>2</sub>O

(b) Mn<sub>2</sub>(C<sub>4</sub>H<sub>4</sub>O<sub>6</sub>)<sub>7</sub>

(d) Th(OH)<sub>4</sub>

\_\_\_\_\_

\_\_\_\_\_

5. Write each compound's **formula**:

(a) chromium (VI) silicate

(b) vanadium (V) phosphate

\_\_\_\_\_

6. Know the spelling, symbol(s), and oxidation numbers of the following:

hydrogen ion \_\_\_\_\_ nitrate \_\_\_\_\_

sulfate \_\_\_\_\_ potassium ion \_\_\_\_\_

carbonate \_\_\_\_\_ oxide \_\_\_\_\_

hydroxide \_\_\_\_\_ sodium ion \_\_\_\_\_

silver ion \_\_\_\_\_ chloride \_\_\_\_\_

hydride \_\_\_\_\_ iodide \_\_\_\_\_

bromide \_\_\_\_\_ fluoride \_\_\_\_\_

lithium ion \_\_\_\_\_

7. How many carbons do each of the following organic chemistry prefixes stand for?

prop- \_\_\_\_\_ eth- \_\_\_\_\_ meth- \_\_\_\_\_ but- \_\_\_\_\_

8. If an organic compound ends in -ane, what does that mean? \_\_\_\_\_

\_\_\_\_\_

9. Draw the structural formula (show all the bonds) for the following:

(a) 3-heptyl alcohol

(c) ethene

(b) cyclohexane

(d) octyne

10. Draw three different isomers of pentane:

11. Are cyclopropane and propene isomers? If so, why are they? If not, why not?