

Vasquez High School -- Physical Science -- Quest #8 -- Chapter 18 -- 80 points

Write TRUE if the statement is true OR write the word or words that substitute(s) for the underlined word or words that would make it true. Writing false only earns partial credit. Three points apiece.

- _____ 1) A chemical equation describes the number and type of atoms in a compound.
- _____ 2) A binary compound is one where only two elements are involved.
- _____ 3) Most atoms need ten electrons in their outer shells to complete that energy level.
- _____ 4) We use Latin prefixes to name those compounds composed of metals and non-metals.
- _____ 5) A hydrate is a compound that has one or more water molecules attached to it.
- _____ 6) A polar bond is a one where electrons are shared equally between both atoms.
- _____ 7) The hydroxide ion is written as OH^- .
- _____ 8) The calcium ion will most likely give away two electrons when forming a bond.
- _____ 9) The electrons in the outer energy shell are called bonding electrons.
- _____ 10) The small numbers at the bottom of $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ are called base numbers.

Short Answer / Fill-in. Be clear, complete and neat. If I cannot read it, you get zilch. Three points.

- 11) The small plus and minus numbers we write for ions are called _____ numbers.
- 12) The three most common types of chemical bonds are _____, _____ and _____.
- 13) The symbol for the compound copper sulfate pentahydrate is _____.
- 14) Give three examples of diatomic gases: _____, _____, and _____.
- 15) Circle the one that does not belong with the others:
- Chlorine Argon Xenon Neon Helium
- 16) Draw a model of the water molecule with all the atoms, nuclei, electrons and charge where applicable. Five points.

17) For each of the following properties and behaviors, write I if it pertains to ionic bonds and compounds and C if it pertains to covalent bonds and compounds. One point each.

- | | |
|---|--|
| _____ low boiling points | _____ when dissolved in water conducts electricity |
| _____ most commonly formed by a combination of non-metals | _____ water is a good example |
| _____ results from the transfer of electrons | _____ diatomic gases are these |
| _____ individual molecules are formed | _____ atoms are aligned in crystalline lattices |

18) For two points apiece, write the Lewis dot diagram for each of the following:

- a) aluminum b) iodine c) nitrogen d) fluoride ion

19) For each combination of elements and/or ions, write the chemical symbol AND correct name for the compound formed between them. Three points each.

- | | |
|--------------------------|--------------------------|
| a) magnesium and bromine | b) strontium and nitrate |
| c) carbon and chlorine | d) cesium and sulfur |

20) For two points each, write how many of each type of atom is featured in each compound:

- a) FeCl_3 b) $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$