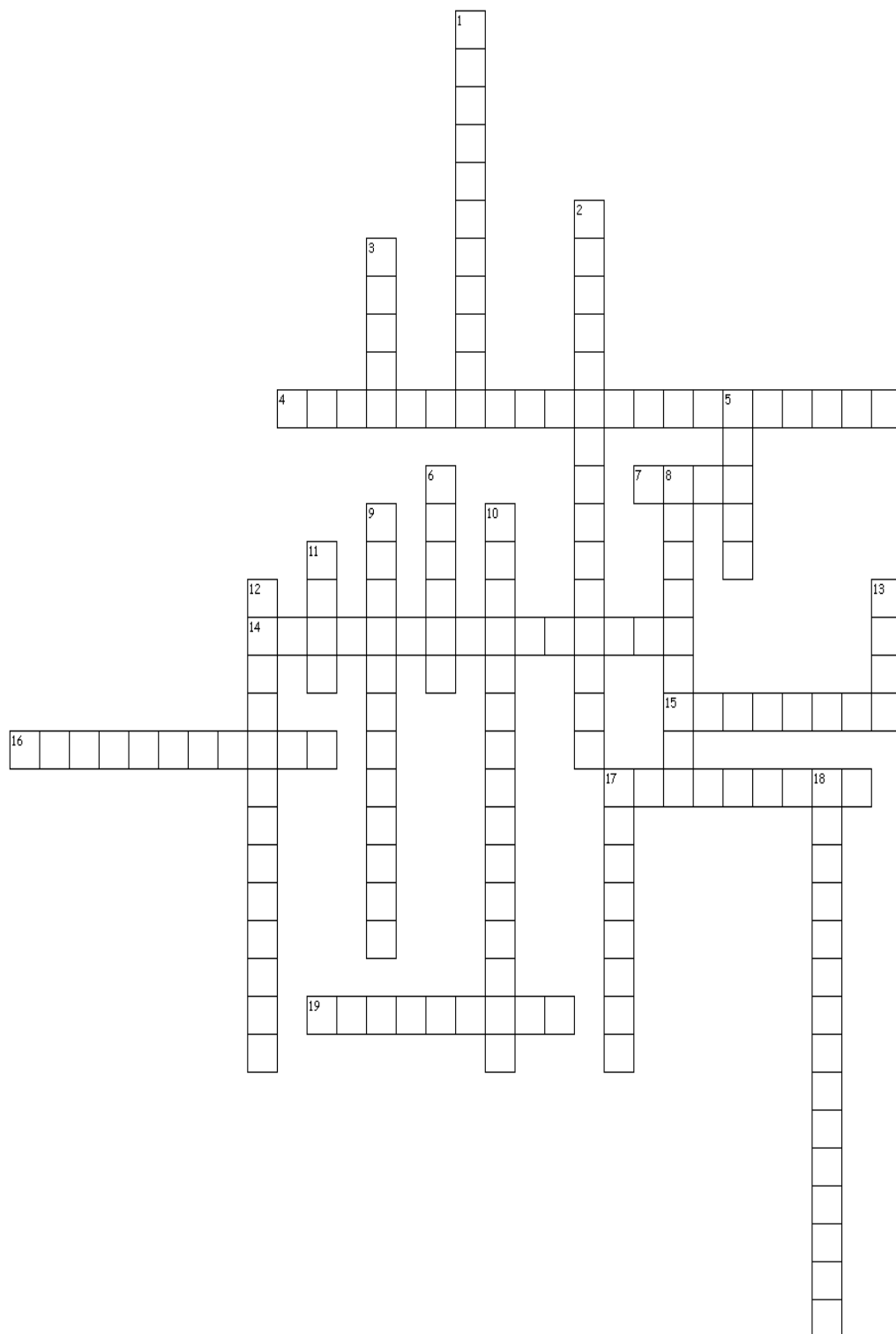


Unit 6: Chemical Formulas & Compounds Exam Review Sheet

Name _____ Date _____ Mod _____



ACROSS

4. the percentage by mass of each element in a compound
7. the sum of all of the oxidation numbers for the atoms and polyatomic ions must be ____
14. positive or negative number assigned to an element to show its ability to combine in a compound
15. compound containing all nonmetals
16. mass in atomic mass units of the atoms in a formula
17. chemical formula with the actual number of atoms in a compound as normally found
19. mass in grams of one mole of a compound

Down

1. the smallest part of an ionic compound
2. indicated the relative number of atoms of each kind in a chemical compound
3. compound containing metals and nonmetals
5. system for writing chemical formulas & naming ionic compounds
6. system for writing chemical formulas & naming covalent compounds
8. chemical formula containing the lowest ratio of atoms
9. a single atom with a charge
10. roman numerals must be included in the name of an ionic compound to show the oxidation number of the ____
11. covalent compounds that form hydrogen ions in water
12. group of atoms with a charge
13. ionic compounds that usually form from the neutralization reaction of an acid and base
17. the smallest part of a covalent compound
18. of molecules/formula units in a mole (word not #)

B. Identify the oxidation number for the following elements:

- | | | |
|------------------|-------------------|------------------|
| 1. Na _____ | 5. Ag _____ | 9. S _____ |
| 2. Cu (II) _____ | 6. O _____ | 10. Pb(IV) _____ |
| 3. Br _____ | 7. Cr (III) _____ | 11. Mg _____ |
| 4. Al _____ | 8. Zn _____ | 12. F _____ |

C. List the chemical formulas for the following acids:

- | | |
|----------------------------|--------------------------|
| 1. Hydrochloric acid _____ | 4. Phosphoric acid _____ |
| 2. Nitric acid _____ | 5. Sulfuric acid _____ |
| 3. Acetic acid _____ | |

D. Name the following compounds (remember to check if it is ionic or covalent):

- | | | |
|-----------------|---------------|--------------|
| 1. K_2O | 5. Ag_2CO_3 | 9. SO_2 |
| 2. $CaCl_2$ | 6. NH_4Br | 10. $SiCl_4$ |
| 3. $Al(NO_3)_3$ | 7. Na_3PO_4 | 11. N_2O_4 |
| 4. $BeSO_4$ | 8. MgS | 12. CO |

E. Write the chemical formulas for the following compounds (remember to check if it is ionic or covalent):

- | | | |
|-----------------------------|-----------------------------|------------------------|
| 1. disulfur dichloride | 5. sodium cyanide | 9. barium carbonate |
| 2. phosphorus pentachloride | 6. chromium (II) chloride | 10. tin (IV) chromate |
| 3. diarsenic tribromide | 7. manganese (III) fluoride | 11. lithium sulfide |
| 4. nickel (II) phosphate | 8. iron (II) sulfate | 12. bismuth (II) oxide |

F. Determine the molar mass of each of the following compounds (remember to check if it is ionic or covalent):

1. calcium bromide
2. zinc hydroxide
3. carbon tetraiodide

G. Calculate each of the following (remember to check if it is ionic or covalent):

1. How many moles are in 78.3 grams of copper (I) nitrate?
2. What is the mass of 5.40 moles of potassium iodide?
3. How many molecules are in 93.5 grams of sulfur hexafluoride?
4. What is the mass of 2.14×10^{24} formula units of mercury (IV) oxide?

H. Calculate the percent composition of each element in the following compounds (remember to check if it is ionic or covalent):

1. Cobalt (II) phosphate
2. Strontium chloride

There are extra problems in the back of your book if you'd like more practice.

Also, don't forget about the interactive naming/writing formulas & FM/MM links on my homework webpage! ☺