

## Chem 20 Test 2 Study Guide

### Tro 6<sup>th</sup> Edition

Note: The answers to all suggested review problems are in the back of the book

Memorize-

1. The parts of the Periodic Table- Where are the- Noble Gases, Halogen, alkali metal, alkali earth metals, transition metals, metals, nonmetals. metalloids
2. Formula for atomic mass  
$$\text{atomic mass} = (\text{mass isotope 1} \times \text{abundance 1}) + (\text{mass isotope 2} \times \text{abundance 2}) + \dots$$
3. For naming ionic compounds, charges based on the periodic table for ions( ALWAYS AND FOREVERS) *Group 1A= +1 etc*
4. Names of elements 1-38, 47, and 50
5. For naming molecular compounds- Prefixes used for 1-6 *mono, di, tri, tetra, penta, hexa*
6. For naming acids- the conversions *used – ate → -ic acid , ite → -ous acid , ide → hydro\_\_\_\_\_ ic acid*
7. The math guide to go from: grams < – > moles , < --> molecules/ atoms/formula units
8. The rhyme used to find empirical formulas: *% to mass, mass to moles, divide by small, multiple till whole*

Topics

Chapter 4- all sections

1. Known what Dalton, Rutherford, and Thompson discovered **Problems to review on this topic Chapter 4 # 27**
2. Parts of the atom- protons, electrons, neutrons- their charges, locations in the atom, other properties **Chapter 4 # 33, 35**
3. Define and use the terms atomic number, mass number to determine the number of protons, neutrons, and electrons in an atom **Chapter 4 # 43, 87, 109**
4. Write the atomic notation for an atom and use it to determine how many protons, neutrons and electrons are present **Chapter 4 # 89, 93**
5. Define- isotopes, and ions

6. Know the properties of metals compared to nonmetals **Chapter 4 # 51**
7. Know the parts of the periodic table **Chapter 4 # 57, 59, 61**
8. Do mathematical problems with the atomic mass equation **Chapter 4 # 97, 99, 101**

Chapter 5 – all sections

1. Know the difference between an atomic element and a molecular element **Chapter 5 # 43**
2. Know the difference between an ionic and molecular compound **Chapter 5 # 45, 47**
3. Be able to tell if a formula is representing an ionic compound ( has a metal) , acid ( starts with H) or molecular compound ( 2 nonmetals)
4. **Naming-** ionic compounds, acids, molecule compounds **Chapter 5 # 59, 61, 63, 65, 69, 71, 73, 77, 79, 81, 93, 95**

Chapter 6 – Sections 1-4 and 7-9 only

1. Convert between grams, moles, and items ( molecules, atoms of formula units) **Chapter 6 # 19, 29, 39, 47, 53**
2. Find a compounds empirical formula mathematically using the rhyme **Chapter 6 # 91, 93**
3. Find a compounds molecular formula if given its empirical formula and molar mass. **Chapter 6 # 101, 119, 121**
4. Find the mass percent composition of an element in a compound based on its formula **Chapter 6 # 81,85**