



Chemistry Final Review

Fall 2015



Unit 1: Intro & Matter

What is the density of an irregular solid that has a mass of 54.3 g and displaces water in a graduated cylinder from 50.0 mL to 62.3 mL?

$$54.3 \text{ g} / 12.3 \text{ mL} = 4.41 \text{ g/mL}$$

Unit 1: Intro & Matter

Which has the least number of significant figures?

0.04000, 1.04, 1.0000001, .000006

Unit 2: Periodicity & Electrons

What is the electron configuration for Selenium (Se)?

Condensed?

Valence?

Unit 2: Periodicity & Electrons

Identify the last element in the sixth period.

Which element has six valence electrons and the highest electronegativity?

Unit 3: Bonding & Nomenclature

What are the two major types of bonding described in this course?

What types of elements combine in ionic compounds? Covalent?

Unit 3: Bonding & Nomenclature

Name the following compounds:



Give the formulas of the following compounds:

sulfur difluoride lithium bromide carbon tetrahydride chromium(III) fluoride

Unit 4: Chemical Reactions

Write the balanced equations for the following reactions and classify the reactions:

- a) synthesis of lead(IV) iodide
- b) Decomposition of aluminum fluoride
- c) Potassium metal is placed in a solution of iron(II) nitrate.
- d) Ethane gas (C_2H_6) is burned.
- e) Solutions of potassium iodide and lead(ii) nitrate are mixed.

Unit 5: The Mole

How many atoms of chlorine are in 32.5 g of magnesium chloride?

An unknown substance is analyzed and found to contain 18.0 grams of carbon, 24.0 grams of oxygen, and 3.00 grams of hydrogen. What is its empirical formula?

Unit 6: Stoichiometry

Carbon monoxide and oxygen gas are mixed to form carbon dioxide. If 12.0 g of carbon monoxide is available to react with 12.0 g of oxygen gas, how many grams of carbon dioxide will be produced?

Unit 7: Acids & Bases

Hydrochloric acid and potassium hydroxide are reacted together. What is the balanced chemical equation for this reaction?

How many mL of 1.0 M acid are needed to neutralize 32.0 mL of a 1.2 M base?