

Chemistry CP Final Exam Part 2 Study Guide

Chapters 8 – 14, 20, & 21 review material

(This is just a **guide** on the topics to help you study! Be sure to review through all of your notes!)

A – Define:

- 1 – coefficient
- 2 – activity series
- 3 – synthesis
- 4 – combustion
- 5 – excess reactant
- 6 – actual yield

B – Solve the following: (show all work)

- 1 – How many grams of lithium chloride will form when chlorine gas reacts with 0.64 mol of lithium bromide.
- 2 – When 97.0 g ammonium nitrate is heated it forms oxygen, water and how many grams of nitrogen?
- 3 – When 0.823 mol of iron reacts with 0.628 mol of copper (II) sulfate, which is the limiting reactant? The products are copper and iron (II) sulfate.
- 4 – When 0.097 mol of magnesium reacts with excess nitrogen, it forms 0.027 mol magnesium nitride. What is the percent yield?

C – Identify the type of reaction for those in Section B.

D – Define:

- 1 – ideal gas
- 2 – elastic collision
- 3 – temperature
- 4 – diffusion
- 5 – compression
- 6 – pressure
- 7 – STP
- 8 – molar volume

E – Solve the following: (show all work)

- 1 – With a starting volume of 435 mL and pressure of 92.3 kPa for the nitrogen gas, what is the ending pressure if the volume is now 475 mL?
- 2 – The pressure of the helium gas was 1.2 atm with a temperature of 26.0°C. What is its pressure if the temperature drops to 12.0°C?
- 3 – The compressed air had a volume of 3.25 L, pressure of 1.45 atm and temperature of 18.0°C. What is the volume of the air if it is now at STP?
- 4 – What is the temperature of the 6.50 g of nitrogen dioxide gas in a 2.4 L cylinder at 1.18 atm?

F – Identify the name of the gas law used in Section E.

G – Define:

- 1 – viscosity
- 2 – capillary action
- 3 – miscible
- 4 – amorphous
- 5 – sublimation
- 6 – evaporation
- 7 – heat of fusion
- 8 – triple point
- 9 – heterogeneous mixture
- 10 – suspension
- 11 – solute
- 12 – solubility
- 13 – unsaturated solution
- 14 – insoluble
- 15 – electrolyte
- 16 – dissociation
- 17 – ionization
- 18 – dilute

H – Solve the following: (show all work)

- 1 – What is the molarity if 411 g of sodium hydroxide is in the 720. mL solution?
- 2 – How many grams of copper (II) sulfate are contained in a 0.75 M solution of 1.3 L?

I – Complete the following:

- 1 – Write the dissolution equation for potassium bromide in water. How many moles of ions are formed?
- 2 – Write the dissolution equation for potassium bromide in water. How many moles of ions are formed?

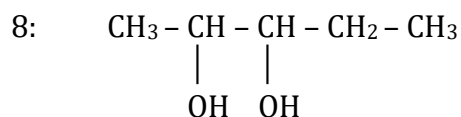
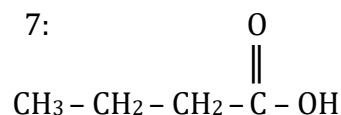
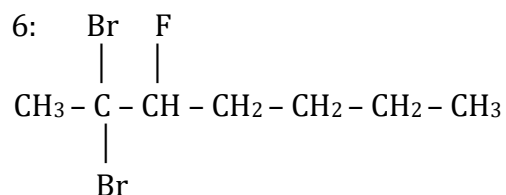
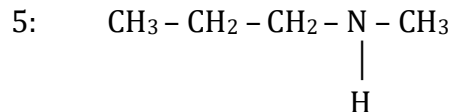
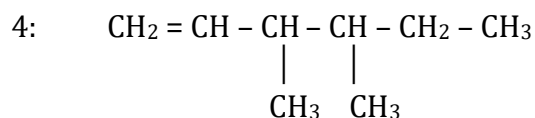
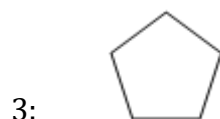
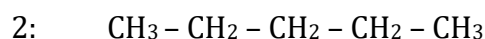
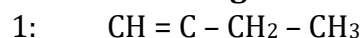
J – Define:

- 1 – catenation
- 2 – isomer
- 3 – hydrocarbon
- 4 – benzene
- 5 – alkane
- 6 – alcohol
- 7 – amino acid
- 8 – carbohydrate
- 9 – lipid
- 10 – DNA

K – Complete the following:

- 1 – two carbon atoms
- 2 – all single bonds on carbons
- 3 – carbons in a ring
- 4 – 3 carbon attached group
- 5 – 7 carbon atoms
- 6 – three double bonds between carbons
- 7 – general formula for alkynes
- 8 – name of OH group on alcohols
- 9 – bromine is attached

L – Name the following structures:



M – Draw the following structures:

- 1: 3-bromo-2-iodoheptane
- 2: methylpentylamine
- 3: 3-heptanol
- 4: 2,3-hexanediol
- 5: ethanoic acid
- 6: 4-ethyloctane
- 7: 3,3-diethylpentane
- 8: 1, 2, 3-trimethylcyclopropane
- 9: 1,2,3-butatriene
- 10: 3,4-dimethyl-1,5-heptydiyne