

Chem One Final Semester Exam Review – 2021 – this review sheet is only a small sampling of some of the major points on the exam. For a full review get out old TESTS, QUIZZES and study them also.

Unit One - density, mass, volume, conversion of mm, cm, m, km and unit analysis, reading graphs, sig figs, scientific notation

- A. Convert 120mm = _____ m = _____ km convert 120 feet/second to miles/hour
- B. A liquid has a volume of 24cm³ and a mass of 16g. What is its density? _____
- C. You have 12cc of a metal with a density of 3grams/cc. How much will the sample weigh? _____
- D. Put 120,000,000 in scientific notation. _____
- E. Add 12.23 + 12.232 + 2.5 = _____ using sig fig rules. Explain your answer and why you got what you did.

Unit Two – particle diagrams of solids, liquids gases, how does temp affect particle speed, thermometers, Celcius – Kelvin conversions, Pressure, Volume, Temp and the calculations involving them.

- A. You have 12 liters of a gas at STP, find its new volume at -40C and 2atm.
- B. You have 12 liters of a gas at 100K, what temp is needed to increase volume to 24liters?
- C. As the pressure on a gas increases, the volume _____.
- D. Temperature is really a measure of _____.
- E. How does a thermometer work?

Unit Three – heating and cooling curves/graphs, heat of fusion, specific heat, heat of vaporization, vocab related to phases of matter and vocabulary of changing states of matter, constant values from heating/cooling graphs and how to use them.

- A. How much heat does it take to change 100g of ice at -20C to steam at 120C?
- B. How much heat in joules does it take to melt 20g of ice at 0C ?
- C. The process of changing a gas to a liquid is called _____
- D. The amount of energy needed to melt one gram of a solid is called the _____
- E. If you observe a beaker of boiling water you see bubbles. What is in these bubbles? _____

Unit Four – mixtures, homogenous, heterogenous, molecules, compounds, elements, particle diagrams of these, Avogadro's hypothesis, law of definite proportion, law of multiple proportion,

- A. Carbon dioxide is a _____
- B. Iron is a _____
- C. Gatorade is a _____
- D. I have 20 million particles of a gas, you have 10 million particles of a gas. What can you conclude about their volumes?

Unit Five - moles, percent composition, # of atoms in a molecule, empirical formula

- A. You have 100 grams of carbon dioxide – how many moles is this?
- B. You have 100 grams of carbon dioxide – how many molecules is this?
- C. You have 100 grams of carbon dioxide – how many total atoms is this?
- D. You have 100 grams of carbon dioxide – how many liters of space will this occupy?
- E. What % by mass is carbon dioxide? _____ % C and _____ % O
- F. You have a sample of a Carbon Hydrogen compound and it is 75%C and 25% H. What is its formula? _____
- G. Use the mole in calculations with PV=nRT
- H. 1 mole = _____ grams = _____ 'things' = _____ liters

**** REVIEW OLD TEST, OLD QUIZZES, OLD HOMEWORK SHEETS ****