CHM 1032C

Review Test1

Know the names and symbols of the 1st 18 elements!

I Basic concepts

a. Scientific method (theory, hypothesis, observation)

b. States & Types of matter (elements, compounds mixtures)

c. Properties (intensive, extensive)

d. Symbols

e. Periodic table (alkalai metals, alkaline earth metals, halogens, noble gases, metals, non-metals, period, group)

f. Energy Transformations

1) types (kinetic vs. potential)

2) forms (chemical, mechanical...

II The Factor label method and chemistry related math problems

a) units of metric measurement & metric prefixes (k-, c-, m-)

b) English to metric

c) Scientific notation

d) significant figures

1) rules for zeros etc

2) +/- measurements

3) */÷ measurements

e) Density

f) Temperature (C->F->K)

III Inside the atom

(mass number, atomic number, ions, average atomic weight, isotopes)

Dalton's atomic theory.

IV Quantum chemistry

a) Bohr atom

- Absorption(excitation) and emission

b) rules for electron configuration

- 4 quantum numbers (n, l, m_l, s) Know physical significances.
- shell-subshell notation

V Radiochemistry

a) Isotopes

b) Describing individual atoms and particles

c) What makes a nucleus stable and the "band of stability"

i) What is produced when the nucleus is too large.

ii) What is produced when there are too many neutrons.

iii) What is produced when there are too many protons.

d) Writing nuclear equations

e) Half life

f) Fission and fusion reactions

g) Measuring radiation

h) Shielding