Review Questions for Unit 1 - KEY
Chem 1010

Each of the following statements is FALSE. Correct it so that it is true.

A mole of atoms is a certain mass of atoms.
A mole of atoms is a certain number of atoms.

All boron atoms have a mass of 10.81 Daltons.
The weighted average of the naturally occurring isotopes of boron is 10.81 Daltons.

All of the elements on the left side of the Periodic Table are metals.
All of the elements on the left side of the except hydrogen are metals.

All of the elements that are naturally occurring can be found in their pure form in nature.
Only 7 of the elements that are naturally occurring can be found in their pure form in nature.

All of the halogens are gases, and don't react with other elements to form compounds.
All of the noble gases are gases, and don't react with other elements to form compounds.

Alloys have a set ratio of elements.
Alloys do not have a set ratio of elements.

Aluminum is in the 4^{th} period in the Periodic Table.
Aluminum is in the 3^{rd} period in the Periodic Table.

Argon, xenon, krypton, and neon were discovered by Humphry Davy using electrolysis to separate them from their compounds.
Magnesium, barium, strontium, potassium, and sodium were discovered by Humphry Davy using electrolysis to separate them from their compounds.

Arsenic is in the carbon family.
Arsenic is in the nitrogen family.

Astatine is likely to have very similar properties to radon.
Astatine is likely to have very similar properties to iodine.

Atomic number decreases as you go down a column of the Periodic Table.
Atomic number increases as you go down a column of the Periodic Table.

Atoms are so small that you can only see them with a microscope.
Atoms are so small that you cannot see them with a microscope.

Chemistry is the study of molecules.
Chemistry is the study of matter.

Columns on the Periodic Table are called periods.
Rows on the Periodic Table are called periods. Columns on the Periodic Table are called families or groups.

Compounds only contain one kind of atom.
Compounds must contain at least two kinds of atoms.

Covalent compounds contain both metal and nonmetal atoms.
Ionic compounds contain both metal and nonmetal atoms.

Ionic compounds are made of molecules.
Covalent compounds are made of molecules. Ionic compounds are made of ions.

Dmitri Mendeleev published the first modern atomic theory in 1805.
John Dalton published the first modern atomic theory in 1805.

Fluorine is found as a metal in its pure form.
Fluorine is found as a nonmetal gas in its pure form.

Francium chloride (FrCl) is a covalent compound.
Francium chloride is an ionic compound.

Graphite is a compound containing carbon and oxygen atoms.
Graphite is a pure element containing only carbon atoms.

If you change the number of electrons in an atom, you get an isotope.
If you change the number of neutrons in an atom, you get an isotope.

Inner transition metals are found in the block with corners of Sc, Ac, Zn, Cn.
Inner transition metals are found in the block Ce, Th, Lu, Lr. Transition metals are found in the block with corners of Sc, Ac, Zn, Cn.

Ions are atoms with a neutral charge.
Ions are atoms with a positive or negative charge.

Isotopes are different physical forms of the same pure element.
Allotropes are different physical forms of the same pure element.

Lithium is an alkaline earth metal.
Lithium is an alkali metal.

Metalloids are shiny, conduct light and heat, and bend when hammered.
Metals are shiny, conduct light and heat, and bend when hammered. Metalloids are metallic looking but crystalline and semiconductors.

Molecules are only found in covalent compounds.
Molecules are found in some pure elements as well as in covalent compounds.

Noble gases are found as diatomic molecules.
Noble gases are found as individual atoms. Halogens are found as diatomic molecules.

Six elements have been found or made in such small amounts that their physical properties are unknown.

21 elements have been found or made in such small amounts that their physical properties are unknown.

The atoms found in bronze have ionic bonds holding them together.

The atoms found in bronze are not connected by chemical bonds – bronze is an alloy.

The atoms in metals are connected together in diatomic molecules.

The atoms in metals are found as individual atoms.

The most abundant element on the earth is hydrogen.

The most abundant element on the earth is oxygen. The most abundant element in the universe is hydrogen.

The most common isotope of gallium has a mass of 69 Daltons.

The most common isotope of gallium has a mass of 70 Daltons.

The nucleus of an atom contains the protons, neutrons, and electrons.

The nucleus of an atom contains the protons and neutrons.

The number of neutrons determines the kind of element an atom is.

The number of protons determines the kind of element an atom is.

The symbol for the element mercury is Me.

The symbol for the element mercury is Hg.

The word “atom” comes from the Greek word for small, and was first suggested by Leucippus.

The word “atom” comes from the Greek word for uncuttable, and was first suggested by Democritus.

There are 118 naturally occurring elements.

There are 90 naturally occurring elements.

There are 9 periods on the Periodic Table of Elements.

There are 7 periods on the Periodic Table of Elements.

There are more nonmetals than there are metals.

There are more metals than there are nonmetals.

When atoms are connected together, they form an element.

When atoms are connected together, they form a compound (if there are two or more elements).