

Regents Review Jun15 1-25 ANSWERS

1	4	Electrons and protons have equal and opposite charge. Alpha particles are +2, beta are -1, neutrons are zero charge
2	1	Protons are 1 amu, neutrons are 1 amu, in HS electrons have no mass. 1 atom C-12 = 12 amu, 1/12 of C-12 = 1 amu
3	4	Group trends get looked up. Atomic number trend, radius, and melting point all increase. Only EN values decrease.
4	4	Vocab. Compounds have formulas, mixtures (solutions) don't. Isomers have same formulas but different properties, isotopes are chemically identical atoms with different numbers of neutrons (different masses too)
5	2	Vocab. Attraction to electrons in a bond means electronegativity (Linus Pauling won a Noble Prize for this).
6	4	Metallic bonding requires metals only. 1 is ionic but no metal, 1 has metal in ionic bond, 3 is covalent, 4 is a METAL.
7	1	Table Q shows this in diagram. Triple bond here, 3 pairs of electrons. Each pair = 2 electrons. 6 electrons total.
8	1	Stable valence orbitals means noble gases. They're the MOST stable atoms. Only Argon is noble in this question.
9	4	When bonds form, energy is released; to break bonds requires energy. Memorize the first part of this statement.
10	2	Avogadro's Hypothesis, equal volumes of different gases, at the same temp and pressure have equal moles + particles.
11	2	All atoms (U or any one of them) have the same atomic number, which means same #p ⁺¹ and same #e ⁻¹
12	4	Table S, concentration is either PPM, or Molarity. Molarity = moles per liter (just LOOK)
13	3	Water has 0°C FP, and 100°C BP. Aqueous solutes depress the FP and elevate the BP. (changes to colligative properties.
14	3	Ideal gases = FAKE. Only "no attraction (or repulsion)" is fake.
15	1	Endothermic means energy is ADDED. The 1st one requires energy to go in (it's getting "hotter" to do this). Others are exo
16	1	Here look for greatest difference in electronegativity values, so go to table S
17	1	The word HYDROCARBON contains the answer (silly). Hydrogen and Carbon ONLY make these molecules.
18	4	Ketones are on table R - LOOK. Carbon double bonds to the OXYGEN atom. No F's or H's or N's in this functional group.
19	4	Sublimation, deposition and evaporation are all PHYSICAL CHANGES. 1,2, and 3 must be wrong. 4 is good.
20	2	Isomers have same molecular, or chemical formulas, but they have different structures with different properties.
21	1	REDOX is about electron transfer (LEO goes GER: Loss of Electrons is Oxidation, Gain of Electrons is Reduction)
22	1	Any atom, Mn or any one of the other 117 ALL have a Zero oxidation number. Equal numbers of protons and electrons.
23	1	Vocab. Electrolyte means will make loose IONS in Aqueous Solution. CH ₃ OH is alcohol, CH ₃ OCH ₃ is ether (both molecular)
24	3	Arrhenius said bases have excess OH ⁻¹ ions in Aqueous solution, C ₂ H ₅ OH is molecular ethanol, not ionic or a hydroxide.
25	1	NH ₃ accepts a H ⁺¹ ion from water, ammonia is a BASE (water would be an acid for donating this hydrogen ion)