

AP CHEMISTRY 2ND QUARTER EXAM REVIEW

CHAPTERS 6 – 11

CHEMISTRY

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- Each question is worth one point.
 - Each question has only one correct answer.
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- Heat and work equation: $\Delta E = q + w$ (P. 266 #22, 23)
 - Endothermic and exothermic reaction. Figure 6.2 and 6.3
 - Calorimetry equation: $q = C_p \times m \times \Delta T$ (P.268 #41, 42, 43)
 - Enthalpy and stoichiometry. (P.267 #35)
5. $C_2H_5OH_{(l)} + 3 O_{2(g)} \longrightarrow 2 CO_{2(g)} + 3 H_2O_{(l)}$ $\Delta H = -1.37 \times 10^3$ kJ, For the combustion of ethyl alcohol as described above, which of the following is true?
- The reaction is not an oxidation-reduction one.
 - The reaction is endothermic.
 - The products of the reaction occupy a larger volume than the reactants.
 - The enthalpy change would be different if gaseous water were produced.
- Hess's Law. (P. 269 #61, 63)
 - Which of the following elements would have the largest second ionization energy? Third IE
 - Read and understand shorthand electron configuration. Bookkeeping. Ex. How many electrons for Sn are in s, p, d orbitals?
 - Predict correct ordering for atomic radius, ionization energy. (P.324 #88, 89, 90).
 - Select the molecule has a dipole moment. Select which ionic compound has the largest lattice energy. (P. 383 #43)
 - Using the following bond energies estimate the heat of reaction. (P.384 #54, 55, 56)
 - Predict the hybridization of atom in a compound. (P. 418 # 27)
 - How many s and p bonds are in the molecule. (P. 419 #33)
 - Predict properties of compounds based on types of intermolecular attractions. (P. 475 #29, 30, 31)
 - Phase changes and vapor pressure.
 - The term "proof" is defined as twice the percent by volume of pure ethanol (C_2H_5OH) in solution. Thus, a solution that is 95% (by volume) ethanol is 190 proof. What is the molarity of ethanol in a 92 proof ethanol/water solution? (P. 523 #80).
 $D_{\text{ethanol}} = 0.785 \text{ g/cm}^3$
 $D_{\text{water}} = 1.0 \text{ g/cm}^3$
 - Rank the following compounds according to increased solubility in water. (P. 521 #41)