Combustion Analysis and Concentration Worksheet

1. Combustion analysis of toluene a common organic solvent,gives 5.86 mg of CO2 and 1.37 mg of H2O.  If the compound only contains carbon and hydrogen, what is its empirical formula?

2. Menthol is composed of C, H, and O.  A 0.1005 g sample is combusted, producing 0.2829 g of CO2 and 0.1159 g of H2O.  What is the empirical formula for menthol?  If the compound has a molar mass of 156 g/mol, what is its molecular formula?

3. Combustion of 2.78 mg of ethyl butyrate produces 6.32 mg of CO2

 and 2.58 mg of H2O.  What is the empirical formula is the compound is composed of C, H, and O?