a) A compound with an empirical formula of XF3 consists of 65% F by mass.

What is the atomic mass and identity of X?

b) The compound XCl4 contains 75.0% Cl by mass. What is element X?

**COMBUSTION ANALYIS EXAMPLES**

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

Menthol, the substance we can smell in mentholated cough drops, is composed of C, H, and O.

A 0.1005 g sample of menthol 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?