1. What is the mass of 0.282 moles of copper?

2. How many molecules are present in 58.0 grams of hydrogen bromide (HBr)?

3. What is the mass percent of oxygen in chlorophyll, which has a molecular formula of $C_{55}H_{70}MgN_4O_5$?

4. A compound's composition, by mass, is 9.25% carbon, 1.17% hydrogen, 77.26% mercury, with the remainder being oxygen. What is the empirical formula of this compound?