Summary sheet on mole

Summary Sheet 1. Mass Spectrometry----to evaluate the mass of an atom (the most accurate way) The degree of deflection is related to the mass. The most massive ions are deflected the least and vice versa. 2. Isotopes: atoms that have the same atomic number, but different mass number. (Same number of protons but different number neutrons.) 3. Mass and charge influence the degree of deflection in the magnetic fields Mass+ deflection- (65cu+<63cu+) charge+ deflection+ (63cu2+> 63cu+) 4.

The MS provides us: number of isotopes, relative isotopic mass (Ir) of each isotope, relative abundance. 5. Ar= Ir (1) x %abundance (1) +Ir (2) x %abundance (2) +and so on/100 The isotopes are found in the ratio 1. 339: 1. 000 %abundance for isotope= 1. 000/1. 339+1. 000 6. Mr= the sum of the number of atoms x Ar: relative formula mass(for molecule and non-molecule substances)/relative molecular mass(only for molecular substances) 7. n= N/NA(6. 02x1023)= m/M If the question is calculate the % composition of each element in BaCo3, assume we have 1 mole of BaCo3, we have M(Baco3)g= 137. +12. 0+3x16. 0= 197. 3g/mol so we have 197. 3g Baco3 so 1mol of Ba=..... 8. %element= m(element)/m(compound)x100% 9. Empirical formula-----simplest whole number ratio Metallic elements and ionic substances--- EF= formula Covalent substances---EF may be the same or simple whole number ratio of the empirical formula. 10. mass(g) m/M moles(mol) divide by smallest simplest mole ratio-----EF 11. If it doesn’t give the exact mass but the percentage, assume you have 100g.....