(#7-1c)
CHEMISTRY
Percent Composition by Mass

Notes:

$C_6H_{12}O_6$: One mole of Glucose weighs 180g. How much of the 180 grams is due to the carbon.

C: 6* 12.01 = 72.06g in 1 mole	C: 72.06/180 * 100 = 40.03%
H: 12 * 1.00 = 12.00g in 1 mole	H: 12.00/180 * 100 = 6.667%
O: 6 * 15.99 = 95.94g in 1 mole	O: 95.94/180 * 100 = 53.30%

180g/mol

Determine the percent by mass for the following substances

1. CO_2
   12 16(2) = 32 → 44
   C = 12/44 x100 = 27.2%
   O = 32/44 x100 = 72.7%
2. H_2O
   2 16 → 18
   O = 16/18 x100 = 88.8%
   H = 2/18 x100 = 11.1%
3. XeF_6
   131.2 19(6) = 114 → 245
   131.2/245 x100 = 53.4%
   114/245 x100 = 46.5%
4. N_2O_5
   14(2) 16(5)
   28 80
   28g/108 x100 = 25.9% N
   80/108 x100 = 74.0%
5. P_4O_{10}
   30.97(4) = 123.88
   16(10) = 160
   } 283
   P: 123.8/283 x100 =
6. Which of the following Alkaline Earth metal oxides has the highest percent oxygen?

   BeO MgO CaO SrO BaO

   Highest: BeO — 9.01 16 → 25; = 9.01/25 → (36%)
   BaO — 137 16 → 16/153 x100 = (10.4%)

Determine the mass of each element in the sample.

7. 90 g CO_2
   12 32 → 44
   C: 12/44 x100 = 24.5% C → 0.245 · 90 = (22.05g)
   32/44 x100 = 72.7% O → 0.727 · 90 = (65g)
8. 37g H_2O
   2 16 → 18
   2/18 x100 = 11.1% → .111 · 37g = 4.017g
   16/18 x100 = 88.8 → .888 · 37g = 32.83

100