

Molar Mass & Percent Composition

Name: _____

Part 1: Determine the molar masses of the following compounds:

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|---|--|
| 1) methane, CH ₄ _____ | 5) ozone, O ₃ _____ |
| 2) hydrochloric acid, HCl _____ | 6) ethanol, C ₂ H ₅ OH _____ |
| 3) benzene, C ₆ H ₆ _____ | 7) sodium hydroxide, NaOH _____ |
| 4) oxygen gas, O ₂ _____ | 8) acetylene, C ₂ H ₂ _____ |

Part 2: Determine the formulas and the molar masses of the following compounds:

| Name | Formula | Molar Mass |
|---------------------|---------|------------|
| water | | |
| sodium carbonate | | |
| calcium bromide | | |
| copper (II) sulfate | | |
| iron (III) fluoride | | |
| nitrogen gas | | |

Part 3: Show set up and all work (including units) in order to receive full credit.

1) Find the percent composition of each element in a compound that contains 1.94 g C, 0.48 g H and 2.58 g S in a 5.00 g sample.

2) A sample of an unknown compound with a mass of 2.876 g has the following composition: 66.07% carbon, 6.71% hydrogen, 4.06% nitrogen and 23.16 % oxygen. What is the mass of each element of this compound?

3) What is the percent composition of each element in a mole of the compound calcium phosphite, Ca₃(PO₃)₂?