

## Percent Composition and Molecular Formula Worksheet Key

1. What's the empirical formula of a molecule containing 65.5% carbon, 5.5% hydrogen, and 29.0% oxygen?  **$C_3H_3O$  mass = 55 g/mole**
2. If the molar mass of the compound in problem 1 is 110 grams/mole, what's the molecular formula?  **$C_6H_6O_2$**
3. What's the empirical formula of a molecule containing 18.7% lithium, 16.3% carbon, and 65.0% oxygen?  **$Li_2CO_3$**
4. If the molar mass of the compound in problem 3 is 73.8 grams/mole, what's the molecular formula?  **$Li_2CO_3$**

*Write the molecular formulas of the following compounds:*

5. A compound with an empirical formula of  $C_2OH_4$  and a molar mass of 88 grams per mole.  **$C_4O_2H_8$**
6. A compound with an empirical formula of  $C_4H_4O$  and a molar mass of 136 grams per mole.  **$C_8H_8O_2$**
7. A compound with an empirical formula of  $CFBrO$  and a molar mass of 254.7 grams per mole.  **$C_2F_2Br_2O_2$**
8. A compound with an empirical formula of  $C_2H_8N$  and a molar mass of 46 grams per mole.  **$C_2H_8N$**

*Answer the following questions:*

9. The percentage composition of acetic acid is found to be 39.9% C, 6.7% H, and 53.4% O. Determine the empirical formula of acetic acid.  **$CH_2O$**
10. The molar mass for question #9 was determined by experiment to be 60.0 g/mol. What is the molecular formula?  **$C_2H_4O_2$**
11. Aniline, a starting material for urethane plastic foams, consists of C, H, and N. Combustion of such compounds yields  $CO_2$ ,  $H_2O$ , and  $N_2$  as products. If the combustion of 9.71 g of aniline yields 6.63 g  $H_2O$  and 1.46 g  $N_2$ , what is its empirical formula?  **$C_6H_7N$**
12. The molar mass of aniline is 93 g/mol. What is its molecular formula?  **$C_6H_7N$**
13. Calculate the mass percent of carbon, nitrogen and oxygen in acetamide,  $C_2H_5NO$ . **%C 40.668 %H 8.533 %N 23.713 %O 27.086**
14. A 50.51 g sample of a compound made from phosphorus and chlorine is decomposed. Analysis of the products showed that 11.39 g of phosphorus atoms were produced. What is the empirical formula of the compound?  **$PCl_3$**
15. When 2.5000 g of an oxide of mercury,  $(Hg_xO_y)$  is decomposed into the elements by heating, 2.405 g of mercury are produced. Calculate the empirical formula.  **$Hg_2O$**
16. The compound benzamide has the following percent composition. What is the empirical formula?  
C = 69.40 % H= 5.825 % O = 13.21 % N= 11.57 %  **$C_7H_7NO$**
17. A component of protein called serine has an approximate molar mass of 100 g/mole. If the percent composition is as follows, what is the empirical and molecular formula of serine?  
C = 34.95 % H= 6.844 % O = 46.56 % N= 13.59 %

**$C_3H_7NO_3$  empirical formula**

**$C_3H_7NO_3$  molecular formula**

# Percent Composition And Molecular Formula Answers

**Rob Lewis, Wynne Evans**



## **Percent Composition And Molecular Formula Answers:**

## Decoding **Percent Composition And Molecular Formula Answers**: Revealing the Captivating Potential of Verbal Expression

In an era characterized by interconnectedness and an insatiable thirst for knowledge, the captivating potential of verbal expression has emerged as a formidable force. Its capability to evoke sentiments, stimulate introspection, and incite profound transformations is genuinely awe-inspiring. Within the pages of "**Percent Composition And Molecular Formula Answers**," a mesmerizing literary creation penned by way of a celebrated wordsmith, readers embark on an enlightening odyssey, unraveling the intricate significance of language and its enduring affect our lives. In this appraisal, we shall explore the book is central themes, evaluate its distinctive writing style, and gauge its pervasive influence on the hearts and minds of its readership.

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web jun 23 2022 the most multipurpose application of the phase locked loops pll is for clock generation and clock recovery in microprocessor networking communication systems and digital circuit and frequency

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web description the fractional n pll with accumulator reference architecture uses a fractional clock divider with accumulator block as the frequency divider in a pll system the frequency divider divides the frequency of the vco output signal by a fractional value to make it comparable to a pfd reference signal frequency ports input expand all

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