

Seat#:

Your teacher will give you instructions on how to do this portion of the worksheet!

Question #1	Question #2
Question #3	
Question #4	
Question #5	

Show work for ANY math problem. Include ALL units.

1) Write the empirical formula for C_2H_6	2) Write the empirical formula for CH_2O	3) Write the empirical formula for CH_3COOH	4) Write the empirical formula for H_2O
5) Calculate % composition of each element in KNO_3			

$K = 38.67\%$, $N = 13.86\%$, $O = 47.48\%$

Dougherty Valley HS Chemistry
Adv. Chemical Ratios – % Composition and Empirical

6) Calculate % composition of each element in H_2SO_4

$H = 2.06\%$, $S = 32.69\%$, $O = 65.26\%$

7) Calculate % composition of each element in $\text{C}_6\text{H}_5\text{NH}_2$

$C = 77.38\%$, $H = 7.58\%$, $N = 15.04\%$

8) A compound is found to have (by mass) 48.38% carbon, 8.12% hydrogen and the rest oxygen. What is its empirical formula?

$\text{C}_3\text{H}_6\text{O}_2$

9) A compound is found to have 46.67% nitrogen, 6.70% hydrogen, 19.98% carbon and 26.65% oxygen. What is its empirical formula?

$\text{CH}_4\text{N}_2\text{O}$

10) A compound is known to have an empirical formula of CH and a molar mass of 78.11 g/mol. What is its molecular formula?

C_6H_6

Dougherty Valley HS Chemistry
Adv. Chemical Ratios – % Composition and Empirical

- 11)** Another compound, also with an empirical formula of CH is found to have a molar mass of 26.04 g/mol. What is its molecular formula?



- 12)** A compound is found to have 1.121 g nitrogen, 0.161 g hydrogen, 0.480 g carbon and 0.640 g oxygen. What is its empirical formula? If the molar mass of the compound is 180.2 g/mol then what is the molecular formula for the compound?

