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



Name:		Period:	Seat#:
	l Empirical Formula Race		
our teacher will give you i	instructions on how to do the	is portion of the worksheet!	
Question #1		Question #2	
Question #3			
Question #4			-
Question #5			
Vorksheet Questions Show work for ANY math r	problem. Include ALL units.		
1) Write the empirical formula for C <sub>2</sub> H <sub>6</sub>	2) Write the empirical formula for CH <sub>2</sub> O	3) Write the empirical formula for CH <sub>3</sub> COOH	4) Write the empirical formula for H <sub>2</sub> O
5) Calculate % composition	n of each element in KNO <sub>3</sub>		
6) Calculate % composition	n of each element in H <sub>2</sub> SO <sub>4</sub>		K = 38.67%, N = 13.86%, O= 47.48%
6) Calculate % compositio	11 OI GAOII GIGIIIGIII III 1123 <b>0</b> 4		
			H = 2.06%, S= 32.69%, O = 65.26%

7)	Calculate % composition of each element in C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub>
8)	C = 77.38%, H = 7.58%, N = 15.04% A compound is found to have (by mass) 48.38% carbon, 8.12% hydrogen and the rest oxygen. What is its empirical formula?
	$C_3H_6O_2$
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?
10)	$CH_4N_2O$ 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?
11)	Another compound, also with an empirical formula if CH is found to have a molar mass of 26.04 g/mol. What is its molecular formula?
40\	$C_2H_2$
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?
	C <sub>3</sub> H <sub>12</sub> N <sub>6</sub> O <sub>3</sub>