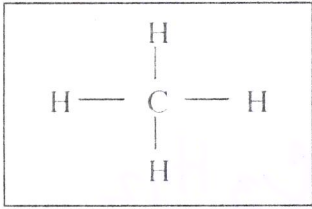


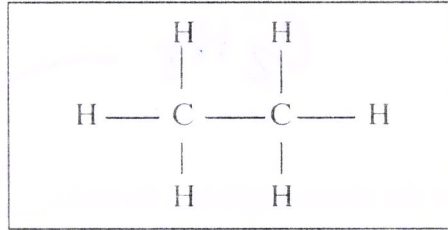
Name 1/31/2012

# Intro Empirical and Molecular Formula Worksheet K and L

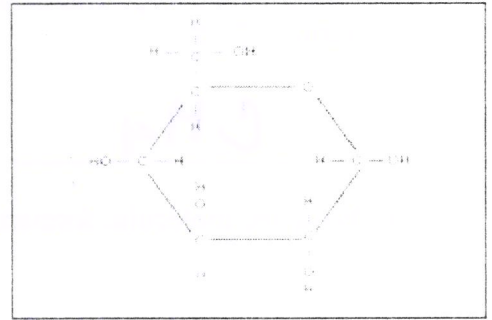
Directions: Give the empirical and molecular formulas for the following pictures.



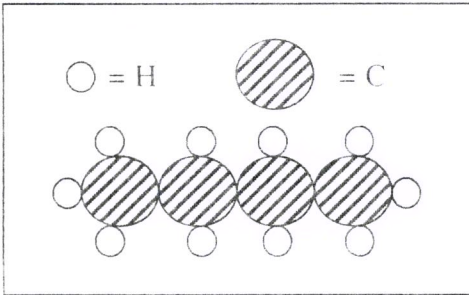
1. Empirical CH<sub>4</sub>  
Molecular CH<sub>4</sub>



2. Empirical CH<sub>3</sub>  
Molecular C<sub>2</sub>H<sub>6</sub>



3. Empirical C<sub>6</sub>H<sub>6</sub>O(OH)<sub>5</sub>  
Molecular C<sub>6</sub>H<sub>6</sub>O(OH)<sub>5</sub>



4. Empirical C<sub>2</sub>H<sub>5</sub>  
Molecular C<sub>4</sub>H<sub>10</sub>

5. Circle the following choices that show both an empirical and a molecular formula for a compound.

- A. CH and CH<sub>4</sub>  
B. CO<sub>2</sub> and CO

- C. CH<sub>2</sub> and C<sub>4</sub>H<sub>8</sub>  
 D. C<sub>2</sub>H<sub>6</sub> and CH<sub>3</sub>

6. What is the empirical and molecular formula that has a carbon to hydrogen ratio of 3 to 6?

Empirical CH<sub>2</sub>  
Molecular C<sub>3</sub>H<sub>6</sub>

7. Circle the choice(s) that have the same empirical formula.

A. NO<sub>2</sub> and SO<sub>2</sub>

C. P<sub>2</sub>O<sub>5</sub> and P<sub>4</sub>O<sub>10</sub>

B. C<sub>3</sub>H<sub>6</sub> and C<sub>7</sub>H<sub>14</sub> CH<sub>2</sub>

D. CO and CO<sub>2</sub>

8. Calculate the empirical formula for a compound that is composed of carbon, hydrogen, and oxygen in a mole ratio of 1:2:1.

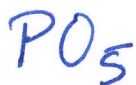
CH<sub>2</sub>O

C<sub>3</sub>H<sub>6</sub>O<sub>3</sub> C<sub>4</sub>H<sub>8</sub>O<sub>4</sub>

9. Write a possible molecular formula for the above empirical formula. \_\_\_\_\_

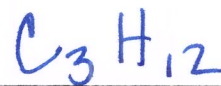
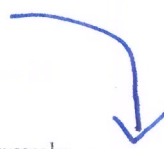
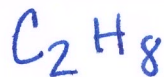
10. Calculate the empirical formula for a compound composed of 1 mole phosphorus and 5 moles of oxygen.

P O<sub>5</sub>



11. Write a possible molecular formula for the above empirical formula.  $P_2O_{10}$   $P_3O_{15}$

12. Calculate the empirical formula for a compound composed of carbon and hydrogen in a mole ratio of 2 : 8.



13. Write the molecular formula for the above empirical formula.