

**AP MULTIPLE CHOICE QUESTIONS**  
**CH. 3, SET 2**

**AP Chem Test V**

45. An oxide of phosphorus contains 56.36% oxygen by mass. What is the empirical formula of the oxide?
- (A)  $\text{PO}_2$  (D)  $\text{P}_2\text{O}_5$   
(B)  $\text{PO}_3$  (E)  $\text{P}_3\text{O}_7$   
(C)  $\text{P}_2\text{O}_4$
47. Calculate the number of moles of carbon dioxide formed by the combustion of 2 moles of ethane ( $\text{C}_2\text{H}_6$ ).
- (A) 2 (D) 8  
(B) 4 (E) 10  
(C) 6

**Test VI**

1. How many grams of oxygen are needed for the complete combustion of 39.0 g of  $\text{C}_6\text{H}_6$ ? The molecular weight of  $\text{C}_6\text{H}_6$  is 78.0.
- $2\text{C}_6\text{H}_6 + 15\text{O}_2 \rightarrow 12\text{CO}_2 + 6\text{H}_2\text{O}$
- (A) 3.75 g (D) 60.0 g  
(B) 120.0 g (E) 292.5 g  
(C) 32.0 g
2. How many molecules are there in 22 g of  $\text{CO}_2$ ? The molecular weight of  $\text{CO}_2$  is 44.
- (A) 3 (D)  $9.03 \times 10^{23}$   
(B)  $6.02 \times 10^{23}$  (E)  $3.01 \times 10^{23}$   
(C) 44
3. What is the percent carbon in sucrose,  $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ ?
- (A) 42.1 (D) 6.0  
(B) 3.5 (E) 26.6  
(C) 12.0
5. A compound was found to contain only carbon, hydrogen and oxygen. The percent composition was determined as 40.0% C, 6.7% H and 53.3% O. The empirical formula of this compound is:
- (A)  $\text{C}_2\text{H}_4\text{O}$  (D)  $\text{CH}_2\text{O}$   
(B)  $\text{C}_6\text{HO}_8$  (E)  $\text{C}_3\text{H}_6\text{O}$   
(C)  $\text{CHO}$