

Name: \_\_\_\_\_

## Chapter 10 Study Guide

### Molar Mass

1. What is the molar mass of sodium chromate?
2. What is the molar mass of sulfuric acid?
3. What is the molar mass of lead (IV) chloride?
4. What is the molar mass of acetic acid?

### Conversions

5. Convert 3.98 moles of iron (II) chloride to grams.
6. Convert  $6.39 \times 10^{25}$  molecules of copper (II) phosphate to moles.
7. Convert 378.7 liters of oxygen to moles.
8. Convert 78.33 grams of cyanic acid to moles.

### Empirical Formula

9. What is empirical formula for  $C_3H_9N_3$ ?
10. What is the empirical formula for  $P_4O_{10}$ ?
11. What is the empirical formula for  $C_{12}H_{22}O_{11}$ ?

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### Problems

12. What is the empirical formula of a compound that contains 62.1%C, 13.8%H, and 24.1%N?
13. Find the molecular formula of ethylene glycol, which is used as antifreeze. The molar mass is 62g/mol and the empirical formula is  $\text{CH}_3\text{O}$ .
14. Calculate the percent composition of the compound that forms when 222.6g N combines completely with 77.4g O.
15. Calculate the percent composition of ammonium nitrate.
16. What is the molecular formula of a compound with a molar mass of 150g/mol and an empirical formula of  $\text{CH}_2\text{O}$ ?
17. What is the empirical formula for a compound made of 50.7%C, 4.2%H, and 45.1%O?

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