

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

Hour: \_\_\_\_\_ Date: \_\_\_\_\_

### Chemistry: *Using Percentage in Compound Composition*

*For each problem below, show your work and box in the answers. Be sure to include the proper unit on your final answer.*

1. Table sugar ( $C_{12}H_{22}O_{11}$ ) is 6.4% hydrogen, 42.1% carbon, and 51.5% oxygen by mass. How many grams of each of these elements are in a 65.8 g sample of sugar?

2. Aluminum oxide ( $Al_2O_3$ ) is 52.9% aluminum by mass. How many grams of oxygen are in a 613 g sample of aluminum oxide?

3. If a sample of a certain compound contains 2.0 g of hydrogen, 32.0 g of sulfur, and 64.0 g of oxygen...

a) What is the total mass of the sample?

b) What percentage of the compound (by mass) is... ..hydrogen?

...sulfur?

...oxygen?

4. If a 58.5 g sample of table salt (NaCl) contains 23.0 g of sodium and 35.5 g of chlorine, how many grams of sodium and chlorine are there in a 126 g sample of salt?

5. If a particular sample of  $HNO_3$  contains 2.0 g of hydrogen, 28.0 g of nitrogen, and 96.0 g of oxygen, how many grams of each will you have in a 350.0 g sample of  $HNO_3$ ?

Answers:  
1. 4.2 g H, 27.7 g C, 33.9 g O  
2. 289 g O  
3a. 98.0 g

3b. 2.04% H, 32.65% S, 65.31% O  
4. 49.5 g Na, 76.5 g Cl  
5. 5.6 g H, 77.8 g N, 266.7 g O