Percent Composition and Empirical Formulas   Name:_____

1. An unknown compound contains 50.5% C, 5.26% H and 44.2% N by mass. What is the empirical formula of this compound?

2. The analysis of a compound shows that it is made up of 21.9% Na, 45.7% C, 1.9% H, and 30.5% O by mass. What is the empirical formula of this compound?

3. A substance has a mass of 100.0 g and contains 77.7% Fe and 22.3% O by mass. What is the empirical formula of this compound?

4. What mass of lead (Pb) is theoretically obtained from 15.0 kg of Galena ore (impure lead) that is 72.0% Pb?

5. Silver sulfide occurs in nature as the mineral Argenite, an ore of silver. How many grams of silver are obtainable from 250.0 g of ~~impure~~ Argenite that is 70.0% Silver ?
~~impure~~

6. What mass of oxygen is present in 6.0 g P_4O_6?

7. Caffeine, which exists in coffee, tea, and cola, is a stimulant for the Central Nervous System. A sample of pure caffeine contains 74.3 mg carbon, 7.73 mg hydrogen, 43.4 mg nitrogen, and 24.8 mg oxygen. What is the empirical formula of caffeine?

8. Aspirin (ASA) is 60.0% carbon, 4.48% hydrogen, and 35.2% oxygen by mass. What is the empirical formula of aspirin?

9. The barbiturates are derivatives of Barbituric Acid that are used as sedatives. Barbituric Acid is 37.5% C, 3.15% H, 21.87% N, and 37.47% O by mass. What is the empirical formula of Barbituric Acid?