

- 8) A sample of a compound is decomposed into its constituent elements, to give 150.9 g carbon, 15.87 g hydrogen, and 301.6 g oxygen. The molecular weight is 149.09 g/mole. What are the **empirical** and **molecular** formulas?
- 9) A compound is 17.15% carbon, 2.88% hydrogen, and the rest is oxygen. The molecular weight is 280.12 g/mole. What are the **empirical** and **molecular** formulas?
- 10) 987.0 g of a gas occupies 168.4 L at STP. What is the molecular weight of the gas?
- 11) A compound, "A₃N₂" is 91.93% mystery element A, and the rest is nitrogen. What is the atomic weight of A? What is the identity of A?