**Chapter 5 and 6 Review: Quantities in Chemical Formulas**

1. What is the mass of one mole of a) mercury; b) sodium; c) argon?
2. What does Avogadro’s Number mean?
3. If a sample consists of 1.41 x 1023 molecules, how many moles are present?
4. How many atoms are present in 0.27 mol of C2H6?
5. How many sodium atoms are present in a 71.2 g sample of sodium?
6. What is the molecular mass of C12H22O11? How does the unit differ from molar mass?
7. What is the percentage composition of a) CaO; b) Na2SO4?
8. What is the molar mass of each of the following: a) H2C2O4; b) Cu?
9. How many moles are present in 14.2 g of H2C2O4?
10. What is the mass of 0.422 mol of SnCl2?
11. What is the mass of 7.45 x 1022 molecules of C6H12O6?
12. a) How many molecules are present in 7.10 mol of HC2H3O2; b) How many atoms are present in 7.10 mol of HC2H3O2; c) How many hydrogen atoms are present in 7.10 mol of HC2H3O2?
13. What are the empirical formulas for the compounds whose percentage compositions are given:  
    a) Fe = 63.53%, S = 36.47% b) Na = 21.6%, Cl = 33.3%, O = 45.1%
14. What is the molecular formula for a compound whose molar mass is 116 g/mol and whose empirical formula is CHO?
15. What is the molecular formula for a compound whose molar mass is 198 g/mol and whose percentage composition is C = 48.48%, H = 5.05%, N = 14.14%, and O = 32.32%?

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