Assignment 4

Choose/Fill-in the correct answer.

1. **The following measurements of a metal bar were made by a student.**
   - **length = 10.7 cm**
   - **width = 8 cm**
   - **height = 11.5 mm**

   The mass of the bar is 30 gram.
   Calculate the density (g/cm^3) of the material.

   _____ (Enter numeric answer here.)

2. **Calculate the number of oxygen atoms in 3.00 moles of $KClO_3$.**

   - 9
   - 1.81×10^{24}
   - 6.02×10^{23}
   - 5.42×10^{24}

3. **Calculate the density (in g/L) of carbon dioxide, CO_2, at STP.**

   - 0.509 g/L
   - 1.96 g/L
   - 986 g/L
   - Not enough information given to do the problem.

4. **How many Cl^- ions are in 14.9 g of magnesium chloride, $MgCl_2$?**
   - 0.156
   - 0.313
   - 9.39×10^{22}
   - 1.88×10^{23}

5. **How many grams are in 0.34 mole of calcium chloride, $CaCl_2$?**
   - 1.1×10^{2} grams
   - 3.1×10^{-3} grams
   - 2.3×10^{23} grams
   - 38 grams

6. **Which statement about chemical formulas is NOT true.**

   - The molecular formula can be identical to the empirical formula.
   - The empirical formula can be derived from the molecular formula.

   - Given the empirical formula and the molar mass, the molecular formula can be derived.
   - None of the above.

7. **How many grams of silver are in 0.0456 mole of silver atoms?**
   - 8.17×10^{-24} grams
   - 4.56×10^{-2} grams
   - 4.23×10^{-4} grams
   - 4.92 grams

8. **The chemical formula of an anti-malarial drug, quinine, is $C_{20}H_{24}N_2O_2$. The number of atoms in 1 molecule of quinine is**
   - 48 atoms.
   - 2.89×10^{25} atoms.
   - 7.97×10^{-23} atoms.
   - 1.95×10^{26} atoms.

9. **A solution of $BaCl_2$ is 0.81 M. How many moles of Cl^- ions are in 1.01 milliliters?**

   _____ (Enter numeric answer here.)

10. **4.6 liters of a gas at STP weighs 15 grams. What is the molar mass (in grams/mole) of the gas?**

    _____ (Enter numeric answer here.)

Send to obtain your score