Name: **Counting Particles Lab: Questions** **20 pts**

1. Which formula is both a molecular and an empirical formula?

   A) $C_6H_{12}O_6$ B) $C_2H_4O_2$
   C) C_3H_8O D) C_4H_8

2. The sum of the atomic masses of the atoms in one molecule of $C_3H_6Br_2$ is called the

   A) formula mass B) isotopic mass
   C) percent abundance D) percent composition

3. The gram-formula mass of NO_2 is defined as the mass of

   A) one mole of NO_2 B) one molecule of NO_2
   C) two moles of NO D) two molecules of NO

4. A 1.0-mole sample of krypton gas has a mass of

   A) 19 g B) 36 g C) 39 g D) 84 g

5. The gram-formula mass of $(NH_4)_2CO_3$ is

   A) 46.0 g B) 64.0 g C) 78.0 g D) 96.0 g

6. What is the total number of moles of oxygen atoms in 1 mole of N_2O_3?

   A) 1 B) 2 C) 3 D) 5

7. In the compound Al_2O_3, the ratio of aluminum to oxygen is

   A) 2 grams of aluminum to 3 grams of oxygen
   B) 3 grams of aluminum to 2 grams of oxygen
   C) 2 moles of aluminum to 3 moles of oxygen
   D) 3 moles of aluminum to 2 moles of oxygen

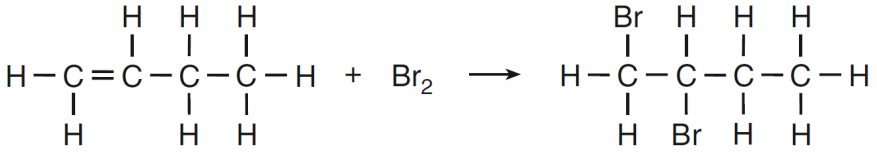
8. What is the total number of moles of atoms present in 1 mole of $Ca_3(PO_4)_2$?

   A) 13 B) 10 C) 8 D) 5

9. What is the total number of moles in 80.0 grams of C_2H_5Cl (gram-formula mass = 64.5 grams/mole)?

10. Base your answer to the following question on the information below.

    The equation below represents the reaction between 1-butene and bromine to form the compound 1,2-dibromobutane, $C_4H_8Br_2$.



    Determine the gram-formula mass of 1-butene.

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