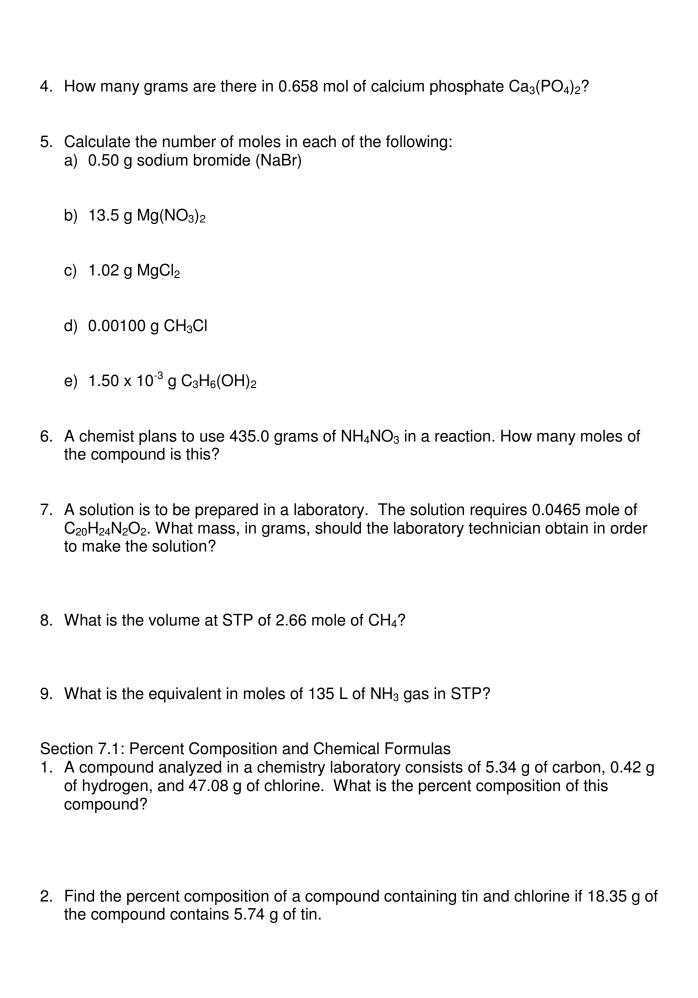
Chapter 7	Pretest
Chemical	Quantities

Section 7.1: The Mole (A measure of matter)

- 1. What is the gram molecular mass of sucrose $(C_{12}H_{22}O_{11})$?
- 2. What is the gram molecular mass of each of the following compounds?
 - a) PCI₅
 - b) UF₆
- 3. Calculate the gram formula mass of each of the following ionic compounds.
 - a) KMnO₄
 - b) Ca₃(PO₄)₂
- 4. How many moles is 3.52 x 10²⁴ molecules of water?
- 5. How many atoms of zinc are in 0.60 mole of zinc?
- 6. What is the mass of 1.00 mol of oxygen (O₂)?

Section 7.2: Mole-Mass and Mole-Volume Relationships

- 1. What is the molar mass of each of the following compounds?
 - a) $C_6H_{12}O_6$
- b) NaHCO₃
- c) C₇H₁₂
- d) KNH₄SO₄
- 2. Calculate the mass in grams of each of the following:
 - a) 8.0 mole lead oxide (PbO)
 - b) 0.75 mole hydrogen sulfide (H₂S)
 - c) 0.00100 mole silicon tetrahydride (SiH₄)
 - d) 1.50 x 10⁻² mole molecular oxygen (O₂)
 - d) 2.30 mole ethylene glycol ($C_2H_6O_2$)
- 3. How many grams are there in 1.73 mole of dinitrogen pentoxide (N₂O₅)?



- 3. 3.907 g of carbon combines completely with 0,\.874 g of hydrogen to form a compound. What is the percent composition of this compound?
- 4. From the formula for calcium acetate, $Ca(C_2H_3O_2)_2$, calculate the mass of carbon that can be obtained from 65.3 g of the compound.
- 5. How many grams of aluminum are there in 25.0 g of aluminum oxide Al₂O₃?
- 6. How many grams of iron are there in 21.6 g of iron (III) oxide Fe₂O₃?
- 7. Determine the empirical formula of each of the following compounds from the percent composition:
 - a) 7.8% carbon and 92.2% chlorine
 - b) 10.0% C, 0.80% H, 89.1% Cl