1. Name the following or write the correct formula that can be either molecular or ionic compounds that do NOT include any polyatomic ions.
   
   a. ZnBr$_2$  
   b. MgO  
   c. K$_2$S  
   d. PbO$_2$  
   e. CS$_2$  

2. Name the following or write the correct formula for the following compounds that contain polyatomic ions. Note that the metals can have a fixed or a variable charge.
   
   a. FeCrO$_4$  
   b. Li$_2$CrO$_4$  
   c. Ag$_3$PO$_4$  
   d. potassium carbonate  
   e. magnesium bicarbonate  
   f. nickel(II) nitrate
3. Find the molar masses of each compound.

   a. \( \text{CuBr}_2 \)

   b. \( \text{NaBiO}_3 \)

   c. \( \text{Al(NO}_3\text{)}_3 \)

   d. sodium sulfate

   e. chromium(III) sulfide

   f. ammonium carbonate
4. Calculate the mass percentage of the compound Mg₃(PO₄)₂.

5. Determine the empirical formula for a compound with 26.6% K, 35.3% Cr, and 38.1% O by mass.

6. Balance each of the following chemical equations.
   
a. ___SbCl₃ + ___H₂S → ___HCl + ___Sb₂S₃

   b. ___Al + ___MnO₂ → ___Mn + ___Al₂O₃

   c. ___NO₂ + ___H₂O → ___HNO₃ + ___NO

   d. ___B₂H₆ + ___O₂ → ___B₂O₃ + ___H₂O

   e. ___C₂H₄ + ___O₂ → ___CO₂ + ___H₂O

   f. ___C₆H₁₂ + ___O₂ → ___CO₂ + ___H₂O