Chemistry 112   **Exercise: Mole Conversions**

1. Find the molar mass of the following compounds
    a. $Zn(CH_3COO)_2$
    b. $Fe_2(SO_3)_3$
    c. $Mg_3(PO_4)_2$
    d. $Na_2C_2O_4$
    e. $(NH_4)_3AsO_4$
2. Determine the number of moles of each of the following
    a. 100 g of $KMnO_4$
    b. 74 g of KCl
3. Determine the number of grams of each of the following
    a. 1.70 moles of $KMnO_4$
    b. 0.25 moles of KCl
4. How many molecules are in the quantities below?
    a. 0.75 moles
    b. 15 moles
5. How many moles are in the number of molecules below?
    a. 1.5×10^{20}
    b. 3.4×10^{26}
6. Convert the following:
    a. 32.3 g of colbalt(II) nitrate to moles
    b. 90.8 moles colbalt(II) nitrate to kg
    c. 89 kg cobalt(II) nitrate to formula units
7. How many formula units (particles) in 10.50 moles of calcium phosphate?
8. How many moles in 45 L of carbon dioxide at STP.
9. What volume would be occupied by 5.2 mol $CO_2(g)$ at STP?
10. What would be the mass of 100.0 L $CO_2(g)$ at STP?
11. How many grams in 1.92 mol ammonium phosphate?
12. How many particles (formula units) would there be in question 11
13. How many litres of oxygen ($O_2(g)$) would be occupied by 5.25 moles at STP?
14. 15.50 L of oxygen gas would contain how many grams at STP? (L → mol → g)