Chemistry – Chapter 16 Book problems #3: molality, mole fractions

1. How many grams of sodium fluoride are needed to prepare a .400m NaF solution that contains 750g of water?

2. Calculate the molality of a solution prepared by dissolving 10.0g NaCl in 600g of water.

3. What is the mole fraction of each component in a solution (fraction for the solute AND fraction for the solvent) made by mixing 300 grams of ethanol (C_2H_6O) and 500 grams of water?

4. A solution contains 50.0 grams of carbon tetrachloride (CCl_4) and 50.0 grams of chloroform ($CHCl_3$). Calculate the mole fraction of **each** component in the solution (both solute and solvent).

5. How many grams of sodium bromide must be dissolved in 400.0 grams of water to produce a 0.500 molal solution?

6. Calculate the mole fraction of each component (solute and solvent) in a solution of 2.50 mol ethanoic acid ($C_2H_5O_2$) in 10.00 mol of water.