Concentration Units

1. If 2.65 g of Na_2CO_3 is dissolved in 825.22 g of water, what is the molality?

2. A solution contains 0.2645 g of $K_2Cr_2O_7$ and 0.2524 g of Na_2SO_4 dissolved in 925.65 g of water. What is the mole fraction of $K_2Cr_2O_7$, Na_2SO_4 and H_2O?

3. How many grams of HNO_3 is required to prepare 50.00 g of a 2.54% by mass aqueous solution?

4. An aqueous solution of 2.45 M H_2SO_4 has a density of 1.79 g/mL. Calculate the percent by mass, the molality, and the mole fraction of H_2SO_4.

5. The concentration of Cl^- ion in water is 18.0 ppm. How many grams of chloride ion are in 275.00 mL of water? The density is 1.00 g/mL.