Concentration exercises.

1. A solution with 3 g of potassium chloride (KCl) in 100 g of water is prepared. Calculate the percent of mass of solute in the solution. (result; 2.91%)
2. A glucose solution is 30% mass. How much glucose and water has 100 g of solution? (result; 30 g glucose)
3. We need to prepare 250 g of an aqueous solution of sodium bromide with a 5% mass concentration. How much solute and solvent do we need? (result: 12.5 g of NaBr and 237.5 g of water)
4. A liter of milk has a mass of 1060 g and a 1.6 percent of mass in fat. Calculate the mass concentration of fat in g/L. (result: 17 g/L of fat)
5. Vinegar is a solution with a 3% mass of acetic acid. How much is in 150 g of vinegar? (result: 4.5 g of acetic acid)
6. A solution has been prepared with 30 g of sugar solved in water till we get 200 ml of solution. Which is its mass concentration of sugar in g/L? (result: 150 g/L of sugar)
7. We weight 5 g of sodium chloride and water is added till we have 250 ml of solution. What mass concentration of sodium chloride we get? (result: 20 g/L of NaCl)
8. We need to prepare 150 ml of a 20 g/L solution of iodine. How much iodine and water do we need? (result: 3 g of I₂ and 150 ml of water)
9. We need to prepare 300 ml of a ferric sulfate solution for fertilizing plants with a 12 g/L mass concentration. How much ferric sulfate mass do we need? (result: 3.6 g of ferric sulfate)
10. When 33 g of sugar are dissolved in 198 g of water we get 0.22 liters of solution. Calculate the mass concentration and the percent of mass of the solution. (result: 150 g/L of sugar and 13% of sugar)
11. The solubility of potassium nitrate at 20°C is 250 g/L. Calculate the mass of potassium nitrate we must dissolve in 400 ml of water for having a saturated solution at 20°C.