**Concentration Homework**

1. Calculate the number of moles of potassium hydroxide that must be dissolved to make the following solutions:
2. 500cm3 of 1 mol dm-3
3. 200cm3 of 0.5 mol dm-3
4. 100cm3 of 0.1 mol dm-3
5. 2 litres of 0.25 mol dm-3
6. 250cm3 of 2 mol dm-3
7. Calculate the concentration of each of the following solutions of hydrochloric acid:
8. 1 mol of HCl dissolved to make 100 cm3 of solution
9. 2 mol of HCl dissolved to make 1 dm3 of solution
10. 0.1 mol of HCl dissolved to make 500 cm3 of solution
11. 0.5 mol of HCl dissolved to make 250 cm3 of solution
12. 0.4 mol of HCl dissolved to make 200cm3 of solution
13. Calculate the volume of each of the following solutions of sodium hydroxide
14. 1 mol dm-3 solution containing 2 mol of solute
15. 0.5 mol dm-3l solution containing 1 mol of solute
16. 2 mol dm-3l solution containing 0.1 mol of solute
17. 0.1 mol dm-3 solution containing 0.5 mol of solute
18. 0.4 mol dm-3 solution containing 0.1 mol of solute

**Part 2**

1. Calculate the number of grams of substance needed to make each of the following solutions
2. 50 cm3 of NaOH (aq), concentration 2 mol dm-3
3. 100 cm3 of KOH (aq), concentration 0.5 mol dm-3
4. 1 dm3 of Na2CO3 (aq), concentration 0.1 mol dm-3
5. 25 cm3 of lithium nitrate solution, concentration 0.2 mol dm-3
6. 250 cm3 of ammonium sulphate solution, concentration 1 mol dm-3
7. 200 cm3 of calcium nitrate solution, concentration 0.25 mol dm-3
8. Calculate the concentration of each of the following solutions:
9. 5.65 g of NaCl dissolved to make 1 dm3 of solution
10. 2.5 g of CaCO3 dissolved to make 100 cm3 of solution
11. 8 g of NaOH dissolved to make 250 cm3 of solution
12. 2.02 g of potassium nitrate dissolved to make 50 cm3 of solution
13. 4 g of copper(II)sulphate dissolved to make 100 cm3 of solution