Quick Quiz: Analytical Techniques

1. Explain why the conical flask is rinsed with distilled water between titrations and the volumetric pipette is not.

2. 20.0 mL aliquots of iron (II) nitrate solution are titrated with a standard solution of 1.00 mol L^{-1} potassium dichromate. Calculate the concentration of the iron (II) nitrate solution, given the average titre is 12.24 mL.

3. Convert 10 ppm to milligrams per ten litres (mg / 10 L)

4.
   (a) Write the possible oxidation states of oxygen.

   (b) State what leaching is.

   (c) Calculate the pH of a solution with a concentration of hydrogen ions of 1.4×10^{-3} mol L^{-1}.

   (d) Given this equation:

$$H_2O + ClO^- \rightleftharpoons HClO + OH^-$$
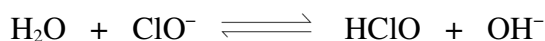
   State the effect on the concentration of hypochlorite ions if base is added.