The following experiment is carried out to analyze some aspirin tablets.
Given: 1 mole of aspirin reacts with 2 moles of NaOH

Step 1	**Put 2.50 g of aspirin tablets into a conical flask with 25.0 cm^3 of 1.20 mol dm^{-3} sodium hydroxide solution.**
Step 2	**Heat the mixture to hydrolyze the acetylsalicylic acid.**
Step 3	**After cooling, transfer the mixture to a 250 cm^3 volumetric flask. Make up to the mark with distilled water.**
Step 4	**Pipette 25.0 cm^3 of this solution into a conical flask. Titrate the sodium hydroxide left over against 0.075 mol dm^{-3} sulphuric acid, using phenolphthalein as an indicator. It is found that 14.30 cm^3 of the acid are required to reach the end point.**

(a) Suggest the colour change at the end point of the titration.
(b) Calculate the number of moles of sodium hydroxide left over after hydrolyzing the acetylsalicylic acid.
(c) Calculate the number of moles of sodium hydroxide originally added in Step 1.
(d) Calculate the number of moles of sodium hydroxide used for hydrolyzing the acetylsalicylic acid.
(e) Calculate the percentage by mass of acetylsalicylic acid in the aspirin tablets. (Molar mass of acetylsalicylic acid = 180.0 g mol^{-1})