

Name \_\_\_\_\_

Date \_\_\_\_\_

# Worksheet 20.1: Practical to determine the iron(II) content in iron tablets

(TR material subchapter 20.2, main teaching ideas, activity 4)

## Analysis of results

- 1 Record the raw quantitative data in a table. You need to include their units and absolute uncertainties where appropriate.
- 2 Write the full ionic equation for reaction occurring in this titration.
- 3 Use your titration results to calculate the mass of iron(II) in one tablet. Set out your calculation clearly, showing all the steps.
- 4 Calculate the percentage uncertainty in the average titre and propagate to work out the percentage uncertainty and absolute uncertainty in the mass of iron(II) in one tablet.

## Evaluation of experiment

- 5 Using the manufacturer's information on the iron tablet, calculate the percentage error in your result.
- 6 Describe three random errors in your experiment.
- 7 Explain why this titration reaction does not require an indicator.
- 8 Explain why neither HCl nor HNO<sub>3</sub> can be added to acidify the reaction mixture.