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 HNO3 can be added to acidify the reaction mixture.