1 Errors in Measurement

This exercise covers the following Basic Competency Descriptors for new KS3 curriculum.

New	MSS15-1	Find maximum absolute errors when using given measuring tools for measurement.
	MSS15-2	Find the range of measures in measurements of given degrees of accuracy.
New	MSS15-3	Calculate relative errors and percentage errors from given measurements.

Section A: Write your answers in the spaces provided. Working need not be shown.

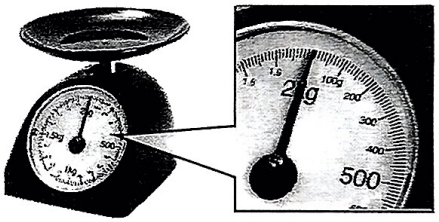
MSS15-1

1. Mary uses the ruler given on the right to measure the length of a pen. Find the maximum absolute error of the measurement.

Answer: _____

MSS15-1

2. Peter uses the balance given on the right to measure the weight of a lemon. Find the maximum absolute error of the measurement.



Answer: _____

MSS15-1

3. Kelly uses a beaker with a scale interval 0.5 mL to measure the volume of a cup of tea. Find the maximum absolute error of the measurement.

Answer: _____

MSS15-1

4. Stephen uses a stopwatch with a scale interval 0.1 s to measure the time taken of a runner in a 200 m race. Find the maximum absolute error of the measurement.

Answer: _____

Section B: Answer in the spaces provided. All working and conclusions must be clearly shown.

MSS15-3

5. The weight of a pack of rice is measured as 4 kg, correct to the nearest 1 kg. Find the relative error of the measured weight.

MSS15-3

6. The weight of a duck is measured as 500 g, correct to the nearest 10 g. Find the relative error of the measured weight.

MSS15-3

7. The length of a keyboard is measured as 40.0 cm, correct to the nearest 0.2 cm. Find the percentage error of the measured length.

8. The area of a playground is measured as 250 m^2, correct to the nearest 2 m^2. Find the percentage error of the measured area.