Name	Class

MATHS TEACHER HUB

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Error intervals

(9 – 1) Topic booklet

Higher

These questions have been collated from previous years GCSE Mathematics papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.	Total Marks

Instructions

•Use **black** ink or ball-point pen.
•**Fill in the boxes** at the top of this page with your name, centre number and candidate number.
•Answer **all** questions.
•Answer the questions in the spaces provided
– *there may be more space than you need*.
•Diagrams are NOT accurately drawn, unless otherwise indicated.
•You must **show all your working out.**
•If the question is a **1H** question you are not allowed to use a calculator.
•If the question is a **2H** or a **3H** question, you may use a calculator to help you answer.

Information

•The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question*.

Advice

•Read each question carefully before you start to answer it.
•Keep an eye on the time.
•Try to answer every question.
•Check your answers if you have time at the end.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.

2 The length, L cm, of a line is measured as 13 cm correct to the nearest centimetre.

Complete the following statement to show the range of possible values of L

..... $\leqslant L <$ .....

Specimen 1 – Paper 3H **(Total for Question 2 is 2 marks)**

4 Jim rounds a number, x, to one decimal place.
The result is 7.2

Write down the error interval for x.

.....

Specimen 2 – Paper 3H **(Total for Question 4 is 2 marks)**

5 Jess rounds a number, x, to one decimal place.
The result is 9.8

Write down the error interval for x.

.....

(2)

November 2017 – Paper 3H **(Total for Question 5 is 2 marks)**

6 Sally used her calculator to work out the value of a number y.

The answer on her calculator display began

8.3

Complete the error interval for y.

..... $\leqslant y <$ .....

June 2019 – Paper 2H **(Total for Question 6 is 2 marks)**

7 A number, n, is rounded to 2 decimal places.
The result is 4.76

Using inequalities, write down the error interval for n.

.....

June 2017 – Paper 2H **(Total for Question 7 is 2 marks)**

8 A number x is written correct to 2 significant figures.

The result is 1.9

Complete the error interval for x.

..... $\leqslant x <$ .....

November 2023 – Paper 2H **(Total for Question 8 is 2 marks)**

9 A number N is rounded to 2 significant figures.
The result is 7.3

(a) Write down the least possible value of N.

.....

(1)

Leila says,

"The value of N cannot be greater than 7.349 because 7.350 would round up to 7.4"

(b) Is Leila correct?
You must give a reason for your answer.

.....

.....

.....

(1)

June 2024 – Paper 2H

(Total for Question 9 is 2 marks)

9 Martin truncates the number N to 1 digit.
The result is 7

Write down the error interval for N.

.....

November 2018 – Paper 2H

(Total for Question 9 is 2 marks)

11 Freya writes down the value of x, correct to 1 decimal place.

She writes $x = 6.4$

Complete the error interval for x.

..... $\leqslant x <$ .....

November 2021 – Paper 3H **(Total for Question 11 is 2 marks)**

12 Martin used his calculator to work out the value of a number P.
He wrote down the first two digits of the answer on his calculator.

He wrote down 1.2

Complete the error interval for P.

..... $\leqslant P <$ .....

November 2022 – Paper 3H **(Total for Question 12 is 2 marks)**