Name ANSWERS	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

$12.5 \leqslant L < 13.5$

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.

$7.15 \leqslant x < 7.25$

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.

$9.75 \leqslant x < 9.85$

(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.

8.3 $\leqslant y <$ 8.4

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.

$4.755 \leqslant n < 4.765$

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.

1.85 $\leqslant x <$ 1.95

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.

7.25

(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.

Leila is wrong, it could be 7.349999

(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.

$7 \leqslant n < 8$

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.

6·35 $\leqslant x <$ 6·45

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.

1·2 $\leqslant P <$ 1·3

November 2022 – Paper 3H

(Total for Question 12 is 2 marks)