

Name

Class



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# Error intervals

(9 – 1) Topic booklet

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 **1F** question you are not allowed to use a calculator.
- If the question is a **2F** or a **3F** 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.**

**22** The length of a pencil is 128 mm correct to the nearest millimetre.

Complete the error interval for the length of the pencil.

$$\dots\dots\dots \text{ mm} \leq \text{length} < \dots\dots\dots \text{ mm}$$

November 2019 – Paper 2F

**(Total for Question 22 is 2 marks)**

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**22** 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  $L$

$$\dots\dots\dots \leq L < \dots\dots\dots$$

Specimen 1 – Paper 3F

**(Total for Question 22 is 2 marks)**

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**23** The length of a football pitch is 90 metres, correct to the nearest metre.

Complete the error interval for the length of the football pitch.

$$\dots\dots\dots \text{ m} \leq \text{length} < \dots\dots\dots \text{ m}$$

June 2022 – Paper 2F

**(Total for Question 23 is 2 marks)**

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- 23** 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 3F

**(Total for Question 23 is 2 marks)**

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- 23** 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 2F

.....  
**(Total for Question 23 is 2 marks)**

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- 23** Harley's house has a value of £160 000 correct to 2 significant figures.

(i) Write down the least possible value of the house.

£.....  
(1)

(ii) Write down the greatest possible value of the house.

£.....  
(1)

June 2017 – Paper 3F

**(Total for Question 23 is 2 marks)**

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25

$x = 4700$  correct to 2 significant figures.

Complete the error interval for  $x$ .

$$\dots\dots\dots \leq x < \dots\dots\dots$$

(2)

November 2022 – 2F

**(Total for Question 25 is 2 marks)**

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25 A number,  $m$ , is rounded to 1 decimal place.  
The result is 9.4

Complete the error interval for  $m$ .

$$\dots\dots\dots \leq m < \dots\dots\dots$$

May 2020 – Paper 3F

**(Total for Question 25 is 2 marks)**

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25 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  $y$ .

$$\dots\dots\dots \leq y < \dots\dots\dots$$

June 2019 – Paper 2F

**(Total for Question 25 is 2 marks)**

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**25** Jim rounds a number,  $x$ , to one decimal place.

The result is 7.2

Write down the error interval for  $x$ .

Specimen 2 – Paper 3F

**(Total for Question 25 is 2 marks)**

**27** Freddie measured the length of a pencil as 7.2 cm correct to 1 decimal place.

Complete the error interval for the length,  $p$  cm, of the pencil.

.....  $\leq p <$  .....

November 2021 – Paper 1F

**(Total for Question 27 is 2 marks)**