# Name: SOLUTIONS

## GCSE (1 - 9)

## Error Intervals

Buy me a coffee

Solutions by
Kenneth Stafford
MATHS TUTOR
ken@kennethstafford.co.uk

These questions are compiled from *released* Pearson Edexcel GCSE maths exam papers
They contain exam questions from up until the ***Summer 2023*** exam series
More recent exam papers do exist but are withheld for mock exams
As new exam papers are released these worksheets will gradually be updated
The ***most current*** version of these worksheets will always be available at: kennethstafford.co.uk

| Question | Where the question appeared |
|---|---|
| 1 | Edexcel, GCSE, Summer 2017, Paper 2F, Q23 |
| 2 | Edexcel, GCSE, Autumn 2017, Paper 3F, Q23 |
| 3 | Edexcel, GCSE, Summer 2019, Paper 2F, Q25 |
| 4 | Edexcel, GCSE, Autumn 2019, Paper 2F, Q22 |
| 5 | Edexcel, GCSE, Autumn 2020, Paper 3F, Q25 |
| 6 | Edexcel, GCSE, Autumn 2021, Paper 1F, Q27 |
| 7 | Edexcel, GCSE, Summer 2022, Paper 2F, Q23 |
| 8 | Edexcel, GCSE, Summer 2023, Paper 2F, Q26 |
| 9 | Edexcel, GCSE, November 2022, Paper 2F, Q25 |
| 10 | Edexcel, GCSE, Summer 2022, Paper 2F, Q23 |
| | |

**1**

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

Using inequalities, write down the error interval for $n$.

$4.755 \leq n < 4.765$

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

*[Edexcel, GCSE, Summer 2017, Paper 2F, Q23]*

**2**

(a) Find the value of the reciprocal of 1.6
Give your answer as a decimal.

$(1.6)^{-1} = 0.625$

(1)

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

(b) Write down the error interval for $x$.

$9.75 \leq x < 9.85$

(2)

**(Total for Question 23 is 3 marks)**

*[Edexcel, GCSE, Autumn 2017, Paper 3F, Q23]*

**3**

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

The answer on her calculator display began

8.3

Truncated

Complete the error interval for $y$.

8·3 $\leqslant y <$ 8·4

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

*[Edexcel, GCSE, Summer 2019, Paper 2F, Q25]*

**4**

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

Complete the error interval for the length of the pencil.

1275 mm $\leqslant$ length $<$ 1285 mm

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

*[Edexcel, GCSE, Autumn 2019, Paper 2F, Q22]*

**5**

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

Complete the error interval for $m$.

9.35 $\leqslant m <$ 9.45

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

*[Edexcel, GCSE, Autumn 2020, Paper 3F, Q25]*

**6**

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.

7.15 $\leqslant p <$ 7.25

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

*[Edexcel, GCSE, Autumn 2021, Paper 1F, Q27]*

**7**

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.

89.5 m $\leqslant$ length $<$ 90.5 m

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

*[Edexcel, GCSE, Summer 2022, Paper 2F, Q23]*

**8**

A number, $d$, is rounded to 1 decimal place.
The result is 12.7

Complete the error interval for $d$.

12·65 $\leqslant d <$ 12·75

**(Total for Question 26 is 2 marks)**

*[Edexcel, GCSE, Summer 2023, Paper 2F, Q26]*

**9**

(a) Find the value of the reciprocal of 0.8

$0.8 = \frac{8}{10} = \frac{4}{5}$

$\left(\frac{4}{5}\right)^{-1} = \frac{5}{4} = 1.25$

(1)

$x = 4700$ correct to 2 significant figures.

(b) Complete the error interval for $x$.

4650 $\leqslant x <$ 4750

(2)

**(Total for Question 25 is 3 marks)**

*[Edexcel, GCSE, November 2022, Paper 2F, Q25]*

**10**

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.

89·5 m $\leqslant$ length $<$ 90·5 m

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

*[Edexcel, GCSE, Summer 2022, Paper 2F, Q23]*