

# Error Intervals

For AQA GCSE Mathematics (8300) • Foundation tier

Name \_\_\_\_\_

Total marks: **21**

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Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

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- 1** A length is 13 cm correct to the nearest centimetre.  
Complete the error interval.

Answer \_\_\_\_\_ cm  $\leq$  length < \_\_\_\_\_ cm  
**[2 marks]**

- 2** A mass,  $m$  kg, is 4.6 kg correct to 1 decimal place.  
Complete the error interval.

\_\_\_\_\_  $\leq m <$  \_\_\_\_\_

**[2 marks]**

- 3** The number of people at a concert is 2300 to the nearest hundred.  
Complete the error interval for the number of people,  $n$ .

\_\_\_\_\_  $\leq n <$  \_\_\_\_\_

**[2 marks]**

- 4** Circle the error interval for  $y$  when  $y = 20$  correct to 1 significant figure.

**[1 mark]**

$19.5 \leq y < 20.5$

$15 \leq y < 25$

$10 \leq y < 30$

$19 \leq y < 21$

- 5 A bottle of water holds 750 ml, correct to the nearest 10 ml.

Which is the error interval for the volume,  $V$  ml?

Tick **one** box.

[1 mark]

☐  $740 \leq V < 760$

☐  $745 < V \leq 755$

☐  $749.5 \leq V < 750.5$

☐  $745 \leq V < 755$

- 6  $t = 3.7$  truncated to 1 decimal place.

Complete the error interval for  $t$ .

\_\_\_\_\_  $\leq t <$  \_\_\_\_\_

[2 marks]

- 7 A bag of flour has a mass of 1.5 kg to the nearest 100 g.

Complete the error interval for the mass, in kilograms.

Answer \_\_\_\_\_ kg  $\leq$  mass  $<$  \_\_\_\_\_ kg

[2 marks]

- 8  $x = 4.2$  correct to 1 decimal place.

Ella says the largest possible value of  $x$  is 4.25

Is Ella correct? Tick a box.

Give a reason for your answer.

[1 mark]

☐ Yes

☐ No

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- 9 The mass of a bag of sand is 25 kg, correct to the nearest kg.

Could the bag hold 26.9 kg? Tick a box.

Give a reason for your answer.

[1 mark]

☐ Yes

☐ No

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- 10 A field is in the shape of a square.  
The perimeter of the field is 240 m, correct to the nearest 10 m.

(a) Complete the error interval for the perimeter,  $P$  m.

$$\text{_____} \leq P < \text{_____}$$

[2 marks]

(b) Complete the error interval for the length of one side,  $s$  m.

$$\text{_____} \leq s < \text{_____}$$

[1 mark]

- 11 Ivy has two suitcases.  
The mass of each suitcase is 18 kg, correct to the nearest kg.

Ivy says,

‘The total mass of my two suitcases must be 36 kg, to the nearest kg.’

Give an example to show that Ivy is wrong.

[2 marks]

- 12** There is a gap between two kitchen cupboards.  
The width of the gap is 60 cm, correct to the nearest centimetre.  
The width of a washing machine is 59.6 cm, correct to the nearest millimetre.

Will the washing machine definitely fit in the gap? Tick a box.  
Show working to support your answer.

**[2 marks]**

☐ Yes

☐ No

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