

Error Intervals

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Examples



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Workout

Question 1: The mass of a coin is 8 grams to the nearest gram.
Complete the error interval for the mass of the coin

$$\dots\dots\dots \text{g} \leq \text{mass} < \dots\dots\dots \text{g}$$

Question 2: The distance between two cities is 900km to the nearest 100km.
Complete the error interval for the distance

$$\dots\dots\dots \text{km} \leq \text{distance} < \dots\dots\dots \text{km}$$

Question 3: Frank rounds a number, y , to the nearest ten.
His result is 20
Write down the error interval for y

Question 4: Lily rounds a number, y , to the nearest whole number.
Her result is 5
Write down the error interval for y

Question 5: Freya rounds a number, y , to one decimal place.
Her result is 6.4
Write down the error interval for y

Question 6: Oscar rounds a number, y , to the nearest integer.
His result is 100
Write down the error interval for y

Question 7: A number, n , is rounded to 1 decimal place.
The result is 1.3
Using inequalities, write down the error interval for n .

Question 8: A number, n , is rounded to 2 decimal places.
The result is 6.27
Using inequalities, write down the error interval for n .

Question 9: Elliott weighs 56.2kg.
This mass, m , is to the nearest 100g.
Write the error interval due to rounding.

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Question 10: A number, x , is 21 when rounded to 2 significant figures.
Write down the error interval.

Question 11: A number, y , is 15000 when rounded to 2 significant figures.
Write down the error interval.

Question 12: A number, y , is 680000 when rounded to 3 significant figures.
Write down the error interval.

Question 13: The length of a line, l , was given as 2.8cm, truncated to 1 decimal place.
Complete the error interval for l

$$\dots\dots\dots \text{ cm} \leq l < \dots\dots\dots \text{ cm}$$

Question 14: A number, y , is 0.37 when truncated to 2 decimal places.
Complete the error interval for y

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

Question 15: A number, n , is truncated to 1 decimal place.
The result is 18.1
Using inequalities, write down the error interval for n .

Question 16: A number, n , is truncated to 3 decimal places.
The result is 4.066
Using inequalities, write down the error interval for n .

Apply

Question 1: The length of each side of a regular hexagon is 4.7cm to 1 decimal place.
Write the error interval for the perimeter, P

Question 2: Grace and George complete a crossword.
It takes Grace 9 minutes to complete the crossword to the nearest minute.
It takes George 11 minutes to complete the crossword to the nearest minute.

Show that the total time for both people to complete the crossword could be 20 minutes 50 seconds.

Question 3: A man jogs 200 metres to the nearest 10 metres.
It takes him 30 seconds to the nearest 10 seconds.

Work out the error interval for his speed, s .



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Question 4: A number, x , is 1.92 when truncated to 2 decimal places.
Matthew has been asked to write down the error interval.
This is his answer.

$$1.915 \leq x < 1.925$$

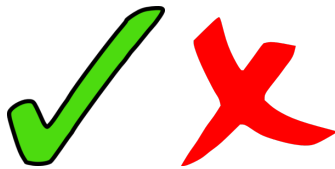
Explain why Matthew is wrong.

Question 5: A number, n , is rounded to 3 significant figures.
The result is 7500
Norris has been asked to write down the error interval for n .
This is his answer.

$$7450 < x < 7550$$

Explain why Norris is wrong.

Answers



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