Avalon MATHS

GCSE MATHS

Bounds and error intervals

Short workbook

A calculator may be used.

Q1 A mass is 360 g to the nearest 10 g. Write the error interval for its value x, measured in g. *

Q2 $8.2 \leq a < 8.4$ and $3.1 \leq b < 3.3$. Find the lower and upper bounds of $a - b$. **

Q3 A journey is 120 km to the nearest 10 km and takes 2.0 hours to the nearest 0.1 hour. Find the upper bound of average speed, to 2 decimal places. ***

Q4 $2.9 \leq a < 3.1$ and $0.9 \leq b < 1.1$. Find the lower bound of $(a - b)/(a + b)$. ****

Q5 A rectangle has perimeter 40 cm to the nearest centimetre. Its width is exactly one quarter of its length. Find the upper bound of its area. ***

Q6 A rectangle has exact perimeter 24 cm. Its length is 8 cm to the nearest centimetre. Find the lower and upper bounds of its area. ****

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Answers

Q1 $355 \leq x < 365$ (g).

Q2 Lower 4.9; upper 5.3.

Q3 64.10 km/h.

Q4 0.45.

Q5 65.61 cm^2.

Q6 Lower 29.75 cm^2; upper 33.75 cm^2.