AQA, OCR, Edexcel

GCSE

GCSE Maths

Bounds Answers

Name:

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Total Marks: /29

Bounds

1. The mass of a loaf of bread is given as 1.3kg to the nearest 0.1kg. Find the interval within which m, the actual mass of the bread, lies.

$1.25kg \leq m < 1.35kg$

(2 Marks)

2. The length of a piece of string was measured as 1.67m to two decimal places. Find the interval within which l, the actual length of the string, lies.

$1.665 \leq l < 1.675$

(2 marks)

3. A farmer owns a rectangular field that is 105m in length and 50m in width. Both dimensions have been rounded to the nearest metre.

a) What is the maximum area of the field? $= 5327.75m^2$

b) What is the minimum area of the filed? $= 5172.75m^2$

(4 Marks)

4. If $A = \frac{B}{C}$ what is the maximum and minimum value of A, if B is 100m correct to the nearest 5 m and C is 10 m correct to the nearest meter?

$A_{max} = 10.79m^2 \ (rounded\ to\ 2.d.p)$

$A_{min} = 9.29m^2 \ (rounded\ to\ 2.d.p)$

(3 marks)

5. A land owner owns a square field that has one side measured 900m correct to the nearest 10m. He is looking to sell the field and has been offered £10 per square meter. What is the maximum amount of money that the land owner could get?

Due to rounding, the land owner could claim that the length of his field is just under 905m. Using this figure, the field would have and area just under 819025m^2. Thus, he could reach just under £8,190,250 for his land.

(3 Marks)

6. A Circle has an area of 100cm^2 correct to the nearest 10cm^2. Calculate the maximum radius of the circle. $r_{max} = 5.78cm^2$ $(rounded\ to\ 2.d.p)$

(3 marks)

7. Given that $\boldsymbol{A}$ = **3.2** correct to 1 decimal place, give the inequality for $\boldsymbol{3A + 2}$. $11.45 \leq 3A + 2 < 11.75$

(4 Marks)

8. Given that $\boldsymbol{P}$ = **1.8** correct to 1 decimal place and $\boldsymbol{Q} = \boldsymbol{10}$ correct to 1 significant figure, give the inequality for $\boldsymbol{4P + 2Q}$. $26 \leq 4P + 2Q < 28.4$

(4 Marks)

9. A cuboid measures 32.3cm by 20.1cm by 14.2cm. Each dimension has been rounded to 1 decimal place. Calculate the minimum and maximum possible volumes of the cuboid.

$V_{max} = 9288.90cm^2$ $(rounded\ to\ 2.d.p)$

$V_{min} = 9149.57cm^2$ $(rounded\ to\ 2.d.p)$

(4 Marks)