

Exercise walk-through

1.4

Bounds

Pearson Edexcel · International GCSE · Mathematics A

Exercises 2.1·2.3

2.1 (Higher) Find the lower bound of 3.4 rounded to the nearest 0.1.

2.2 (Higher) Find the upper bound of 250 rounded to the nearest 10.

2.3 (Higher) A distance is at most 105 m and time at least 20 s. Find the upper speed bound.

3 Exam-style questions

Exercises 2.1·2.3

2.1 (Higher) Find the lower bound of 3.4 rounded to the nearest 0.1.

2.1 Half the rounding unit is 0.05. Lower bound = $3.4 - 0.05 = 3.35$.

2.2 (Higher) Find the upper bound of 250 rounded to the nearest 10.

2.2 Half of 10 is 5. Upper bound = $250 + 5 = 255$; the upper endpoint is excluded.

2.3 (Higher) A distance is at most 105 m and time at least 20 s. Find the upper speed bound.

3 Exam-style questions

2.3 For positive d and t , the largest quotient uses the greatest d and least t : $105/20 = 5.25$.

Exercise 3.1

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: The greatest value of positive d/t uses the greatest d and greatest t .

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3.1 False. With $8 \leq d < 9$ and $2 \leq t < 3$, $8.9/2 = 4.45$ exceeds $8.9/2.9 \approx 3.07$. Increase the numerator and decrease the positive denominator; distinguish a supremum from an attained maximum.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.