



# Bounds

## Mark Scheme 2

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Bounds
Booklet	Mark Scheme 2

**Time Allowed:** 66 minutes

**Score:** /55

**Percentage:** /100

**Grade Boundaries:**

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1	12375 cao 12825 cao	2	<b>B1, B1</b> If no marks scored give <b>M1</b> for 27.5 and 28.5 seen
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2	(a) $1.28 \times 10^5$ (b) 128 500	1 1	
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3	( 85.8 (b) 456.8625 cao	2 1	<b>M1</b> for 23.25 and 19.65 seen
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4	1275, 1425	3	<b>B</b> 85 or 95 or 0.85 or 0.95 <b>M1</b> their LB or $UB \times 1500$ where $85 \leq LB < 90$ $90 < UB \leq 95$
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5	816 cao	2	<b>M1</b> 197.5 and 210.5 seen
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6	40.5	2	<b>M1</b> 6.75 seen or $6 \times$ their LB
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7	2390 2410	2	<b>M1</b> 119.5 and 120.5 or <b>B1</b> for one correct answer
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8	(a) 25 (b) 0.4	1 1	If zero scored <b>SC1</b> for 250 and 4 or 6.25 and 6.35
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9	63.84 <b>cao</b>	3	<b>M1</b> figs 1995 <b>M1</b> 32 × their lower bound
10	220.5 <b>cao</b>	2	<b>M1</b> for 73.5 seen
11	258 <b>cao</b>	3	<b>M1</b> 18.5 or 24.5 seen <b>M1</b> 6 × sum of their two upper bounds
12	62225000 or $6.2225 \times 10^7$ or 62.225 million <b>cao</b>	2	<b>M1</b> 9.5(million) <b>and</b> 6.55 seen 3sf <b>not</b> appropriate for UB and <b>not</b> allowed for 2 marks
13	50.1225 <b>cao</b>	2	<b>M1</b> 6.15 and 8.15 seen
14	28.2 28.6 exact values only	3*	<b>M1</b> two of 6.05, 6.15, 8.05 or 8.15 seen <b>A1</b> 28.2 <b>or</b> 28.6 in either answer space <b>SC2</b> both correct reversed
15	135 165 <b>cao</b>	1,1	<b>SC1</b> 2h 15m <b>and</b> 2h 45m or 2.25 <b>and</b> 2.75 or 135 <b>and</b> 165 reversed or 4.5 <b>and</b> 5.5 seen

16	237.5 242.5	1,1*	<b>M1</b> 7h 55 and 8h 05 seen, allow 0755 etc
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17	75000 76200	2*	<b>B B1</b> or <b>M1</b> 6250, 6350 seen
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18	(a) 21.5 22.5 (b) 172	1,1 1√	<b>SC1</b> correct but reversed (a) least value
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19	( 115 125 (b) 2400	1 2√	<b>M1</b> their $125^2$ – their $115^2$
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20	6375 6.385	1, 1	<b>B1</b> correct but reversed
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21	(a) 32000 (b) 254 <u>50</u> 255 <u>50</u>	1 1, 1	<b>SC1</b> both correct and reversed
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22	201.25	2	allow 201 or 201.3 in ans. space if 201.25 seen M1 for $17.5 \times 11.5$ s.o.i.	2
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23	100 cao	3*	<b>B1</b> for 385 or 3.85 seen <b>M1</b> a distance + a speed
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