Limits of Accuracy

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1	8	249.5 [≤ *j* <] 250.5 cao		2	**B1** for either, or both correct but reversed	
2	7	435, 445 cao		2	**B1** for one value in the correct place or **SC1** for both values correct but reversed	
3	6	95.5 96.5 in correct places cao		2	**B1** for 95.5 or 96.5 in correct place or for answers reversed	
4	8	4.25 4.15		2	**B1** for each or both answers reversed	
5	9	63.84 **cao**		3	**M1** figs 1995 **M1** 32 × their lower bound	
6	10	220.5 **cao**		2	**M1** for 73.5 seen	
7	8	40.5		2	**M1** 6.75 seen or 6 × their LB	
8	9	2390 2410		2	**M1** 119.5 and 120.5 or **B1** for one correct answer	
9	12	**(a)** 25 **(b)** 0.4		1 1	If zero scored **SC1** for 250 and 4 or 6.25 and 6.35	
10	9	1275, 1425		3	**B1** 85 or 95 or 0.85 or 0.95 **M1** their LB or UB × 1500 where 85 ≤ LB < 90 90 < UB ≤ 95	
11	4	816 cao		2	**M1** 197.5 and 210.5 seen	
12	4	12375 cao 12825 cao		2	**B1, B1** If no marks scored give **M1** for 27.5 and 28.5 seen	
13	7	30.7975 cao		2	**M1** 6.35 **and** 4.85 seen	
14	5	33 **cao www**		2	**M1** any two of 5.5, 9.5, 12.5 seen	
15	10	70		3	**B1** 24.5 or 0.35 **seen** **M1** their LB ÷ their UB	
16	7	2.119×10^8 cao		3	**M1** 81500 oe **M1** their LB × 2600	
17	9	48.15, 48.45 cao		2	**B1 B1** If 0 then **M1** for 16.0 and 16.15 soi	

18	8		6.1 final answer		2	**M1** for [√37.8225=] 6.15
19	12		p = 71.4025 cao q = 73.1025 cao	3		**B1** for 8.45 and 8.55 seen **M1** for *their* LB^2 [π] or *their* UB^2 [π] If 0 scored, **SC1** for one correct.
20	6		101.4, 102.6		2	**M1** for 8.45 and 8.55 seen If 0 scored, **SC1** for one correct value in correct position on answer line or for two correct reversed answers
21	15		427.8 427.4	3		**M2** for $2 \times (127.35 + 86.55)$ or $2 \times (127.35 + 86.45)$ or **B1** for two of these figures: 127.35, 86.55, 127.25, 86.45 seen If zero scored, **SC2** for upper bound 427.8 or lower bound 427.4 provided nfww
22	6	44		2		**B1** for 75.5 or 119.5 seen
23	10	7		2		**B1** for 120.5 or 113.5 seen
24	4		18.45 18.75	1 1		If 0 scored, **SC1** for 6.15 **and** 6.25 seen or for correct answers reversed
25	18		16.2 16.6 nfww	3		**M1** for two of 2.35, 5.75, 2.45, 5.85 seen or 2 × (5.8 − 0.05 + 2.4 0.05) or 2 × (5.8 + 0.05 + 2.4 + 0.05) **A1** 16.2 or 16.6 in either answer space If zero scored **SC2** for both correct reversed answers provided 16.6 nfww
26	20	18 cao nfww		3		**M2** for $\dfrac{877.5}{7.5 \times 6.5}$ or **B1** for any two of 877.5, 7.5 and 6.5 seen
27	12	87 cao nfww		3		**B2** for 87.04…. or 87.0 nfww or **M1** for 500.5 or 5.75 seen or for (500 + 0.5) ÷ (5.8 − 0.05) and **B1** for **truncating** their decimal answer to an integer
28	13	10 cao nfww		3		**M2** for 42.5 × 2 ÷ 8.5 allowing one error in the UB or LB provided it is still UB × 2 ÷ LB or **M1** for one of 42.5 or 8.5 seen as bounds

29	17 (a)	10.4675 cao nfww	2	**B1** for 3.95 **or** 2.65 seen or **M1** for $(4.0 - 0.05) \times (2.7 - 0.05)$
	(b)	34 nfww	2	**B1** for 7.65 **or** 0.225 seen or **M1** for $(7.6 + 0.05) \div (0.23 - 0.005)$
30	6	72.25 cao	2	**M1** for $8 + 0.5$ or better seen
31	12	7 cao nfww	2	**B1** for $31 + 0.5$ or $5 - 0.5$ or 31.5 or 4.5 seen
32	18	27.15 cao	3	**M2** for $(9.4 + 0.05) \times 2 + 8.2 + 0.05$ or better or **M1** for $8.2 + 0.05$ or $9.4 + 0.05$ or better seen OR **SC2** for answer 25.95 or **SC1** for answer 26.85