

Answer Key & Explanations

Academic Reading Paper 31 — Longitude, Vents and Meetings

Mark your answer sheet before you read this

HOW TO USE THIS

- Mark one point for each correct answer. Spelling must be correct.
- Convert your total with the band table on the next page.
- Then read the explanation for **every** question you got wrong, and for every one you guessed. The explanation names the mechanism the wrong answer was built on.

The band figure is an estimate. A real paper is pre-tested on thousands of candidates and these have not been, so read the band as a position, not a prediction.

Q	Answer	Code	Mechanism	Where
1	star	R	Straight retrieval — no trap	Paragraph 3.
2	pendulum	F4	Prose re-sorted into a table; column order ≠ passage order	Paragraph 4.
3	arithmetic	R	Straight retrieval — no trap	Paragraph 3.
4	thirty / 30	E2	Answer sits after its own distractor	Paragraph 6.
5	house	R	Straight retrieval — no trap	Paragraph 7.
6	TRUE	R	Straight retrieval — no trap	Paragraph 1.
7	FALSE	C1	Overstatement — hedge removed	Paragraph 6.
8	NOT GIVEN	B4	Cause supplied by the reader	Paragraph 2.
9	FALSE	D1	Statement moved from another paragraph	Paragraph 5.
10	fifteen / 15	R	Straight retrieval — no trap	Paragraph 1.
11	thickens	A3	Category swap inside a pair the passage keeps apart	Paragraph 4.
12	eighty-one / 81 / eighty one	A1	Quantity re-attached to another noun	Paragraph 5.
13	degree	E1	Synonym substitution, passage keyword parked on a decoy	Paragraph 2.
14	i	E4	Minimal-pair options	Section A.
15	iii	E4	Minimal-pair options	Section B.
16	v	E4	Minimal-pair options	Section C.
17	vii	R	Straight retrieval — no trap	Section D.
18	viii	R	Straight retrieval — no trap	Section E.
19	ix	R	Straight retrieval — no trap	Section F.
20	x	R	Straight retrieval — no trap	Section G.

Q	Answer	Code	Mechanism	Where
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21	A	R	Straight retrieval — no trap	Section G.
22	B	R	Straight retrieval — no trap	Section D.
23	C	D2	Intermediate actor named beside the originator	Section E.
24	B	A6	Direction of change reversed	Section A.
25	C	C3	A conditional fact stated as universal	Section F.
26	A	B3	Superlative moved to another dimension	Section G.
27	NO	C2	The extreme version the writer explicitly refused	Paragraph 8.
28	YES	R	Straight retrieval — no trap	Paragraph 7.
29	NOT GIVEN	A2	Scope widened or narrowed by dropping a qualifier	Paragraph 5.
30	NO	C2	The extreme version the writer explicitly refused	Paragraph 6.
31	YES	R	Straight retrieval — no trap	Paragraph 4.
32	budget	R	Straight retrieval — no trap	Paragraph 2.
33	speed	R	Straight retrieval — no trap	Paragraph 3.
34	writing	R	Straight retrieval — no trap	Paragraph 4.
35	authority	A3	Category swap inside a pair the passage keeps apart	Paragraph 5.
36	person	R	Straight retrieval — no trap	Paragraph 8.
37	B	D1	Statement moved from another paragraph	Paragraph 2.
38	B	C2	The extreme version the writer explicitly refused	Paragraph 4.
39	B	B1	Relation swap	Paragraph 3.
40	A	C2	The extreme version the writer explicitly refused	Paragraph 8.

Score to band

Raw score out of 40	Estimated band
39–40	9
37–38	8.5
35–36	8
33–34	7.5
30–32	7
27–29	6.5
23–26	6
19–22	5.5
15–18	5
13–14	4.5
10–12	4
8–9	3.5
6–7	3
4–5	2.5

Questions 1–5

1 **star** · Paragraph 3.

'measures the angle between the moon and a chosen **star**'.

Mechanism R — Straight retrieval — no trap

2 **pendulum** · Paragraph 4.

'run accurately at sea, where a **pendulum** is useless'. The table re-sorts the passage, so this sits two paragraphs from the row above it.

Mechanism F4 — Prose re-sorted into a table; column order ≠ passage order

3 **arithmetic** · Paragraph 3.

'it requires a great deal of **arithmetic**, which was its weakness'.

Mechanism R — Straight retrieval — no trap

4 **thirty** / **30** · Paragraph 6.

'came down to about **thirty** minutes'. Four hours is what it took before, in the same sentence, and is the figure the eye lands on first.

Mechanism E2 — Answer sits after its own distractor

5 **house** · Paragraph 7.

'still cost as much as a small **house**'.

Mechanism R — Straight retrieval — no trap

Questions 6–9

6 **TRUE** · Paragraph 1.

'Finding your latitude at sea is straightforward and was solved in antiquity.'

Mechanism R — Straight retrieval — no trap

7 **FALSE** · Paragraph 6.

'Nevil Maskelyne, who is usually cast as the villain of the piece, published the first Nautical Almanac.' The passage sets that casting aside and credits him with making the astronomical method practical.

Mechanism C1 — Overstatement — hedge removed

8 **NOT GIVEN** · Paragraph 2.

The passage gives the wreck in 1707 and the Act 'seven years later', in consecutive sentences. It never says one caused the other, and putting two events in sequence is not the same as connecting them.

Mechanism B4 — Cause supplied by the reader

9 **FALSE** · Paragraph 5.

'It was a demonstration nobody could argue with, and the Board of Longitude argued with it anyway.' The first half of that sentence is what a quick reader takes away, and the second half is the answer.

Mechanism D1 — Statement moved from another paragraph

Questions 10–13

10 **fifteen** / 15 · Paragraph 1.

'Every hour of difference is **fifteen** degrees.'

Mechanism R — Straight retrieval — no trap

11 **thickens** · Paragraph 4.

'bearings that needed no oil, because oil **thickens** with cold'. The bimetallic strip in the same sentence deals with expansion, which is a different problem.

Mechanism A3 — Category swap inside a pair the passage keeps apart

12 **eighty-one** / 81 / **eighty one** · Paragraph 5.

'lost about five seconds in **eighty-one** days'. The five is handed to you in the stem and counts seconds, not days.

Mechanism A1 — Quantity re-attached to another noun

13 **degree** · Paragraph 2.

'to within half a **degree** at the end of a voyage to the West Indies'. Two minutes in six weeks is the same requirement restated as time, in the next clause.

Mechanism E1 — Synonym substitution, passage keyword parked on a decoy

Questions 14–20

14 i · Section A.

The expedition went to find hot springs and carried no biologist. Heading ii describes an expedition that got what it came for, which is what this one did not.

Mechanism E4 — Minimal-pair options

15 iii · Section B.

'more animal flesh per square metre than in most shallow seas', against an expectation of a desert. Heading iv states the expectation rather than the finding.

Mechanism E4 — Minimal-pair options

16 v · Section C.

No mouth, no gut, no anus, and no route by which anything could get in. Heading vi supplies a diet the section says nobody could identify.

Mechanism E4 — Minimal-pair options

17 vii · Section D.

Cavanaugh's proposal, made 'during a seminar in which the worms were being described'.

Mechanism R — Straight retrieval — no trap

18 viii · Section E.

'The proposal was testable and it was tested' — bacteria at billions per gram, and the enzymes to match.

Mechanism R — Straight retrieval — no trap

19 ix · Section F.

'That phrase is not quite right and the correction matters.'

Mechanism R — Straight retrieval — no trap

20 x · Section G.

The search for life elsewhere, and the moons with ice-covered oceans.

Mechanism R — Straight retrieval — no trap

Questions 21–23

21 A · Section G.

'had to preserve the first specimens in vodka from the ship's stores, because nothing aboard had been packed for keeping animals'.

Mechanism R — Straight retrieval — no trap

22 B · Section D.

The bacteria inside the worm's large organ, oxidising sulfide.

Mechanism R — Straight retrieval — no trap

23 C · Section E.

'Holger Jannasch and others established that the bacteria of the vents could indeed build organic matter using chemical energy.' Cavanaugh proposed the arrangement; confirming that the chemistry works at all was somebody else's work.

Mechanism D2 — Intermediate actor named beside the originator

Questions 24–26

24 B · Section A.

'too little was escaping by simple conduction to account for the totals'. A reverses the direction of the discrepancy, which is what the circulating water was proposed to make up.

Mechanism A6 — Direction of change reversed

25 C · Section F.

'the oxygen dissolved in deep seawater was put there by photosynthesis at the surface. Remove the sun and the vents would not run in their present form.' The passage still calls the energy source chemical, which is the part that survives.

Mechanism C3 — A conditional fact stated as universal

26 A · Section G.

'life turned out to be possible wherever there is an energy gradient and liquid water, which reshaped the search for it elsewhere'. B and C attach details of the vents to places the passage says nothing of the kind about.

Mechanism B3 — Superlative moved to another dimension

Questions 27–31

27 NO · Paragraph 8.

'the useful reform is not fewer meetings, which fails because it treats the symptom'.

Mechanism C2 — The extreme version the writer explicitly refused

28 YES · Paragraph 7.

'people who will not write an objection will voice one when they hear it contradicted'.

Mechanism R — Straight retrieval — no trap

29 NOT GIVEN · Paragraph 5.

The passage says that where they are *not* treated as binding, meetings multiply. How common that is, in most organisations or anywhere else, is never stated.

Mechanism A2 — Scope widened or narrowed by dropping a qualifier

30 NO · Paragraph 6.

'It is not always cynical: in an organisation that punishes individual error harshly, seeking company before acting is rational behaviour.'

Mechanism C2 — The extreme version the writer explicitly refused

31 YES · Paragraph 4.

'a decision made in front of witnesses becomes hard to un-make quietly afterwards'.

Mechanism R — Straight retrieval — no trap

Questions 32–36

32 budget · Paragraph 2.

'its cost is distributed across other people's calendars and appears in no **budget**'.

Mechanism R — Straight retrieval — no trap

33 speed · Paragraph 3.

'It can be read at the reader's **speed**, skipped by those who know it already.'

Mechanism R — Straight retrieval — no trap

34 writing · Paragraph 4.

'That property is genuinely difficult to produce in **writing**.'

Mechanism R — Straight retrieval — no trap

35 authority · Paragraph 5.

'that written decisions are not treated as binding, that **authority** is unclear, or that nobody is willing to decide alone'. The gap follows *unclear*, which the passage attaches to this word and not to the others in the list.

Mechanism A3 — Category swap inside a pair the passage keeps apart

36 **person** · Paragraph 8.

'to require of each one a named decision and a named **person** who will make it'.

Mechanism R — Straight retrieval — no trap

Questions 37–40

37 **B** · Paragraph 2.

'It is also the least interesting reason, because it would be true of anything free.' A is contradicted by the paragraph, which does the calculation in one sentence.

Mechanism D1 — Statement moved from another paragraph

38 **B** · Paragraph 4.

'the reason a decision benefits from a room is not that discussion improves it'. A, C and D are all claims the passage makes.

Mechanism C2 — The extreme version the writer explicitly refused

39 **B** · Paragraph 3.

'transmitting information at the speed of speech to an audience who can all read faster than that'.

Mechanism B1 — Relation swap

40 **A** · Paragraph 8.

Set out in the final paragraph. B is refused in paragraph 4, where the deciding meeting is the one that survives, and the passage nowhere proposes C or D.

Mechanism C2 — The extreme version the writer explicitly refused