



Deduction & Speculation (must be/can't be/could be): Advanced Speculation: Must Have Been Doing & Complex Modal Deduction

Fill in the blank with the correct option.

- When I got home at midnight, the kitchen was a mess — flour everywhere, dirty bowls in the sink, and the oven was still warm. Someone ___ all evening.
a) can't have been cooking
b) might have baked
c) must have been baking
d) should have been cleaning
- I heard some faint music coming from the flat upstairs last night, but I'm not entirely sure what it was. The neighbours ___ a small gathering.
a) could have been having
b) must have been having
c) can't have been having
d) should have been having
- The report claims that Professor Harris was conducting experiments in the lab at 3 p.m., but the security log shows he left the building at 2:15 p.m. He ___ experiments at that time.
a) must have been conducting
b) can't have been conducting
c) might have been conducting
d) may have been conducting
- Given the severity of the storm last night and the age of the roof tiles, the leak ___ by the heavy rainfall.
a) must have caused
b) can't have been caused
c) shouldn't have been caused
d) may well have been caused
- Her eyes were red and puffy when she walked into the meeting. She ___ just before she arrived.
a) might have cried
b) couldn't have been crying
c) must have been crying
d) should have been preparing
- When I called the office at 9 p.m., I could hear keyboards clicking and people talking in the background. The team ___ late to meet the deadline.
a) must have been working
b) must have worked
c) can't have been working
d) shouldn't have worked
- The defendant claims he was sleeping at home during the robbery, but his phone's GPS data places him near the bank at that exact time. He ___ at home.
a) must have been sleeping
b) can't have been sleeping
c) might have been sleeping
d) may have been sleeping
- The manuscript is dated 1342, but it contains references to events from 1450. The author ___ it in the 14th century.
a) must have written
b) might have written
c) may well have written
d) couldn't possibly have written

20. Analysis of the pottery fragments reveals traces of a glaze technique not developed until the 15th century. The vessel ____ during the medieval period as previously believed.

a) must have been produced

b) may well have been produced

c) might have been produced

d) can't have been produced



Answers

1. c) must have been baking
2. a) could have been having
3. b) can't have been conducting
4. d) may well have been caused
5. c) must have been crying
6. a) must have been working
7. b) can't have been sleeping
8. d) couldn't possibly have written
9. c) must have been playing
10. a) may have been
11. b) might have been working
12. d) must have painted
13. c) might have been doing
14. a) must have been working
15. b) must have been working
16. d) may well have questioned
17. c) can't have been doing
18. a) must have dropped
19. b) must have been drinking
20. d) can't have been produced



Explanations

1. “must have been baking” (c)

Use 'must have been + -ing' when strong evidence points to an activity that was ongoing over a period in the past. Flour, dirty bowls, and a warm oven are strong evidence of prolonged baking. 'Might have baked' is too weak for this overwhelming evidence and doesn't capture the ongoing nature ('all evening'). 'Should have been cleaning' expresses obligation, not deduction.

2. “could have been having” (a)

Use 'could have been + -ing' to speculate about a past ongoing activity when you are uncertain. 'I'm not entirely sure' signals uncertainty, so 'must have been having' (strong deduction) is too strong. 'Can't have been having' contradicts the evidence (there WAS music). 'Should have been having' expresses obligation.

3. “can't have been conducting” (b)

Use 'can't have been + -ing' when concrete evidence proves that an ongoing past activity was impossible. The security log (he left at 2:15) directly contradicts the claim that he was conducting experiments at 3 p.m. Neither 'might' nor 'may' is appropriate when the evidence is conclusive.

4. “may well have been caused” (d)

'May well have been caused' expresses a strengthened possibility — it's more than just 'may' but less certain than 'must'. The evidence (severe storm + old tiles) makes it likely but not certain, since other factors could be involved. 'Must have caused' is too strong and uses the wrong voice (active instead of passive). 'Can't have been caused' contradicts the evidence.

5. “must have been crying” (c)

Use 'must have been + -ing' for a strong deduction about an activity that was ongoing shortly before a past moment. Red and puffy eyes are strong evidence of recent crying. 'Might have cried' is too weak for such clear evidence and doesn't capture the sense of an activity in progress just before arriving. 'Couldn't have been crying' contradicts the evidence.

6. “must have been working” (a)

Use 'must have been + -ing' (not 'must have worked') because the evidence — hearing keyboards and voices during the call — shows the activity was IN PROGRESS at that specific moment. The sounds you heard are real-time evidence of an ongoing activity. 'Must have worked' would describe a completed action, but here the focus is on what was happening at the moment of the call.

7. “can't have been sleeping” (b)

Use 'can't have been + -ing' when evidence conclusively disproves an ongoing past activity. The GPS data directly contradicts his claim of sleeping at home. Digital evidence like GPS data provides near-certain proof, making 'might' and 'may' (expressing possibility) inappropriate here.

8. “couldn't possibly have written” (d)

'Couldn't possibly have written' is an emphatic form of negative deduction, stronger than 'can't have written'. The anachronistic references (1450 events in a supposedly 1342 text) make it absolutely impossible that the author wrote it when claimed. 'Possibly' intensifies the impossibility. Neither 'might' nor 'may well' is appropriate when the evidence is conclusive.

9. “must have been playing” (c)

Use 'must have been + -ing' when multiple pieces of evidence (mud, wet boots, exhaustion) point to a prolonged past activity. 'For hours' emphasises the ongoing, continuous nature, making the progressive form essential. 'Might have played' is too weak for such strong evidence and doesn't capture the extended duration. 'Should have been studying' expresses obligation.

10. “may have been” (a)

In formal and academic writing, 'may have been' is used for cautious speculation when evidence is suggestive but not conclusive. The phrase 'though further research is needed' explicitly signals uncertainty, making 'must have been' (strong certainty) inappropriate. Academic English favours hedged language — 'may' rather than 'must' — when conclusions are preliminary.

11. “might have been working” (b)

Use 'might have been + -ing' when the cause is uncertain and someone is offering a possible explanation. 'Nobody knows exactly' signals uncertainty, so 'must have been working' (strong deduction) is too strong. The engineers are suggesting a possibility, not stating a certainty. 'Can't have been working' contradicts their suggestion.

12. “must have painted” (d)

Use 'must have + past participle' (not 'must have been painting') because the evidence shows a COMPLETED result — the entire fence is finished. 'Must have been painting' would emphasise an activity still in progress, but here the job is clearly done. This is a key C1 distinction: use the simple perfect for completed outcomes and the progressive for activities viewed as ongoing.

13. “might have been doing” (c)

Use 'might have been + -ing' when you are uncertain about a past ongoing activity. 'I'm not sure' directly signals uncertainty, making 'must have been doing' too strong. The building materials are circumstantial evidence that supports a possible explanation, not a certain one. 'Can't have been doing' contradicts this evidence.

14. “must have been working” (a)

Use 'must have been + -ing' when strong physical evidence (greasy hands) points to an activity that was ongoing shortly before a specific past moment. The progressive form captures the sense that the work was in progress leading up to his arrival. 'Might have worked' is too weak for such direct evidence. 'Would have been working' expresses a conditional, not a deduction.

15. “must have been working” (b)

Use 'must have been + -ing' (not 'must have worked') because the evidence — seeing the light on AT 3 a.m. — tells us what was happening at that specific moment. The activity was in progress at the time of observation. 'Must have worked' would describe a completed action, but the light on at 3 a.m. shows the work was still ongoing.

16. “may well have questioned” (d)

'May well have questioned' expresses a strengthened possibility — stronger than simple 'may' but not as certain as 'must'. The profit drop and resignations are suggestive evidence, but we cannot be certain about private boardroom discussions. 'Must have been questioning' is too strong when we have no direct evidence of what happened behind closed doors.

17. “can't have been doing” (c)

Use 'can't have been + -ing' when video evidence conclusively disproves a claimed ongoing activity. The surveillance footage shows an empty, dark building — this directly contradicts the guard's claim of doing rounds. When evidence is this conclusive, neither 'might' nor 'may well' (both expressing possibility) is appropriate.

18. “must have dropped” (a)

Use 'must have + past participle' (not 'must have been dropping') because dropping off a package is a brief, completed action — not an extended, ongoing activity. The progressive form 'must have been dropping' would imply a prolonged process, which doesn't match the reality of a quick delivery. The evidence (package there, driver gone) confirms the completed action.

19. “must have been drinking” (b)

Use 'must have been + -ing' because the evidence describes a scene observed at the moment of arrival — flushed faces, laughter, half-empty bottles — showing the activity was still in progress when you walked in. 'For quite some time before we joined them' further emphasises the ongoing, continuous nature. 'Must have drunk' would describe a completed action but doesn't capture the sense that the drinking was ongoing at the time of your arrival.

20. “can't have been produced” (d)

Use 'can't have been + past participle' when scientific evidence makes a past event impossible. The presence of a 15th-century glaze technique proves the vessel cannot date from the earlier medieval period. In academic contexts, 'can't have been produced' presents a firm, evidence-based conclusion. Neither 'may well' nor 'might' is appropriate when material analysis provides conclusive proof.