9.1 Verbal arguments: assumptions, alternative causes and evidence direction

Name: _____ Class: _____ Date: _____

KEY WORDS self-selection • necessary assumption

Objective

Separate observations, assumptions and conclusions; Choose evidence that strengthens or weakens the precise argument; Use an assumption's negation to test whether the argument depends on it.

Original public tasks and locally authored marking guidance. No official score is assigned.

1 Key knowledge and worked examples

self-selection : People's choice of a group that may create relevant baseline differences.

necessary assumption : A premise whose failure undermines the given reasoning.

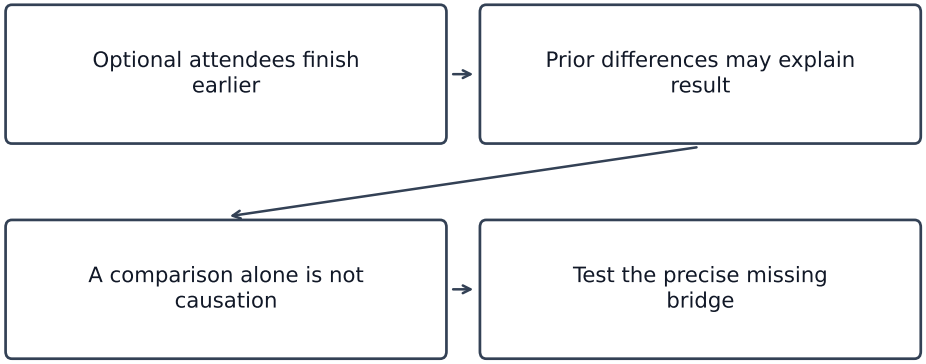
Translate a short argument into evidence, conclusion and missing bridge. An assumption is what the reasoning needs but has not established. Avoid searching for a sentence that merely sounds reasonable or morally desirable. The target is the inference from these premises to this conclusion.

For a causal claim, test alternative explanations, reverse direction and relevant baseline differences. Evidence that an outcome followed a change establishes sequence; it does not isolate the change's effect. A comparison group helps only if important conditions are sufficiently comparable or accounted for.

Strengthening and weakening are directional rather than absolute. A relevant new fact can make the conclusion more or less plausible without proving or refuting it. Ask how the fact changes the link: supports a missing mechanism, removes a competing cause, exposes a selection bias or shows the result under opposite conditions.

For a necessary-assumption task, negate a candidate carefully and ask whether the stated argument loses its support. This technique identifies dependence, not universal truth. Some options are sufficient for a conclusion but stronger than necessary. Keep claim scope precise: average improvement differs from every participant improving.

Original argument: "Students who chose the optional revision workshop scored higher than those who did not. Therefore the workshop caused the higher scores." Missing bridge: self-selection did not adequately explain the difference. If workshop attendees were already scoring higher before it began, the conclusion weakens. If comparable students were randomly allocated and only attendance differed, the causal inference strengthens. Neither the workshop's popularity nor its colourful materials isolates an effect. For "every attendee improved," an average group increase alone is insufficient because individual outcomes can differ.



Comparing self-selected groups is not causation; test the missing bridge

2 Practice

2.1 Original argument: "Participants who chose an optional planning session finished their projects earlier. Therefore the session caused faster completion." Which most weakens the inference? A. Participants already completed previous projects earlier than nonparticipants. B. The room was recently painted. C. The session used printed notes. D. Many participants liked the session.

3 Exam-style questions

3.1 An organiser argues: “A guide will prevent all registration errors because every applicant can read it.” State a necessary assumption about accessibility, test its negation and distinguish it from the stronger claim that everyone actually reads the guide. Propose evidence that would strengthen the recommendation without proving “all”.

Solutions

2.1 A. A pre-existing completion difference supplies a self-selection explanation. B and C have no stated connection to the outcome; D measures satisfaction rather than causal effect. A does not prove the session had no effect. It weakens the inference that the observed group difference establishes the claimed cause.

3.1 A necessary accessibility bridge is that no applicant is unable to understand the guide's relevant instructions. Negating it gives at least one applicant unable to understand them; the universal prevention argument loses its stated support. Accessibility is weaker than actual reading, and neither alone guarantees that every action is performed correctly. A comparison showing fewer errors among comparable applicants using the guide would strengthen an effectiveness claim, while still not proving zero errors for every applicant. Other necessary assumptions, such as instructions covering the possible errors, are valid when their negation is tied to the exact universal claim.

Local review checklist: follow every response instruction; support the answer with the stated evidence; explain rejected alternatives or an opposing view; check scope, restrictions and clarity. For writing, this is a formative checklist, not an official rubric score.