

Name: _____

Date: _____

Answer Key: Outsmart the Sophists: A 10th Grade Logic and Critical Thinking Quiz

Deconstruct complex arguments using syllogistic reasoning and formal inference techniques to sharpen analytical decision-making skills.

1. A defense attorney argues: 'My client cannot be a thief because he is a devoted father and donates to the local animal shelter.' Which logical fallacy is being committed?

Answer: B) Red herring

This is a red herring because the client's character as a father is irrelevant to the specific factual question of whether he committed a theft.

2. In formal logic, a _____ is a deductive argument consisting of two premises and a conclusion, where the conclusion is drawn from the relationship between the terms in the premises.

Answer: C) Syllogism

A syllogism is the classic structure of categorical logic, most famously exemplified by the 'All men are mortal' argument.

3. In a valid deductive argument, if all the premises are true, the conclusion must also be true by necessity.

Answer: A) True

Validity refers to the structural strength of an argument where the conclusion follows undeniably if the premises are true.

4. Consider this statement: 'If it is a Tuesday, the cafeteria serves tacos. Today is not a Tuesday. Therefore, the cafeteria is not serving tacos.' What error in reasoning is occurring here?

Answer: A) Denying the antecedent

This is a formal fallacy called 'denying the antecedent.' Just because the condition (Tuesday) isn't met doesn't mean the result (tacos) cannot happen for other reasons.

5. When a conclusion is drawn by moving from specific observations to a broader generalization, the thinker is using _____ reasoning.

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Answer: C) Inductive

Inductive reasoning builds upward from specific patterns to form probable (though not certain) general rules.

6. The 'Genetic Fallacy' occurs when an argument is judged as either good or bad based solely on where it came from or who said it.

Answer: A) True

The genetic fallacy ignores the merits of the content and focuses on the origins of the idea to invalidate it.

7. Which logical principle is applied in the following scenario: 'To graduate, you must pass Math or Science. You failed Science. Therefore, you must pass Math.'

Answer: C) Disjunctive Syllogism

A disjunctive syllogism works by eliminating one of the 'Either/Or' possibilities to confirm the other.

8. A 'Sound' argument is one that is both _____ and has premises that are actually true in the real world.

Answer: B) Valid

Soundness requires two things: the logical structure must be valid, and the facts (premises) must be correct.

9. A historian writes: 'No one has ever proven that King Arthur didn't exist, so he must have been a real historical figure.' This represents an Appeal to _____.

Answer: C) Ignorance

The Appeal to Ignorance (argumentum ad ignorantiam) claims that a proposition is true simply because it has not yet been proven false.

10. In logic, the 'Law of Identity' states that a thing is the same as itself (A = A).

Answer: A) True

This is one of the three classical laws of thought; it ensures that terms remain consistent throughout an argument.