

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.

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**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.**

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**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.