Answer Key: Think Fast! Level Up Your Logic Skills for University Success

Can you spot a shaky premise before it collapses? Deconstruct complex syllogisms and expose hidden informal fallacies in real-world scenarios.

---

1. In a philosophical debate regarding aesthetics, an artist argues: 'You cannot critique the composition of this mural because you have never painted a public installation yourself.' Which informal fallacy is being utilized?

Answer: B) Ad Hominem (Circumstantial/Tu Quoque)

> By attacking the critic's personal background and experience rather than addressing the specific points of the critique, the artist commits an ad hominem fallacy.

2. True or False: In formal logic, an argument is considered 'sound' if and only if it is structurally valid and all of its premises are empirically true.

Answer: A) True

> Validity refers to the structure of the inference, but soundness requires both logical validity and actual truth in the premises.

3. Apply the rule of Hypothetical Syllogism. Premise 1: If the central bank raises interest rates, then borrowing will decrease. Premise 2: If borrowing decreases, then consumer spending will slow down. Conclusion: _____.

Answer: C) If the central bank raises interest rates, then consumer spending will slow down.

> Hypothetical Syllogism is a valid argument form (If P then Q; if Q then R; therefore if P then R) that links conditional statements.

4. Consider the following: 'Every piece of software I have downloaded from this developer has been bug-free. Therefore, the next update they release will likely be bug-free.' This is an example of:

Answer: C) Inductive Generalization

> Inductive reasoning uses specific past observations to establish a probabilistic, rather than certain, conclusion about the future.

Name: _____   Date: _____

5. In the context of the 'Burden of Proof,' the claimant (the person making the assertion) is responsible for providing evidence, rather than the skeptic being responsible for disproving it.

Answer: A) True

Logically, 'onus probandi' lies with the person making the positive claim; you cannot prove a negative (that something does not exist).

6. Identify the logical operator missing here: In formal notation, the statement 'Neither the witness nor the defendant was present' is represented as the _____ of two negated propositions.

Answer: B) Conjunction

The 'neither/nor' structure translates to (Not A) AND (Not B), which is a conjunction of two negative statements.

7. An advocate for urban farming states: 'If we don't convert every vacant lot into a garden immediately, our city will face a total food systemic collapse within two years.' This reasoning primarily exemplifies a:

Answer: B) False Dilemma

The speaker presents only two extreme options (immediate conversion or total collapse), ignoring more moderate solutions or timelines.

8. In symbolic logic, the invalid argument 'If it is a diamond, it is hard; this substance is hard; therefore, it is a diamond' is a formal fallacy known as _____.

Answer: B) Affirming the Consequent

Just because the consequent (hardness) is true, it does not mean the specific antecedent (diamond) must also be true, as other substances are hard.

9. True or False: A 'Reductio ad Absurdum' is a valid method of argument that proves a claim by showing its denial leads to a logical contradiction.

Answer: A) True

This technique, 'reduction to absurdity,' is a cornerstone of mathematical and philosophical proof.

10. Which of the following best describes the 'Principle of Charity' in critical thinking?

Answer: B) Interpreting an opponent's argument in its strongest possible form before critiquing it.

The Principle of Charity ensures you are refuting the actual best version of an idea, avoiding the 'Straw Man' fallacy.