Middle School Logic Fundamentals

Logic · Answer Key · 10 Questions

1. What term describes a statement in logic that provides support or evidence for a conclusion?

A) Premise
B) Corollary
C) Fallacy
D) Paradox

2. Which type of logical reasoning moves from general rules to a guaranteed specific conclusion?

A) Inductive reasoning
B) Deductive reasoning
C) Abductive reasoning
D) Circular reasoning

3. Which ancient philosopher developed the syllogism, a classic three-part form of deductive logic?

A) Plato
B) Socrates
C) Aristotle
D) Pythagoras

4. In Boolean logic, which logical operator returns True only when both statements being evaluated are True?

A) OR
B) NOT
C) XOR
D) AND

5. What is a specific example that proves a general logical claim or statement is false?

A) Hypothesis
B) Counterexample
C) Axiom
D) Theorem

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6. Which form of reasoning involves looking at specific observations to make a general rule or conclusion?

A) Inductive reasoning
B) Deductive reasoning
C) Syllogistic reasoning
D) Formal proof

7. What visual diagram uses overlapping circles to represent the logical relationships between sets?

A) Scatter plot
B) Flowchart
C) Venn diagram
D) Histogram

8. In symbolic logic, what is the operation that flips the truth value of a statement from true to false?

A) Conjunction
B) Disjunction
C) Negation
D) Implication

9. What is the formal term for a flaw or error in reasoning that makes an argument invalid?

A) Axiom
B) Fallacy
C) Postulate
D) Paradox

10. In Boolean logic, what is the output of the expression 'True OR False'?

A) False
B) True
C) Undefined
D) Null