

Understanding Logic for Young Thinkers

Logic · Answer Key · 17 Questions

1. What is logic primarily concerned with?

- A) The study of numbers
- B) The art of making things look pretty
- C) The principles of correct reasoning**
- D) The history of ancient civilizations

2. Which word best describes the main goal of using logic?

- A) Imagination
- B) Chaos
- C) Truth**
- D) Speed

3. In logic, what is a 'statement'?

- A) A question that needs an answer
- B) A command to do something
- C) A sentence that can be true or false**
- D) A feeling or an emotion

4. What do we call the state of a statement being either true or false?

- A) Its color value
- B) Its truth value**
- C) Its emotional value
- D) Its size value

5. When we use specific observations to form a general rule, what kind of reasoning are we using?

- A) Deductive reasoning
- B) Inductive reasoning**
- C) Circular reasoning
- D) Random reasoning

6. What is a 'premise' in a logical argument?

- A) The final answer to a problem
- B) A guess about the future
- C) A statement given as a reason for a conclusion**
- D) A type of food

7. What is the 'conclusion' in a logical argument?

- A) A question asked at the end
- B) The main idea that the premises are trying to prove**
- C) An unrelated fact
- D) A funny joke

8. If a statement says 'It is NOT raining,' what does the 'NOT' do to the original idea of rain?

- A) Makes it rain harder
- B) Makes it unclear
- C) Reverses its truth value**
- D) Adds more information

9. What does the logical connector 'AND' mean when used between two parts of a statement?

- A) Only the first part needs to be true
- B) Only the second part needs to be true
- C) At least one part must be true
- D) Both parts must be true**

10. What does the logical connector 'OR' mean when used between two parts of a statement?

- A) Neither part can be true
- B) Both parts must be false
- C) At least one part must be true (or both)**
- D) Only one part can be true, never both

11. What is a 'fallacy' in logic?

- A) A type of dance move
- B) A trick or illusion
- C) A mistake in reasoning**
- D) A very difficult math problem

12. When an argument is structured so that if its premises are true, its conclusion **must be true, what is it called?**

- A) Invalid
- B) Valid**
- C) Creative
- D) Ambiguous

13. What is the main purpose of critical thinking?

- A) To believe everything you hear
- B) To find fault with others
- C) To analyze information and form reasoned judgments**
- D) To avoid thinking deeply

14. If you say, 'All dogs are animals, and my pet is a dog, so my pet is an animal,' what kind of reasoning are you using?

- A) Inductive reasoning
- B) Abductive reasoning
- C) Deductive reasoning**
- D) Random reasoning

15. What is it called when two statements cannot both be true at the same time?

- A) Agreement
- B) Consensus
- C) Contradiction**
- D) Support

16. What is a 'counterexample' used for in logic?

- A) To prove a statement is true
- B) To make an argument longer
- C) To show that a general statement is false**
- D) To add an opinion to a fact

17. Why is it important for statements in logic to be clear and unambiguous?

- A) To make them sound more important
- B) To ensure everyone understands the exact meaning**
- C) To hide their true meaning
- D) To make them harder to understand