

Test Bank

Chapter 2: What Is Science?

Logic Questions

1. Major premise: If a country has a strong economy, the government will be popular.

Minor premise: The government is not popular.

Conclusion: Therefore, the country does not have a strong economy.

Is this a valid argument?

A. Yes.

B. No.

Ans: A

Cognitive Domain: Application

Difficulty Level: Hard

2. Major premise: If a country has a strong economy, the government will be popular.

Minor premise: The government is not popular.

Conclusion: Therefore, the country does not have a strong economy.

What form (what type of categorical syllogism) does this argument take?

A. affirming the antecedent

B. denying the antecedent

C. affirming the consequent

D. denying the consequent

Ans: D

Cognitive Domain: Comprehension

Difficulty Level: Medium

3. Major premise: If the president commits a criminal act, then he can be impeached.

Minor premise: The president does not commit a criminal act.

Conclusion: Therefore, the president cannot be impeached.

Is this a valid argument?

A. Yes.

B. No.

Ans: B

Cognitive Domain: Application

Difficulty Level: Hard

4. Major premise: If the president commits a criminal act, then he can be impeached.

Minor premise: The president does not commit a criminal act.

Conclusion: Therefore, the president cannot be impeached.

What form (what type of categorical syllogism) does this argument take?

- A. affirming the antecedent
- B. denying the antecedent
- C. affirming the consequent
- D. denying the consequent

Ans: B

Cognitive Domain: Comprehension

Difficulty Level: Medium

5. Major premise: If the president commits a criminal act, then he can be impeached.

Minor premise: The president cannot be impeached.

Conclusion: Therefore, the president has not committed a criminal act.

Is this a valid argument?

- A. Yes
- B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Hard

6. Major premise: If the president commits a criminal act, then he can be impeached.

Minor premise: The president cannot be impeached.

Conclusion: Therefore, the president has not committed a criminal act.

What form (what type of categorical syllogism) does this argument take?

- A. affirming the antecedent
- B. denying the antecedent
- C. affirming the consequent
- D. denying the consequent

Ans: D

Cognitive Domain: Comprehension

Difficulty Level: Medium

7. Major premise: If a country employs proportional representation electoral rules, it will have many parties.

Minor premise: The country does not employ proportional representation electoral rules.

Conclusion: Therefore, the country does not have many parties.

Is this a valid argument?

- A. Yes
- B. No

Ans: B

Cognitive Domain: Application

Difficulty Level: Hard

8. Major premise: If a country employs proportional representation electoral rules, it will have many parties.

Minor premise: The country does not employ proportional representation electoral rules.

Conclusion: Therefore, the country does not have many parties.

What form (what type of categorical syllogism) does this argument take?

- A. affirming the antecedent
- B. denying the antecedent
- C. affirming the consequent
- D. denying the consequent

Ans: B

Cognitive Domain: Comprehension

Difficulty Level: Medium

9. Major premise: If theory T is correct, all rich countries will be democracies.

Minor premise: All rich countries are democracies.

Conclusion: Therefore, theory T is correct.

Is this a valid argument?

- A. Yes
- B. No

Ans: B

Cognitive Domain: Application

Difficulty Level: Hard

10. Major premise: If theory T is correct, all rich countries will be democracies.

Minor premise: All rich countries are democracies.

Conclusion: Therefore, theory T is correct.

What form (what type of categorical syllogism) does this argument take?

- A. affirming the antecedent
- B. denying the antecedent
- C. affirming the consequent
- D. denying the consequent

Ans: C

Cognitive Domain: Comprehension

Difficulty Level: Medium

11. Consider the following premise: "If theory T is correct, all rich countries will be democracies." If you wanted to demonstrate that theory T was wrong, what would you have to observe?

- A. a poor democracy
- B. a rich dictatorship
- C. a poor dictatorship
- D. a rich democracy

Ans: B

Cognitive Domain: Comprehension

Difficulty Level: Medium

12. Major premise: If a country's electoral rules are permissive, then votes should be translated into seats in a fairly proportional manner.

Minor premise: In the most recent election, votes were not translated into seats in a proportional manner.

Conclusion: Therefore, the country's electoral rules are not permissive.

Is this a valid argument?

A. Yes

B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Hard

13. Major premise: If a country's electoral rules are permissive, then votes should be translated into seats in a fairly proportional manner.

Minor premise: In the most recent election, votes were not translated into seats in a proportional manner.

Conclusion: Therefore, the country's electoral rules are not permissive.

What form (what type of categorical syllogism) does this argument take?

A. affirming the antecedent

B. denying the antecedent

C. affirming the consequent

D. denying the consequent

Ans: D

Cognitive Domain: Comprehension

Difficulty Level: Medium

14. Major premise: If a country has a participant culture, then democracy in that country will be stable.

Minor premise: Democracy in country X is stable.

Conclusion: Therefore, country X has a participant culture.

Is this a valid argument?

A. Yes

B. No

Ans: B

Cognitive Domain: Application

Difficulty Level: Hard

15. Major premise: If a country has a participant culture, then democracy in that country will be stable.

Minor premise: Democracy in country X is stable.

Conclusion: Therefore, country X has a participant culture.

What form (what type of categorical syllogism) does this argument take?

A. affirming the antecedent

B. denying the antecedent

C. affirming the consequent

D. denying the consequent

Ans: C

Cognitive Domain: Comprehension

Difficulty Level: Medium

16. A valid argument is

- A. one where the conclusion is true.
- B. one where the conclusion is false.
- C. one where you do not have to accept the conclusion if you accept the premises.
- D. one where you have to accept the conclusion if you accept the premises.

Ans: D

Cognitive Domain: Knowledge

Difficulty Level: Easy

17. The deductive approach to learning

- A. starts with a set of observations and then tries to ascertain a pattern in the observations that can be used to generate an explanation.
- B. formulates an expectation about what we ought to observe in light of a particular theory about the world and then sets out to see if the observations are consistent with that theory.

Ans: B

Cognitive Domain: Comprehension

Difficulty Level: Easy

18. If I observe a pattern in political events and decide to generate an explanation for those events, I am practicing _____ approach to learning.

- A. deductive
- B. inductive
- C. deterministic
- D. probabilistic

Ans: B

Cognitive Domain: Knowledge

Difficulty Level: Easy

19. If I derive some implications from a theory and collect observations to see if they are consistent with that theory, I am practicing _____ approach to learning.

- A. deductive
- B. inductive
- C. deterministic
- D. probabilistic

Ans: A

Cognitive Domain: Knowledge

Difficulty Level: Easy

20. Inductive reasoning is problematic because it relies on

- A. affirming the antecedent.
- B. denying the antecedent.
- C. affirming the consequent.
- D. denying the consequent.

Ans: C

Cognitive Domain: Comprehension

Difficulty Level: Easy

Scientific Statements

1. "Smoking increases the probability of getting cancer." Is this a scientific statement?

- A. Yes

B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

2. "The sun revolves around the earth." Is this a scientific statement?

A. Yes

B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

3. "Education spending increases under left-wing governments." Is this a scientific statement?

A. Yes

B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

4. "Iceland is a country." Is this a scientific statement?

A. Yes

B. No

Ans: B

Cognitive Domain: Application

Difficulty Level: Medium

5. "Religious faith assures a person a place in the afterlife." Is this a scientific statement?

A. Yes

B. No

Ans: B

Cognitive Domain: Application

Difficulty Level: Medium

6. "Democracies are less likely to go to war than dictatorships." Is this a scientific statement?

A. Yes

B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

7. "Democratic leaders are more likely to provide public goods for their citizens than dictators are." Is this a scientific statement?

A. Yes

B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

8. "Dictators are more likely to provide public goods for their citizens than democratic leaders are." Is this a scientific statement?

A. Yes

B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

9. “Smoking causes people to be taller than six feet.” Is this a scientific statement?

A. Yes

B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

10. “All mainstream U.S. senators agree that the House bill is unacceptable.” Is this statement scientific if “mainstream” is defined in terms of the acceptability of the House bill?

A. Yes

B. No

Ans: B

Cognitive Domain: Application

Difficulty Level: Medium

11. “All mainstream U.S. senators agree that the House bill is unacceptable.” Is this statement scientific if “mainstream” is defined in terms of the ideology of the senators?

A. Yes

B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

12. “All good students get high grades.” Is this statement scientific if “good” is defined in terms of a student’s grade?

A. Yes

B. No

Ans: B

Cognitive Domain: Application

Difficulty Level: Medium

13. “All good students get high grades.” Is this statement scientific if “good” is defined in terms of a student’s enthusiasm?

A. Yes

B. No

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

Necessary and Sufficient Conditions

1. “If a DEMOCRACY IS WEALTHY, then it will stay a democracy.” Are the conditions shown in capital letters sufficient or necessary to produce the effects described?

A. Sufficient

B. Necessary

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

2. "A country cannot maintain a democratic form of government unless IT HAS A CULTURE THAT PROMOTES CIVIC PARTICIPATION." Are the conditions shown in capital letters sufficient or necessary to produce the effects described?

A. Sufficient

B. Necessary

Ans: B

Cognitive Domain: Application

Difficulty Level: Medium

3. "Countries have many parties only WHEN THEY EMPLOY PROPORTIONAL ELECTORAL RULES." Are the conditions shown in capital letters sufficient or necessary to produce the effects described?

A. Sufficient

B. Necessary

Ans: B

Cognitive Domain: Application

Difficulty Level: Medium

4. "Countries always have few parties WHEN THEY EMPLOY MAJORITARIAN ELECTORAL RULES." Are the conditions shown in capital letters sufficient or necessary to produce the effects described?

A. Sufficient

B. Necessary

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

5. "IF A COUNTRY'S POPULATION IS ETHNICALLY HETEROGENEOUS, then it will experience political conflict." Are the conditions shown in capital letters sufficient or necessary to produce the effects described?

A. Sufficient

B. Necessary

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

6. "A country cannot maintain democracy UNLESS IT HAS A TOLERANT CULTURE." Are the conditions shown in capital letters sufficient or necessary to produce the effects described?

A. Sufficient

B. Necessary

Ans: B

Cognitive Domain: Application

Difficulty Level: Medium

7. “Countries always maintain democratic regimes IF THEY HAVE A STRONG URBAN CLASS.”

Are the conditions shown in capital letters sufficient or necessary to produce the effects described?

A. Sufficient

B. Necessary

Ans: A

Cognitive Domain: Application

Difficulty Level: Medium

Science

1. A falsifiable statement means that

A. the statement is not scientific.

B. the statement is wrong.

C. the statement is potentially testable.

Ans: C

Cognitive Domain: Knowledge

Difficulty Level: Easy

2. Scientists never prove that their theories are correct. However, they can

A. demonstrate that their theories are logically valid.

B. use empirical evidence to show that their theories are wrong.

C. claim that some theories have more empirical support than others.

D. all of these.

Ans: D

Cognitive Domain: Comprehension

Difficulty Level: Easy

3. A scientific statement must be falsifiable.

A. True

B. False

Ans: A

Cognitive Domain: Knowledge

Difficulty Level: Easy

4. Science is a collection of facts—it tells us what we know about the world.

A. True

B. False

Ans: B

Cognitive Domain: Knowledge

Difficulty Level: Easy

5. Statements that cannot ever be tested must be wrong.

A. True

B. False

Ans: B

Cognitive Domain: Knowledge

Difficulty Level: Easy

Comparative Method

1. Imagine that an analyst is interested in understanding why civil wars occur. If the analyst chooses to study only cases in which civil wars have occurred (e.g., in the Congo, Greece, Spain, Sri Lanka, the United States, and Yugoslavia), then she is using

- A. Mill's Method of Agreement.
- B. Mill's Method of Difference.
- C. Mill's Method of Agreement and Method of Difference.

Ans: A

Cognitive Domain: Application

Difficulty Level: Hard

2. Imagine that an analyst is interested in understanding why civil wars occur. If the analyst chooses to study some cases in which civil war occurred (Greece, Spain, and Yugoslavia. and some cases in which they did not (Belgium, Italy, Switzerland), then he is using

- A. Mill's Method of Agreement.
- B. Mill's Method of Difference.
- C. Mill's Method of Agreement and Method of Difference.

Ans: B

Cognitive Domain: Application

Difficulty Level: Hard

3. According to the discussion in Chapter 2, it is possible for scientists to draw valid inferences from Mill's Methods of Agreement and Difference only if

- A. the causal process is deterministic.
- B. all the potential causes have been identified.
- C. there is a single cause of the outcome.
- D. none of these
- D. all of the assumptions listed must hold.

Ans: E

Cognitive Domain: Comprehension

Difficulty Level: Easy