Introduction to Game Theory

Mathematics · Answer Key · 18 Questions

1. Who is often considered one of the founding fathers of modern game theory?

A) Isaac Newton
B) John von Neumann
C) Albert Einstein
D) Charles Darwin

2. In game theory, what term describes a situation where no player can benefit by changing their strategy while others keep theirs unchanged?

A) Nash Equilibrium
B) Zero-sum result
C) Optimal state
D) Fair play

3. What is the name of the famous game theory scenario where two suspects must decide whether to betray each other?

A) The Chess Match
B) The Prisoner's Dilemma
C) The Ultimatum Game
D) The Coin Toss

4. What type of game is defined by the rule that one person's gain is exactly equal to another person's loss?

A) Cooperative game
B) Variable-sum game
C) Zero-sum game
D) Non-zero-sum game

5. Game theory is primarily a branch of which academic field?

A) Mathematics
B) Biology
C) History
D) Literature

6. In a 'cooperative game,' players are able to do what?

A) Play alone
B) Form coalitions
C) Ignore opponents
D) Lose intentionally

7. Which board game is frequently used by researchers to study game theory and strategic move planning?

A) Chess
B) Snakes and Ladders
C) Bingo
D) Tiddlywinks

8. The study of game theory is most commonly applied in which professional field?

A) Architecture
B) Economics
C) Cooking
D) Gardening

9. What does a 'payoff' represent in game theory?

A) The cost of playing
B) The final outcome or reward
C) The time spent playing
D) The number of players

10. What is a 'player' in the context of game theory?

A) An actor in a movie
B) A participant making decisions
C) A person who plays sports
D) A mechanical robot

11. Game theory models often assume that players act in a way that is:

A) Random
B) Rational
C) Emotional
D) Forgetful

12. What type of game involves players making choices at the exact same time without knowing the other's choice?

A) Sequential game
B) Simultaneous game
C) Randomized game
D) Endless game

13. The concept of 'information' in game theory refers to:

A) The size of the board
B) What a player knows about others
C) The speed of the game
D) The cost of the game

14. Which mathematician won a Nobel Prize for his work on the Nash Equilibrium?

A) John Nash
B) Alan Turing
C) Nikola Tesla
D) Stephen Hawking

15. In game theory, a 'strategy' is best defined as:

A) A lucky guess
B) A complete plan of action
C) A forfeit
D) A way to cheat

16. A 'non-zero-sum game' is one where:

A) Total outcomes can be positive or negative
B) The sum is always zero
C) No one wins
D) The game has no rules

17. Which of these is a necessary component for a game theory model?

A) A scoreboard
B) A set of players and strategies
C) A physical ball
D) A referee

18. Game theory helps scientists understand behavior in:

A) Biological evolution
B) Weather patterns
C) Writing poetry
D) Painting portraits