

# Test Bank for Microeconomics 2nd Edition by Acemoglu

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**Acemoglu | Laibson | List**

# Test Bank

***Microeconomics & Macroeconomics, 2e (Acemoglu)***  
**Chapter 1 The Principles and Practice of Economics**

**1.1 The Scope of Economics**

1) Which of the following statements is true?

- A) All economic agents are necessarily individuals.
- B) A worker who shirks work is not an economic agent.
- C) A government is an example of an economic agent.
- D) A street gang is not an economic agent.

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Economic Agents and Economic Resources

2) Which of the following best describes scarce resources?

- A) Resources that most people cannot afford to buy
- B) Resources that can only be distributed efficiently by the government
- C) Resources for which the quantity demanded is the same for all economic agents
- D) Resources for which the quantity that people want exceeds the quantity that is freely available

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Economic Agents and Economic Resources

3) Which of the following is NOT a scarce resource?

- A) Gold
- B) Pollution
- C) Petroleum
- D) iPhones

Answer: B

Difficulty: Easy

AACSB: Application of Knowledge

Topic: Economic Agents and Economic Resources

4) In economics, scarcity refers to the situation of \_\_\_\_\_.

- A) making the best use of limited information
- B) having more wants than the amount of available resources
- C) the government rationing available goods and services
- D) sellers setting the prices of their products too high for people to be able to afford them

Answer: B

Difficulty: Medium

AACSB: Analytical Thinking

Topic: Economic Agents and Economic Resources

5) Which of the following statements is true?

- A) Gold is not a scarce resource.
- B) Both life-saving drugs and ice cream are examples of scarce goods.
- C) If a scarce resource is given away for free, everyone will be able to consume it.
- D) Scarcity means that there is an imbalance between unlimited resources and limited wants.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Economic Agents and Economic Resources

6) What are scarce resources? Why are economic agents concerned with the allocation of these resources?

Answer: Scarce resources are resources for which the quantity that agents want exceeds the quantity that is freely available. Economic agents need to satisfy their unlimited wants in a world of limited resources. This makes it important for them to understand how these scarce resources are to be used and distributed in order to optimize allocation.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Economic Agents and Economic Resources

7) Define economics. Who are economic agents?

Answer: Economics is the study of how agents choose to allocate scarce resources and how these choices affect society. An economic agent is an individual or a group that makes choices.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Economic Agents and Economic Resources

8) Economics is primarily the study of \_\_\_\_\_.

- A) the mental functions and behavior of individuals and groups
- B) the state, nation, government, and politics and policies of governments
- C) the problems related to the existence and evolution of society
- D) how agents choose to allocate scarce resources and how these choices affect society

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Definition of Economics

9) Economics is primarily the study of \_\_\_\_\_.

- A) the relationship between matter and its motion
- B) agents' choices and their impact on society
- C) events of the past and how these events affect present human behavior
- D) the different types of governments and the impact of their policies on a nation

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Definition of Economics

10) \_\_\_\_\_ is analysis that generates objective descriptions or predictions about the world that can be verified with data.

- A) Positive economics
- B) Negative economics
- C) Microeconomics
- D) Normative economics

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Positive Economics and Normative Economics

11) Which of the following is an example of a positive economic statement?

- A) The pricing policies followed in single-producer markets should be strictly supervised.
- B) Unemployment is more harmful than inflation.
- C) Higher interest rates will encourage more savings.
- D) Pollution is one of the most serious economic problems.

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Positive Economics and Normative Economics

12) Which of the following is an example of a positive economic statement?

- A) The government should ideally work as a welfare state.
- B) An increase in income causes an increase in savings.
- C) Economics is the most useful social science.
- D) Eliminating poverty is more important than reducing inflation.

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Positive Economics and Normative Economics

13) \_\_\_\_\_ economics prescribes what an individual or society ought to do.

- A) Positive
- B) Negative
- C) Behavioral
- D) Normative

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Positive Economics and Normative Economics

14) Which of the following is an example of a normative economic statement?

- A) A cut in the tax rate will lead to an increase in consumption.
- B) Relaxation of import duties will encourage imports.
- C) An increase in subsidies to farmers will boost agricultural production.
- D) An increase in social security benefits will increase the welfare of all economic agents.

Answer: D

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Positive Economics and Normative Economics

15) Which of the following is an example of a normative economic statement?

- A) An increase in government expenditure will lead to an increase in well-being.
- B) An increase in the money supply will lead to an increase in the inflation rate.
- C) An increase in income is accompanied by an increase in savings.
- D) An increase in income is accompanied by an increase in consumption.

Answer: A

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Positive Economics and Normative Economics

16) Which of the following statements is true?

- A) Positive economics deals with issues that are subjective.
- B) Normative statements depend on personal preferences.
- C) Positive economics recommends what people ought to do.
- D) Normative economic statements can be confirmed or disproven.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Positive Economics and Normative Economics

17) Which of the following statements correctly differentiates between positive and normative economics?

- A) Positive economics is descriptive, whereas normative economics is advisory.
- B) Positive economics describes what people ought to do, whereas normative economics describes what people actually do.
- C) Positive economics is based on judgments, whereas normative economics is not.
- D) Positive economics can only be applied to microeconomics, whereas normative economics can be applied to both microeconomics and macroeconomics.

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Positive Economics and Normative Economics

18) Positive economics is descriptive because \_\_\_\_\_.

- A) it is based on ethical judgments.
- B) its predictions cannot be verified with data.
- C) it prescribes what an individual or society ought to do.
- D) it explains what has happened or predicts what will happen.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Positive Economics and Normative Economics

19) Which of the following statements is true?

- A) Positive economics describes what people ought to do.
- B) Normative economics describes what people actually do.
- C) Positive economics generates objective descriptions that can be verified with data.
- D) Normative economics is free from the value judgments, tastes, and preferences of economic agents.

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Positive Economics and Normative Economics

20) Differentiate between positive and normative economics using examples.

Answer: Positive economics is analysis that generates objective descriptions or predictions about the world that can be verified with data. It is analysis that describes what people actually do. "A 5 percent fall in the unemployment rate will lead to a 2 percent increase in the inflation rate" is an example of a positive economic statement. In contrast, normative economics is analysis that prescribes what an individual or society ought to do. It is subjective and depends on personal preferences, tastes, attitudes, feelings, or ethical judgments. "Pollution in developing countries is one of the biggest global environmental problems" is an example of a normative economic statement.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Positive Economics and Normative Economics

21) Robert and Janet are discussing the unemployment and inflation in their country. Robert, on the basis of a recent newspaper report, claims that a 5 percent reduction in unemployment will lead to a 2 percent rise in inflation. In contrast, Janet insists that inflation is a far bigger problem than unemployment and should be considered as of prime importance. Classify Robert's and Janet's statements as descriptive or advisory. Explain your answer.

Answer: Robert claims that a 5 percent reduction in unemployment will lead to a 2 percent increase in inflation. This statement represents predictions that can be verified with data. Therefore, Robert's approach is positive, which means it is an analysis of things as they are. Positive economics describes what has happened or predicts what will happen. The conclusion of his statement can be verified with data and is not subject to tastes and preferences.

Janet claims that inflation is a far bigger problem than unemployment and should be addressed as an issue of prime importance. Janet's statement is normative. Normative economics is analysis that recommends what people ought to do. Unlike Robert's statement, Janet's belief that inflation is a bigger problem than unemployment is based on her values or ethical judgments. Therefore, while Robert's statement is descriptive in nature, Janet's statement is advisory.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Positive Economics and Normative Economics

22) Classify the following as positive economics statements or normative economics statements.

- a) An increase in an individual's income increases consumption, but by an amount less than the increase in income.
- b) The government should undertake the responsibility of providing healthcare to all its citizens.
- c) The government should fund infrastructure projects to foster economic development.
- d) An increase in net exports has a positive effect on a country's national income.
- e) The gross domestic product of India is increasing at 5 percent annually.

Answer: a) Positive economic statement

b) Normative economic statement

c) Normative economic statement

d) Positive economic statement

e) Positive economic statement

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Positive Economics and Normative Economics

23) \_\_\_\_\_ is the study of how individuals, households, governments, and firms make choices and how those choices affect prices, the allocation of resources, and the well-being of other agents.

A) Cost-benefit analysis

B) Microeconomics

C) Macroeconomics

D) Empiricism

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Microeconomics and Macroeconomics

24) Which of the following is a topic studied by microeconomists?

A) National income calculations

B) Price determination by a firm

C) Measures to combat inflation

D) Interest rate determination

Answer: B

Difficulty: Easy

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics

25) Which of the following is a topic studied by microeconomists?

A) Energy consumption by a firm

B) Nationwide inflation rate

C) Economic growth as a means to alleviate poverty

D) Aggregate demand and aggregate supply in an economy

Answer: A

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics

26) \_\_\_\_\_ is the study of an economy as a whole.

- A) Microeconomics
- B) Cost-benefit analysis
- C) Behavioral economics
- D) Macroeconomics

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Microeconomics and Macroeconomics

27) Which of the following is a topic studied by macroeconomists?

- A) Aggregate demand in an economy
- B) Price determination by a firm
- C) The consumption choice of a single household
- D) The production decision of a firm

Answer: A

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics

28) Which of the following is a topic studied by macroeconomists?

- A) The savings of a single household
- B) The productivity of an agricultural farm
- C) The total output of an economy
- D) Price determination in a market

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics

29) Which of the following statements is true?

- A) Microeconomics is the study of an economy as a whole.
- B) Macroeconomics studies how individuals make choices.
- C) The study of the inflation rate is covered under microeconomics.
- D) The study of the unemployment rate is covered under macroeconomics.

Answer: D

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics



30) Which of the following statements correctly highlights the difference between microeconomics and macroeconomics?

- A) Microeconomics is descriptive, whereas macroeconomics is advisory.
- B) Microeconomics primarily deals with positive analysis, whereas macroeconomics primarily deals with normative analysis.
- C) Microeconomics deals with a small part of the economy, whereas macroeconomics deals with aggregate economic performance.
- D) Microeconomics describes what economic agents actually do, whereas macroeconomics describes what economic agents ought to do.

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Microeconomics and Macroeconomics

31) Why an economy contracts during slowdowns and the analysis of appropriate policies is studied under \_\_\_\_\_.

- A) macroeconomics
- B) microeconomics
- C) agricultural economics
- D) international economics

Answer: A

Difficulty: Easy

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics

32) The impact of carbon taxes on the energy usage of individual households and firms is studied under \_\_\_\_\_.

- A) microeconomics
- B) macroeconomics
- C) normative economics
- D) positive economics

Answer: A

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics

33) The relationship between the unemployment rate and inflation is studied under \_\_\_\_\_.

- A) microeconomics
- B) macroeconomics
- C) behavioral economics
- D) international economics

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics

34) The relationship between a firm's advertising expenditure and its profit is studied under \_\_\_\_\_.

- A) microeconomics
- B) macroeconomics
- C) behavioral economics
- D) international economics

Answer: A

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics

35) How does microeconomics differ from macroeconomics?

Answer: Microeconomics is the study of how individuals, households, firms, and governments make choices, and how those choices affect prices, the allocation of resources, and the well-being of other agents. In contrast, macroeconomics is the study of the economy as a whole. The scope of macroeconomics extends to the study of economy-wide phenomena, like the growth rate of an economy, the national unemployment rate, or the inflation rate.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Microeconomics and Macroeconomics

36) A recent news report stated that the unemployment rate in the country of Lithasia had increased from 10.2 percent to 18.2 percent between 2003 and 2013 and that the government has adopted strict fiscal measures to expand employment. Would this report be considered microeconomic or macroeconomic analysis?

Answer: This report pertains to macroeconomics. Macroeconomics refers to the study of an economy as a whole. Macroeconomics covers economy-wide phenomena, like the growth rate of a country's total economic output, the inflation rate, or the unemployment rate.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics

37) Students in a class are discussing how a firm that does not face any competition in a market should decide how many units of output to supply in the market. Would this discussion be considered microeconomic or macroeconomic analysis?

Answer: Microeconomics is the study of how individuals, households, firms, and governments make choices. The students are discussing how a firm should make its output decision. This is a discussion about an individual entity and so is considered microeconomic analysis.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Microeconomics and Macroeconomics

## 1.2 Three Principles of Economics

1) Which of the following correctly defines the term "equilibrium"?

- A) It refers to a situation in which data are used to arrive at conclusions.
- B) It refers to a situation in which all economic agents are simultaneously optimizing.
- C) It refers to a situation in which an optimizing decision is made by an individual economic agent.
- D) It refers to a situation in which government intervention efficiently allocates scarce resources.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Three Principles of Economics

2) Which of the following best describes equilibrium?

- A) A situation where the government intervenes to allocate resources
- B) A situation where only one individual or firm makes an optimal decision
- C) A situation where no economic agent would benefit by changing his or her behavior
- D) A situation where economic agents do not optimize as they do not have perfect information

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Three Principles of Economics

3) Empiricism is analysis that uses \_\_\_\_\_ to test theories.

- A) data
- B) illustrations
- C) philosophy
- D) value judgments

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Three Principles of Economics

4) Which of the following is NOT a key principle of economics?

- A) Optimization
- B) Equilibrium
- C) Empiricism
- D) Substitution

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Three Principles of Economics

5) Define the three key principles of economics.

Answer:

- i) Optimization: optimization refers to the process of choosing the best option from a set of alternatives, given the available information.
- ii) Equilibrium: equilibrium is a special situation all agents are simultaneously optimizing, so that nobody would benefit personally by changing his or her behavior.
- iii) Empiricism: empiricism is analysis that is evidence-based—it uses data to test theories and to determine what is causing things to happen in the world.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Three Principles of Economics

### 1.3 The First Principle of Economics: Optimization

1) Which of the following statements is true of optimization?

- A) Optimization analysis only relates to the financial budget of an economic agent.
- B) Individuals who optimize do not consider costs when choosing the most feasible alternative.
- C) Economic agents can optimize only when they are able to perfectly estimate all future costs and benefits.
- D) Economic agents who optimize attempt to choose the best feasible option, given the information that they have.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The First Principle of Economics: Optimization

2) Feasible options are options that are \_\_\_\_\_.

- A) available and affordable
- B) available but not affordable
- C) affordable but not available
- D) optimal for an economic agent

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The First Principle of Economics: Optimization

3) A consumer has \$40 that he wants to spend. He faces four choices: a camera that costs \$60, a cell phone that costs \$150, a book that costs \$10, and a Bluetooth speaker that costs \$45. Which of the following is a feasible option for the consumer?

- A) The book
- B) The camera
- C) The cell phone
- D) The Bluetooth speaker

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The First Principle of Economics: Optimization

4) A decision or choice that is made after optimization analysis \_\_\_\_\_.

- A) has zero opportunity cost
- B) is not necessarily risk free
- C) is the same for all individuals
- D) cannot be justified using normative analysis

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The First Principle of Economics: Optimization

5) Which of the following statements is true?

- A) Optimization requires individuals to foresee the future perfectly.
- B) An optimizing individual need not consider the risks involved in various choices.
- C) An optimizing individual is also likely to exhibit rationality.
- D) The less information that is available, the easier it is to make optimal decisions.

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The First Principle of Economics: Optimization

6) Which of the following statements is true?

- A) Rational economic agents maximize more than just monetary income.
- B) An individual does not require information to make optimal decisions.
- C) The principle of optimization is only accurate when it comes to making monetary decisions.
- D) It is not necessary to consider the risks of alternatives while making an optimal decision.

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The First Principle of Economics: Optimization

7) Which of the following correctly identifies the trade-off that a budget constraint represents?

- A) The amount of income that must be given up to obtain an additional unit of a good
- B) The maximum amount of two goods that a consumer can purchase given his income
- C) The optimum combination of goods that a consumer with a given income should purchase
- D) The amount of one good that has to be given up to purchase an additional unit of the other good

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Trade-offs and Budget Constraints

8) A budget constraint represents the \_\_\_\_\_.

- A) total money income that an agent earns in different time periods
- B) goods and services an economic agent can choose given her limited income
- C) inequality in the incomes earned by various economic agents
- D) aggregate income earned by all firms in an economy

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Trade-offs and Budget Constraints

9) Which of the following statements is true?

- A) A budget constraint remains the same for a consumer at all levels of income.
- B) A budget constraint quantifies the trade-offs that economic agents face while making decisions.
- C) A budget constraint is a function of the income of the consumer and not of the prices of the goods and services available for consumption.
- D) A budget constraint is based on the minimum amount of money that an economic agent can spend on goods and services.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Trade-offs and Budget Constraints

10) A consumer has \$20 that he wants to spend on two goods: pens priced at \$2 each and pencils priced at \$1 each. Which of the following correctly represents his budget constraint?

- A)  $\$20 = (\$2/\text{Quantity of pens}) + (\$1/\text{Quantity of pencils})$
- B)  $\$20 = (\$2 \times \text{Quantity of pens}) + (\$1 \times \text{Quantity of pencils})$
- C)  $\$20 = (\$3/\text{Quantity of pens} + \text{Quantity of pencils})$
- D)  $\$20 = \$3 \times (\text{Quantity of pens} - \text{Quantity of pencils})$

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Trade-offs and Budget Constraints

11) An individual has 8 hours to spare. She has to divide her time between two activities: reading and writing. Which of the following allocations will completely exhaust the individual's budget?

- A) 3 hours of reading and 4 hours of writing
- B) 4 hours of reading and 6 hours of writing
- C) 2 hours of reading and 2 hours of writing
- D) 5 hours of reading and 3 hours of writing

Answer: D

Difficulty: Easy

AACSB: Application of Knowledge

Topic: Trade-offs and Budget Constraints

12) A consumer has \$50 to spend. He has to decide between buying two goods: magazines priced at \$5 each and DVDs priced at \$10 each. Which of the following combinations of the two goods will entirely exhaust his budget constraint?

- A) 3 magazines and 4 DVDs
- B) 2 magazines and 4 DVDs
- C) 6 magazines and 1 DVD
- D) 2 magazines and 2 DVDs

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Trade-offs and Budget Constraints

13) Which of the following statements is true?

- A) All rational economic agents attempt to maximize their income.
- B) A rational consumer makes his decisions depending on what the majority chooses.
- C) A budget constraint is an economic tool that quantifies the trade-off between the consumption of two goods.
- D) A trade-off refers to the exchange of goods between economic agents through the barter system or mutual exchange.

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Trade-offs and Budget Constraints

14) Why do trade-offs occur? How are budget constraints related to trade-offs?

Answer: Trade-offs occur because of scarcity—economic agents need to satisfy their wants with limited resources. Therefore, in most cases, some benefits have to be given up to gain other benefits. Budget constraints quantify the relevant trade-offs that an economic agent faces. Once trade-offs are quantified, rational decision making becomes easier, allowing the individual to make an optimal decision.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Trade-offs and Budget Constraints

15) The best alternative use of a resource is referred to as its \_\_\_\_\_.

- A) optimization cost
- B) market price
- C) social cost
- D) opportunity cost

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Opportunity Cost

16) A student has two options: she can either surf the web or work part-time. Working part-time pays her \$20 per hour. What is the student's opportunity cost of surfing the web for 5 hours?

- A) \$4
- B) \$20
- C) \$50
- D) \$100

Answer: D

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Opportunity Cost

17) John has to choose between two jobs: one that offers him \$50 per hour and one that offers him \$35 per hour. The opportunity cost of choosing the job that offers him \$50 per hour is \_\_\_\_\_.

- A) \$1.5 per hour
- B) \$15 per hour
- C) \$35 per hour
- D) \$85 per hour

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Opportunity Cost

18) Define opportunity cost. A student who has just graduated from college has three job offers: the first job pays \$35,000 a year, the second job pays \$23,000 a year, and the third one pays \$15,000 a year. What is the student's opportunity cost of taking the first job?

Answer: Opportunity cost is the best alternative use of a resource. It is what an economic agent is giving up when he chooses a particular option. If the individual decides to take the first job, he will earn \$35,000 a year. The opportunity cost of taking this job is the next-best offer that he could have taken. Therefore, the opportunity cost of the first job is \$23,000 a year.

Difficulty: Easy

AACSB: Application of Knowledge

Topic: Opportunity Cost



19) A consumer has a monthly income of \$100 that he wants to spend on two goods: rugs priced at \$10 and chairs priced at \$5. What is the consumer's opportunity cost of buying a rug? What is his opportunity cost of buying a chair? Use a table to represent the consumer's budget constraint.

Answer: Opportunity cost is the best alternative use of a resource. Buying one rug costs \$10, and each chair costs \$5. One rug can be purchased with the same amount of money used to buy two chairs. Therefore, the opportunity cost of buying a rug is 2 chairs. Similarly, the opportunity cost of buying a chair is half a rug. The consumer's budget constraint is given by:

$$\$100 = 10 \times (\text{Quantity of rugs}) + 5 \times (\text{Quantity of chairs}).$$

The following table shows the various combinations of rugs and chairs that the consumer can buy with \$100:

Budget	Quantity of Rugs	Quantity of Chairs
100	10	0
100	9	2
100	8	4
100	7	6
100	6	8
100	5	10
100	4	12
100	3	14
100	2	16
100	1	18
100	0	20

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Opportunity Cost

20) Sam pays \$600 for 30 days of guitar classes. He attends an hour-long class every day. If, instead of attending class, he works at a part-time job, he would be paid \$5 an hour. Alternatively, he could work at a fast-food outlet and earn \$9 per hour. Once he has already paid a nonrefundable fee of \$600 to enroll in the class, what is his opportunity cost of attending each hour of class?

Answer: Sam's opportunity cost will measure the next best use of an hour of his time plus the hourly cost of guitar classes. Once he pays the nonrefundable \$600, there is no further cost other than the value of his time. For an hour of time, he has two options: work for \$5 per hour or work for \$9 per hour. Therefore, the next best use of an hour that Sam spends on guitar classes is equal to the \$9 he could have earned per hour by working at the fast-food outlet. Sam's opportunity cost of attending his guitar classes is \$9 per hour.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Opportunity Cost

21) Suppose workers decide to work more and consume less leisure when their hourly wage rate increases. What could explain this behavior?

Answer: With an increase in their hourly wage rates, workers work more and consume less leisure because of a change in their opportunity cost. Assuming that the initial wage of an employee is \$10 per hour, the opportunity cost of one hour of rest or leisure is \$10 per hour. If the wage rate increases from \$10 to \$20 per hour, the opportunity cost of one hour of rest or leisure also increases to \$20 per hour. Therefore, taking an hour of rest becomes more expensive for employees, and so the workers tend to work more than they used to.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Opportunity Cost

22) \_\_\_\_\_ is a calculation that adds up the costs and benefits using a common unit of measurement, like dollar values.

- A) Cost-benefit analysis
- B) Revenue-income analysis
- C) Budget constraint analysis
- D) Expenditure-income analysis

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Cost-Benefit Analysis

23) Cost-benefit analysis requires \_\_\_\_\_.

- A) choosing the alternative with the least net benefit
- B) that all costs and benefits be measured in the same unit
- C) evaluating the budget constraint before making a choice
- D) that the risks associated with different alternatives be ignored

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Cost-Benefit Analysis

24) Suppose that Jinelle, an engineer, has to choose between two jobs. Which of the following statements is true?

- A) When deciding between jobs, she should consider both the wage and the non-wage attributes of each job.
- B) When deciding between jobs, she should focus only on the costs of each job and ignore the benefits.
- C) When deciding between jobs, she should only focus on the benefits of each job and ignore the costs.
- D) When deciding between jobs, she should consider the wage attributes and ignore the non-wage attributes of each job.

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Cost-Benefit Analysis

25) The net benefit of a particular alternative equals \_\_\_\_\_.

- A) the benefits received from the alternative plus the costs incurred when choosing the alternative
- B) the benefits received from the alternative divided by the costs incurred when choosing the alternative
- C) the costs incurred when choosing the alternative divided by the benefits received from the alternative
- D) the benefits received from the alternative minus the costs incurred when choosing the alternative

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Cost-Benefit Analysis

26) Out of a set of feasible alternatives, an optimizer should choose the alternative with the \_\_\_\_\_.

- A) highest net benefit
- B) highest opportunity cost
- C) lowest total cost, regardless of benefit
- D) highest total benefit, regardless of cost

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Cost-Benefit Analysis

27) If a particular choice that an individual faces gives him a benefit of \$20 but costs \$30, the net benefit from making this choice equals \_\_\_\_\_.

- A) \$20
- B) \$10
- C) -\$10
- D) -\$30

Answer: C

Difficulty: Easy

AACSB: Application of Knowledge

Topic: Cost-Benefit Analysis

28) If a job pays a wage of \$50 per hour, but has a non-wage cost valued at \$20 per hour, the net benefit of taking the job equals \_\_\_\_\_.

- A) \$2.5 per hour
- B) \$20 per hour
- C) \$30 per hour
- D) \$70 per hour

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Cost-Benefit Analysis

Maria has to choose between driving and taking a train to destination A. Traveling by train will cost her \$400 and will take 4 hours. Driving to destination A takes 6 hours, and the required amount of gasoline costs \$250. Her opportunity cost of time is \$15 per hour.

29) Refer to the scenario above. What is the total cost involved if Maria chooses to travel by train?

- A) \$60
- B) \$400
- C) \$420
- D) \$460

Answer: D

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Cost-Benefit Analysis

30) Refer to the scenario above. If Maria borrows her parents' car and pays for only the gasoline, what is her total cost of driving to destination A?

- A) \$90
- B) \$250
- C) \$300
- D) \$340

Answer: D

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Cost-Benefit Analysis

31) Refer to the scenario above. Maria should choose to \_\_\_\_\_.

- A) drive, as it will save her \$120
- B) travel by train, because it is quicker
- C) drive, as it will give her a real saving of \$150
- D) travel by train, as it will save her \$30 in travel time

Answer: A

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Cost-Benefit Analysis

32) Refer to the scenario above. If Maria's opportunity cost of time increases to \$80 per hour, the cost of taking the train is \_\_\_\_\_.

- A) \$320
- B) \$720
- C) \$800
- D) \$970

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Cost-Benefit Analysis

33) Refer to the scenario above. If Maria's opportunity cost of time increases to \$80 per hour, the cost of driving to destination A is \_\_\_\_\_.

- A) \$480
- B) \$730
- C) \$800
- D) \$970

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Cost-Benefit Analysis

34) Refer to the scenario above. If the opportunity cost of time increases to \$80 per hour, which of the following statements is true?

- A) Maria should choose to drive, as it saves her \$10.
- B) Maria should choose to drive, as it saves her \$150.
- C) Maria should choose to travel by train, as it saves her \$10.
- D) Maria should choose to travel by train, as it saves her \$150.

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Cost-Benefit Analysis

35) Which of the following statements is true?

- A) A rational economic agent is not likely to optimize.
- B) Cost-benefit analysis can also be used for normative economic analysis.
- C) Cost-benefit analysis does not yield the same result as optimization analysis.
- D) The net benefit of an option that costs \$50 and provides a benefit of \$100 is equal to \$150.

Answer: B

Difficulty: Medium

AACSB: Analytical Thinking

Topic: Cost-Benefit Analysis

36) Wendy has to decide between taking a flight and driving to California. Air tickets cost \$800 and will get her to California in 2 hours. If she decides to drive, she would need \$300 worth of gasoline and 10 hours to reach her destination. Suppose Wendy's opportunity cost of time is \$20 per hour.

a) Assuming that there are no other costs involved, use cost-benefit analysis to decide whether she should fly or drive to California.

b) If Wendy has an important business meeting to attend and this increases her opportunity cost of time to \$200 per hour, will her optimum decision change? Explain.

Answer:

a) Cost-benefit analysis is a calculation that adds up costs and benefits using a common unit of measurement. It is used to identify the alternative that has the greatest net benefit, which is equivalent to benefits minus costs. If Wendy decides to drive down instead of flying, she saves  $(\$800 - \$300) = \$500$ . But driving down to California takes an additional 8 hours of travel time. Therefore, the net benefit of driving relative to flying is:

$(\$500 \text{ Cost saving}) - (8 \text{ hours Additional travel time}) \times (\$20/\text{hour}) = \$500 - \$160 = \$340$ . Because the net benefit of driving is positive, driving to California is the optimum choice for Wendy when the opportunity cost of time is \$20 per hour.

b) If the opportunity cost of time changes, the net benefit of driving relative to flying will also change: Net benefit of driving relative to flying when the opportunity cost of time is \$200 per hour =  $(\$500 \text{ Cost saving}) - (8 \text{ hours Additional travel time}) \times (\$200/\text{hour}) = \$500 - \$1,600 = -\$1,100$ .

Because the net benefit of driving relative to flying is negative, flying to California is the optimum choice for Wendy when the opportunity cost of time is \$200 per hour.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Cost-Benefit Analysis

37) What is cost-benefit analysis? What are the steps involved in using cost-benefit analysis to make the optimal choice?

Answer: Cost-benefit analysis is a calculation that adds up the costs and benefits of a particular choice using a common unit of measurement. It involves the conversion of all costs and benefits to a common unit of measurement so that they can be compared. The difference between the benefits and costs of choosing an alternative is referred to as the net benefit of the alternative. The alternative with the highest net benefit is the optimal choice.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Cost-Benefit Analysis

38) Kevin has a lot of free time, and he decides to pick up a new hobby. He has two options—he can take art classes or sign up for cooking classes. He estimates that the art classes would cost him \$70 and would provide him with a benefit of \$100. In contrast, the cooking classes would cost him \$120 but provide him benefits worth \$160. Use cost-benefit analysis to arrive at the optimum choice for Kevin.

Answer: Kevin's optimal choice depends on the net benefits of both options:

Net benefit of taking art classes =  $\$100 - \$70 = \$30$ ;

Net benefit of taking cooking classes =  $\$160 - \$120 = \$40$ .

Therefore, given the costs and benefits involved, Kevin should sign up for the cooking classes rather than the art classes.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Cost-Benefit Analysis

39) Which of the following statements is true of economic reasoning?

- A) Economic reasoning hampers optimal decision making.
- B) Economic reasoning can only be used with normative choices.
- C) Economic reasoning implies that leisure time is free and costless.
- D) Economic reasoning helps people make the best use of scarce resources.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Evidence-Based Economics: Is Facebook Free?

40) If Tom spends 4 hours a day on Facebook, and the minimum wage in his country is \$7 per hour.

- a) What is his opportunity cost of spending time on Facebook?
- b) Given that spending time on Facebook has an opportunity cost, does this analysis suggest that Tom should work rather than spend his time on social networking?

Answer: a) Opportunity cost refers to the best alternative use of a resource. In this case, the resource is time. So, if Tom decided to work instead of spending time on Facebook, he would earn \$7 every hour.

Therefore, Tom's opportunity cost of spending time on Facebook is equal to  $\$7 \times 4 = \$28$ .

b) No, economic analysis does not dictate choices. Economics would not tell Tom what to do; it would only help him identify the trade-offs that he is making in his decisions. Whether Tom chooses to work or spend time on Facebook is a normative choice that Tom should make based on costs and benefits.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Evidence-Based Economics: Is Facebook Free?

## 1.4 The Second Principle of Economics: Equilibrium

1) Which of the following statements is true of equilibrium?

- A) Economic agents have an incentive to divert from equilibrium.
- B) Each economic agent can reach equilibrium irrespective of the actions of others.
- C) In equilibrium, the opportunity cost of the choices made by each economic agent is zero.
- D) In equilibrium, all economic agents are choosing the best feasible option simultaneously.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Second Principle of Economics: Equilibrium

2) Which of the following will hold true if the market for cameras is in equilibrium at a price of \$40?

- A) Sellers of cameras will have an incentive to charge a price higher than \$40.
- B) The quantity of cameras produced will equal the quantity of cameras bought in the market.
- C) Buyers of cameras will want to buy fewer cameras than they are purchasing at equilibrium.
- D) If the cost of producing cameras falls below \$40 per camera, all sellers will stop supplying cameras.

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: The Second Principle of Economics: Equilibrium

3) When the market for a commodity is in equilibrium, \_\_\_\_\_.

- A) no economic agent will want to change his or her behavior
- B) there will still be some unsold stock of the commodity
- C) all buyers of the commodity will want to change their behavior
- D) all sellers of the commodity will want to change their behavior

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Second Principle of Economics: Equilibrium

4) Which of the following is true of equilibrium?

- A) Equilibrium refers to a situation where the government allocates resources among economic agents.
- B) Equilibrium refers to a situation where all economic agents simultaneously optimize after considering one another's actions.
- C) Equilibrium refers to a situation where all economic agents are making suboptimal choices and have an incentive to change their behavior.
- D) Equilibrium refers to a situation where an economic agent can be made better off without making anyone else worse off.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Second Principle of Economics: Equilibrium

5) Suppose the market for pizza slices is in equilibrium at a price of \$1 per slice. What conditions are likely to be satisfied in the pizza slice market?

Answer: The conditions that will be satisfied when the market for pizza slices is in equilibrium are the following:

- i) The number of pizza slices made by sellers will be equal to the number of pizza slices purchased by buyers.
- ii) Pizza sellers will produce pizzas at the point where the cost of production is less than or equal to the market price of \$1.
- iii) Buyers will consume pizza as long as the benefit that they derive from consumption is at least equal to the market price of \$1.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: The Second Principle of Economics: Equilibrium

6) When a market is in equilibrium, both buyers and sellers do not perceive a benefit from changing their behavior. Why?

Answer: In most economic situations, an economic agent is not optimizing individually. His decision is influenced by the decisions taken by other economic agents. In equilibrium, each and every economic agent is doing the best that they can do, given the information they have and given the actions of other economic agents. Therefore, nobody perceives a benefit from changing his or her behavior.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Second Principle of Economics: Equilibrium



- 7) The term "free riders" refers to people who \_\_\_\_\_.  
A) don't contribute but still benefit from others' actions  
B) make economic decisions randomly and are not rational  
C) selflessly pay for others' consumption of goods and services  
D) haggle over the prices of the goods and services that they buy

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Free-Rider Problem

- 8) Who among the following is an example of a free rider?  
A) An individual who sneaks into a music concert  
B) A consumer who buys her groceries from a nearby store  
C) A taxpayer who exercises in the public park near his house  
D) A club member who makes voluntary contributions to the club

Answer: A

Difficulty: Medium

AACSB: Application of Knowledge

Topic: The Free-Rider Problem

- 9) Who among the following is an example of a free rider?  
A) A housekeeper cleaning a house  
B) A tax evader enjoying national security  
C) A consumer paying for pollution control  
D) An individual who buys a ticket for a baseball game

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: The Free-Rider Problem

- 10) Each member in a group might do what's best for himself or herself instead of behaving in a way that optimizes the well-being of the entire group. This gives rise to the problem of \_\_\_\_\_.  
A) Pareto inefficiency  
B) free riding  
C) irrational behavior  
D) disequilibrium

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Free-Rider Problem

- 11) Which of the following statements is true of free riding?  
A) Free riding is easy to detect and punish.  
B) Free riding is reduced with social pressure.  
C) Free riding is not affected by incentives.  
D) Free riding does not impose a cost on society.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Free-Rider Problem

12) Assume that a house is rented by four students. When it comes to keeping the house clean, each of the four roommates has an incentive to leave the cleaning to the others. As a result, the house is never clean.

Which of the following is the best solution to this problem of free riding?

- A) Asking every roommate to clean the house if they dirty it
- B) Requiring every roommate to contribute to a cleaning service
- C) Requiring each roommate to pay more toward the house rent and groceries
- D) Assigning one roommate the responsibility of watching over the other students

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: The Free-Rider Problem

13) Explain the term "free riders."

Answer: Free riders are people who do not contribute but still benefit from the actions that others undertake. When people pursue their own private interests and do not contribute voluntarily to the public interest, the problem of free riding arises. For example, a free rider may avoid paying taxes but enjoy the same benefits enjoyed by tax payers.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Free-Rider Problem

## 1.5 The Third Principle of Economics: Empiricism

1) Empiricism refers to the process of \_\_\_\_\_.

- A) measuring variables
- B) testing ideas using data
- C) collecting and organizing data
- D) making choices using values and beliefs

Answer: B

Difficulty: Medium

AACSB: Analytical Thinking

Topic: The Third Principle of Economics: Empiricism

2) Which of the following statements is true?

- A) Data help establish whether theories match reality.
- B) Data are not an integral part of optimization analysis.
- C) Empiricism is not an integral part of optimization analysis.
- D) Empiricism refers to the testing of ideas without using data.

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Third Principle of Economics: Empiricism

3) Which of the following statements is true of data?

- A) Data help verify causal relationships.
- B) Data are not important for evaluating theories.
- C) Anecdotes are good substitutes for data.
- D) The fewer data that are available, the better the empirical analysis will be.

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Third Principle of Economics: Empiricism

4) Which of the following statements is true?

- A) Testing with data is essential to developing a good theory.
- B) The knowledge of economics complicates decision making.
- C) Cost-benefit analysis can be applied only to limited economic decisions.
- D) Economics is more of a theoretical subject with limited applications in the real world.

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Third Principle of Economics: Empiricism

5) Which of the following is a feature of a good theory?

- A) A good theory does not rely on data.
- B) A good theory cannot be tested with data.
- C) A good theory is free from approximations.
- D) A good theory closely predicts actual behavior.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Third Principle of Economics: Empiricism

6) What is the rationale behind empiricism in economic analysis?

Answer: Empiricism refers to the use of data to test theoretical ideas or concepts. Empiricism is important, because it enables economists to determine whether economic theories are consistent with actual human behavior. This allows economists to refute faulty theories or modify them so that they are a better fit to the real world. Empiricism also enables researchers to identify causal relationships between different sets of variables.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Third Principle of Economics: Empiricism

## 1.6 Is Economics Good for You?

1) Which of the following statements is true?

- A) Economics is concerned with money, not choices.
- B) Economics can be used to predict people's actions.
- C) Economics does not provide insights into human behavior.
- D) Economic reasoning tends to reduce the quality of decision making.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Is Economics Good for You?

2) Economic reasoning allows economic agents to make decisions \_\_\_\_\_.

- A) by random selection
- B) by comparing the costs and benefits of various options
- C) by replicating the choices made by other economic agents
- D) solely on the basis of tastes and preferences for various options

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Is Economics Good for You?

***Microeconomics & Macroeconomics, 2e (Acemoglu)***  
**Chapter 2 Economic Methods and Economic Questions**

**2.1 The Scientific Method**

1) Empiricism refers to using \_\_\_\_\_ to analyze the world.

- A) data
- B) beliefs
- C) traditions
- D) value judgments

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Scientific Method

2) The scientific method refers to the process by which economists and other scientists \_\_\_\_\_.

- A) collect data for further use in research
- B) develop models of the world and test those models with data
- C) develop models to explain the past but not to predict the future
- D) plot graphs to illustrate relationships between different economic variables

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: The Scientific Method

3) Which of the following statements is true?

- A) Models that economists use are perfect replicas of reality.
- B) The scientific method used by economists is based on idealism and not empiricism.
- C) Models help economists explain the past but do not help predict the future.
- D) Testing with data enables economists to distinguish between good models and bad models.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

4) Which of the following is a feature of the scientific method?

- A) The scientific method is not based on data, statistics, or measurements.
- B) The scientific method allows improvisation and correction of inconsistent models.
- C) The scientific method enables the creation of perfectly accurate models of the real world.
- D) The scientific method is used only for studying topics related to economics.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

5) Which of the following statements is true of the scientific method?

- A) The scientific method may not reveal a "true" model of the world.
- B) The scientific method does not require the models to be tested with data.
- C) The scientific method used by economists and scientists is independent of empiricism.
- D) The scientific method can help develop accurate models even when data are unavailable.

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

6) A model refers to \_\_\_\_\_.

- A) a perfect replica of reality
- B) a simplified description, or representation, of reality
- C) facts, measurements, or statistics that describe the world
- D) a set of facts established by observation and measurement

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

7) Which of the following is a feature of models?

- A) Models are the same as hypotheses.
- B) Models help in making predictions for the future.
- C) Models are more complicated than real life phenomena.
- D) Models are as complex as the phenomenon being studied.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

8) Which of the following statements is true of models?

- A) The predictions of a model are referred to as data.
- B) A model is formulated after developing a hypothesis.
- C) Models are always based on assumptions that are known to be true.
- D) It is more important for a model to be simple and useful than to be precisely accurate.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

9) A model \_\_\_\_\_.

- A) is often based on simplifying assumptions that are not necessarily true
- B) can be tested without data or statistics
- C) is a more complex representation of reality than a theory
- D) can never be used to predict the future, but it helps explain the past

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

10) Facts, measurements, or statistics that describe the world are referred to as \_\_\_\_\_.

- A) data
- B) models
- C) hypothesis
- D) empiricism

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

11) Which of the following statements is true about data?

- A) Empiricism does not necessarily involve data.
- B) Consistency of models can be checked using data.
- C) Facts that describe the world are not considered data.
- D) Convincing data analysis in economics relies on using a small sample.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

12) Empirical evidence refers to \_\_\_\_\_.

- A) a simplified representation of reality
- B) a proposed explanation for a phenomenon
- C) the process of developing and testing models
- D) a set of facts established by observation and measurement

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

13) Which of the following statements is true?

- A) Theories are statistics that describe the real world.
- B) Hypotheses are predictions that can be tested with data.
- C) Data are facts established by observation and measurement.
- D) Empirical evidence consists of facts, measurements, or statistics that describe the world.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

14) A model's predictions are referred to as \_\_\_\_\_.

- A) statistics
- B) theories
- C) hypotheses
- D) empirical evidence

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

- 15) Which of the following statements correctly differentiates between a model and a hypothesis?
- A) Testing a hypothesis does not require data, whereas testing a model requires data.
  - B) Testing a model requires data, whereas testing a hypothesis does not require data.
  - C) A hypothesis can be used to make predictions for the future, whereas a model can only explain the past.
  - D) A model is a simplified representation of reality, whereas hypotheses are a model's predictions.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

16) What is meant by the term "scientific method?" What are the key components of the scientific method?

Answer: The scientific method is the name for the ongoing process that economists, social scientists, and natural scientists use to develop models of the world and to test those models with data. The key components of the scientific method are:

- i) Models, which are simplified descriptions, or representations, of reality
- ii) Data, which are facts, measurements, or statistics that describe the world
- iii) Empirical evidence, which consists of facts established by observation and measurement
- iv) Hypotheses, which are predictions that can be tested with data

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

17) Why do almost all models begin with assumptions?

Answer: Researchers develop a model, which is a simplified description of reality, to study a problem at hand. Real-world phenomena are often very complex, thus making them difficult to analyze in their true form. Therefore, assumptions are required to simplify complex phenomena and help researchers make good predictions about the future.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

18) Why are data essential components of the scientific method?

Answer: Data are important for testing a model. Testing with data enables economists to separate the good models from the bad ones. When a model is overwhelmingly inconsistent with data, economists try to fix the model or replace it altogether. Thus, data enable empirical testing of models to determine whether a model is suitable for analyzing the problem at hand.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Models and Data

19) Economic models are often based on assumptions because they \_\_\_\_\_.

- A) help explain the past
- B) help simplify complex real-world phenomena
- C) help predict the future with greater accuracy
- D) help test models even when relevant data are unavailable

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: An Economic Model



A model is based on an assumption that an additional year of education increases a student's future wage by 20 percent.

20) Refer to the scenario above. The hypothesis of the model is that \_\_\_\_\_.

- A) college graduates will earn about 80 percent more than high school graduates
- B) college graduates will earn about 107 percent more than high school graduates
- C) college graduates will earn about 200 percent more than high school graduates
- D) college graduates will earn about 275 percent more than high school graduates

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: An Economic Model

21) Refer to the scenario above. Which of the following statements is true of the model?

- A) The predictions of this model cannot be tested with data.
- B) The predictions of this model are accurate and will hold for all individuals.
- C) The predictions of this model can be applied to unlimited years of additional education.
- D) The model predicts that two additional years of education is likely to increase future earnings by 60 percent.

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: An Economic Model

22) Refer to the scenario above. Which of the followings statements is true of the model?

- A) The predictions of this model can be verified empirically.
- B) The predictions of this model can only be applied for a limited number of years of additional education.
- C) According to the model, 2 additional years of education will increase an individual's future wages 1.20 times.
- D) According to the model, 2 additional years of education will increase an individual's future wages 2.98 times.

Answer: A

Difficulty: Medium

AACSB: Application of Knowledge

Topic: An Economic Model

23) Refer to the scenario above. Which of the following statements is true about the model's prediction?

- A) The prediction cannot be verified empirically.
- B) The prediction is precise, exact, and accurate for the entire population.
- C) The prediction is an approximate relationship and may not hold for everyone.
- D) The prediction can be applied to estimate the returns only for a limited number of years of additional education.

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: An Economic Model

24) Refer to the scenario above. Which of the following statements is true about the model?

- A) The model is not based on any assumption.
- B) The predictions of the model will hold for every individual.
- C) The model describes the economic payoff of more education.
- D) The model can be applied for a maximum of 10 years of additional education.

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: An Economic Model

25) Which of the following implies that a model is an approximation?

- A) The model is not based on any assumption.
- B) The predictions of the model are mostly wrong.
- C) The predictions of the model will hold in most cases but not all.
- D) The predictions of the model cannot be tested with data.

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: An Economic Model

26) Which of the following is a key property of models?

- A) All economic models begin with assumptions.
- B) Empiricism is not essential for testing models.
- C) All models can be used for a limited time only.
- D) All models are consistent and do not make incorrect predictions.

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: An Economic Model

27) What are the two important properties of all models?

Answer:

i) All models are approximations. A model cannot predict how a certain change in a particular variable will affect all individuals in the population. Instead, it predicts what will happen to most people in most circumstances. Thus, any model is just a simplified approximation of the features of a more complex real-life phenomenon.

ii) Predictions of all models can be tested with data. Data can be used to verify and evaluate the predictions of all models. Testing with data enables economists and other scientists to refute inconsistent models and accept good models.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: An Economic Model

28) An economic model suggests that for every additional year of education, an individual's future wages increase by 5 percent. If Richard, with 12 years of education, earns \$20 per hour, how much will he earn per hour if he decides to undertake 4 additional years of education?

Answer: The model suggests that if Richard earns \$20 per hour, an additional year of education will increase his hourly wages to  $1.05 \times \$20$ . Therefore, 4 additional years of education will increase his hourly wage to  $1.05 \times 1.05 \times 1.05 \times 1.05 \times \$20$  or \$24.31 per hour.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: An Economic Model

29) An economic model suggests that an additional year of education increases a student's future wages by 15 percent. Using this model, answer the following questions.

a) Gary completes 8 years of education, and John completes 9 years of education. If Gary earns \$20 per hour, how much is John expected to earn?

b) John completes 9 years of education, and Kevin completes 12 years of education. Given John's earnings (as calculated in part a), how much is Kevin expected to earn?

c) Is there any limitation to such a model? Explain your answer.

Answer:

a) The economic model suggests that an additional year of education increases a student's future wages by 15 percent. Hence an additional year of education will increase the student's per-hour income by 1.15 times. If Gary earns \$20 per hour with 8 years of education, John is expected to earn  $1.15 \times \$20$  or \$23 per hour.

b) If John earns \$23 per hour with 9 years of education, and Kevin completes 3 additional years of education, Kevin is expected to earn  $1.15 \times 1.15 \times 1.15 \times \$23$  or \$34.98 per hour.

c) One of the major limitations of models like these is that they are approximations of real-life phenomena. It is unlikely that an additional year of education will create the same wage increment for all individuals. It is also unlikely that the wage increment from an additional year of high school education will be similar to the wage increment from an additional year of college education. Hence, the relationship between education and earnings as established by this model is not exact and is only an approximation of the real-world relationship.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: An Economic Model

30) Public-use data refer to \_\_\_\_\_.

A) data that have to be purchased from an external agent

B) data that are available to anyone who wants to use it

C) data published by the government only during political campaigns

D) data collected by a researcher only through field investigation

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Evidence-Based Economics: How Much More Do Workers with a College Education Earn?

31) In country X, the average yearly salary of 50-year-olds with 16 years of education is \$50,275, while the average yearly salary of 50-year-olds with 12 years of education is \$36,265. According to these data, 4 additional years of education are likely to be correlated with higher future wages of about \_\_\_\_\_.

- A) 24 percent
- B) 38 percent
- C) 50 percent
- D) 88 percent

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Evidence-Based Economics: How Much More Do Workers with a College Education Earn?

32) In a hypothetical country, the average wage of five 40-year-old citizens with a college education is \$36,896, and the average wage of five 40-year-old citizens with a high school education is \$25,864. What is the returns-to-college education in the country? Is there any limitation of this analysis? Explain your answer.

Answer: Dividing the average salary of 40-year-old college graduates by the average salary of 40-year-old high school graduates results in the ratio  $(\$36,896/\$25,864) = 1.426$ . Hence, a college education is likely to raise a citizen's income by 42.6 percent.

Yes, this analysis has a major limitation. It does not make sense to generalize overall returns to education on the basis of a sample representing a single age group. Thus, this model will provide information for only 40-year-old citizens. Returns to education could be high immediately after graduation but taper off with age, or they could increase with age. Either way, this measure does not capture the true returns to education. Moreover, to arrive at the conclusion, in each category, the average income of only five citizens is taken into account. The number of observations in this case is very small, and this may weaken the empirical argument presented here.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Evidence-Based Economics: How Much More Do Workers with a College Education Earn?

33) The mean of a data set is the \_\_\_\_\_.

- A) product of all values divided by the number of values
- B) sum of all different values divided by the number of values
- C) sum of all different values multiplied by the number of values
- D) difference between the highest value and the lowest value

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Means and Medians

34) Which of the following statements is true about the mean of a series?

- A) The mean is equal to zero when all the values are identical.
- B) The mean is a commonly used technique for summarizing data.
- C) The mean is less than all the individual observations in the data set.
- D) The mean is calculated as the sum of all values multiplied by the number of values.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Means and Medians

The following table shows the monthly wages of five different individuals.

Individual	Monthly Wage
1	\$200
2	\$450
3	\$640
4	\$700
5	\$800

35) Refer to the table above. What is the average monthly wage?

- A) \$450
- B) \$558
- C) \$612
- D) \$650

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Means and Medians

36) Annie, Darwin, Dorothy, Christian, and Isabella are five college students who work as part-time bartenders. If their average weekly earnings is \$100, then their total weekly earnings is \_\_\_\_\_.

- A) \$500
- B) \$400
- C) \$250
- D) \$700

Answer: A

Difficulty: Medium

AACSB: Analytical Thinking

Topic: Means and Medians

37) A local swimming club enrolled thirty-five new members during the current year and charged each member a onetime membership fee of \$200. What is the total membership fee collected by the club from the new members this year?

- A) \$1,750
- B) \$2,000
- C) \$7,000
- D) \$3,500

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Means and Medians

38) The weights of six students in the seventh grade are 120 lbs, 110 lbs, 105 lbs, 100 lbs, 96 lbs, and 90 lbs. The average weight of the six students is \_\_\_\_\_.

- A) 105 lbs.
- B) 103.5 lbs.
- C) 100 lbs.
- D) 95 lbs.

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Means and Medians

The following table shows the monthly wages of five different individuals.

Individual	Monthly Wage
1	\$200
2	\$450
3	\$450
4	\$500
5	\$600

39) Refer to the table above. The average monthly wage of the five workers is \_\_\_\_\_.

- A) \$600
- B) \$450
- C) \$440
- D) \$0

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Means and Medians

40) The average income of 25 employees working in a firm is \$1,754 per month. What is the total income of all the employees?

- A) \$40,000
- B) \$43,850
- C) \$56,225
- D) \$63,950

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Means and Medians

41) Which of the following statements is true?

- A) Empirical arguments can be supported without the use of data.
- B) Using a large data set will strengthen the force of an empirical argument.
- C) Using fewer observations will strengthen the force of an empirical argument.
- D) The number of observations used does not affect the strength of an empirical argument.

Answer: B

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Means and Medians

42) To judge a statistical relationship, should a researcher rely on a small sample or a large sample?

Explain your answer.

Answer: A key feature of economic and statistical analyses is the amount of data used. Small samples are not representative of the entire population. Therefore, the predictions of a model based on smaller samples may be only a very weak approximation of some real-world phenomena and lead to inaccurate predictions. Using a larger sample (in other words, a lot of data) strengthens the force of an empirical argument, because the researchers can make more precise statements.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Means and Medians

43) The following table displays the marks obtained by three students on an economics test.

Student	Mark Obtained (out of 100)
Mary	78
Charles	83
Tony	65

- a) Calculate the mean marks obtained by the three students.
- b) Suppose one of the scores was reported incorrectly. Charles scored 38 instead of 83. How will the mean change if the correction is incorporated?
- c) How does the amount of data used affect the accuracy of a model?

Answer:

a) The mean, or average, is the sum of the observations in a data set divided by the number of observations. In this case, the sum of the marks of the three students is  $78 + 83 + 65$ , or 226. Therefore, the average score of the three students is  $226/3$ , or 75.33.

b) Because one of the scores was wrongly reported, there would be a change in the sum of the scores. If the correct score is considered, the new sum of marks is  $226 - 83 + 38$ , or 181. Hence the corrected average score is  $181/3$ , or 60.33.

c) The amount of data used plays an important role in determining the accuracy of a model. A key feature in economic analysis is the amount of data used. Using lots of data, or observations, strengthens the force of an empirical argument and allows the researcher to make more precise statements.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Means and Medians

44) Which of the following arguments based on anecdotes is most likely to be incorrect?

- A) Increased government spending lowers the unemployment rate in an economy but can lead to inflation.
- B) Based on a local survey of a small town, it was argued that greater opportunities to work from home are the prime cause of obesity among the elderly workforce in the country.
- C) The average annual earnings of high school dropouts in the United States was much less than that of graduates in 2015.
- D) A health survey of preschoolers in Mexico showed that the average height of preschoolers is between 3.5 feet and 4 feet.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Argument by Anecdote

45) Which of the following statements is true?

- A) Arguments based on anecdotes are always true.
- B) In the scientific method, anecdotes are more important than data.
- C) Arguments by example are appropriate when contradicting a blanket statement.
- D) It is easier for a researcher to jump to a wrong conclusion when she uses a large data set.

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Argument by Anecdote

## 2.2 Causation and Correlation

1) Causation occurs when \_\_\_\_\_.

- A) two variables tend to move in the same direction
- B) two variables tend to move in opposite directions
- C) a change in one variable is the reason for a change in another variable
- D) a change in one variable does not cause any change in another variable

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

2) Which of the following is most likely to be an example of causation?

- A) The crime rate is high in a country. The literacy rate is high as well.
- B) A firm producing compact fluorescent light bulbs installs new machinery. Their per-day production of light bulbs increases.
- C) A soccer player scores four goals when he wears red socks. He concludes that the red socks helped him score the goals.
- D) A student wins money by scratching a ticket with a particular coin. He decides to scratch all tickets with the same coin in the future.

Answer: B

Difficulty: Hard

AACSB: Analytical Thinking

Topic: Causation versus Correlation



3) A variable is a factor that \_\_\_\_\_.

- A) cannot be measured
- B) is not affected by changes in other factors
- C) is independent and cannot be determined
- D) takes different values at different points of time

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

4) A correlation between two variables implies that \_\_\_\_\_.

- A) there is a cause-effect relationship between the two variables
- B) it is impossible to measure one variable without measuring the other
- C) there is a mutual relationship between both the variables
- D) when one variable changes, the other variable always changes by exactly the same amount

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

5) Which of the following statements identifies a difference between correlation and causation?

- A) Correlation occurs when one thing directly affects another, whereas causation implies a mutual relationship between two things.
- B) Correlation implies a mutual relationship between two things, whereas causation occurs when one thing directly affects another.
- C) A causal relationship exists between two variables when they are correlated, but correlation does not necessarily exist if there's a causal relationship between two variables.
- D) Causation cannot arise when correlation is present, and correlation cannot arise when causation is present.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

6) Which of the following statements is true?

- A) Correlation can only arise when causation is not present.
- B) Causation can only arise when correlation is not present.
- C) Correlation arises when there is causation and can also arise when there is no causation.
- D) Causation arises when there is correlation between two variables and can also arise when there is no correlation.

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

7) When two variables move in the same direction, they are said to be \_\_\_\_\_.

- A) uncorrelated
- B) equivalent
- C) positively correlated
- D) negatively correlated

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

8) Which of the following pairs of variables is likely to be positively correlated?

- A) Income and consumption
- B) Price and consumption
- C) Education and unemployment
- D) Availability of health care and death rate

Answer: A

Difficulty: Medium

AACSB: Analytical Thinking

Topic: Causation versus Correlation

9) When two variables move in opposite directions, they are said to be \_\_\_\_\_.

- A) uncorrelated
- B) positively correlated
- C) negatively correlated
- D) equivalent

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

10) Which of the following relationships is likely to exhibit a negative correlation?

- A) The relationship between the amount saved with a bank and the interest earned
- B) The relationship between the level of professional training and unemployment
- C) The relationship between inflation in the United States and traffic congestion in China
- D) The relationship between the amount of precipitation in a year and the number of umbrellas sold

Answer: B

Difficulty: Medium

AACSB: Analytical Thinking

Topic: Causation versus Correlation

11) Zero correlation between two variables implies that \_\_\_\_\_.

- A) both variables move in the same direction
- B) the variables are not related to each other
- C) both variables move in the opposite direction
- D) change in one variable causes the other to change

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

12) Which of the following relationships is most likely to exhibit zero correlation?

- A) The relationship between income and savings
- B) The relationship between education and income
- C) The relationship between wind velocity and the rotational speed of wind turbines
- D) The relationship between the amount received as unemployment benefits in China and the unemployment rate in Canada

Answer: D

Difficulty: Medium

AACSB: Analytical Thinking

Topic: Causation versus Correlation

13) Data show that in 2012, the college enrollment in Lithasia increased. In the same year, the sale of hot dogs in Lithasia also increased. The relationship between college enrollment and the sale of hot dogs exhibits \_\_\_\_\_.

- A) a zero correlation
- B) a causal relationship
- C) a positive correlation
- D) a negative correlation

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Causation versus Correlation

14) An omitted variable is a variable that \_\_\_\_\_.

- A) is purposely left out as it does not aid an economic analysis
- B) does not cause other variables in a study to change when it changes
- C) is removed from a study as it can lead to the problem of reverse causality
- D) has been left out, and if included, would explain why the variables considered in a study are correlated

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

15) \_\_\_\_\_ occurs when the direction of cause and effect is mixed up in a study.

- A) Adverse causality
- B) Reverse causality
- C) Omitted variable bias
- D) Limited information bias

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

16) Which of the following claims is most likely to suffer from reverse causality?

- A) Higher income increases consumption.
- B) Relatively wealthy people tend to be relatively healthy.
- C) More hours of study are likely to lead to better results.
- D) Crime rate is seen to be lower in countries having a higher level of poverty.

Answer: B

Difficulty: Medium

AACSB: Analytical Thinking

Topic: Causation versus Correlation

17) What are the three categories of correlation? Illustrate with real-life examples.

Answer: Correlation can be divided into three categories. These are:

- i) Positive correlation, which implies that two variables tend to move in the same direction. For example, when income increases, consumption increases.
- ii) Negative correlation, which implies that two variables tend to move in the opposite direction. For example, when people have more professional training, they are less likely to be unemployed.
- iii) Zero correlation, which implies that there is no relationship between two variables. For example, the amount of air pollution in India is likely to have no relationship with the pollution control measures adopted in the United States.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Causation versus Correlation

18) A survey recently indicated that being happy at work tends to make workers more productive. What can be a possible error of this conclusion?

Answer: The conclusion derived from the survey is likely to be a correlation rather than causation. In other words, saying that happiness causes workers to be productive can be a misleading conclusion. It is also likely that workers who are productive are happier, because they are performing better than their colleagues. There can be other explanations to being happy at work. For example, if the job provides workers a good match for their skills, they will be happy to use their skills, which will make them more productive.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Causation versus Correlation

19) What is meant by the term "omitted variable" in correlation analysis? Explain with an example.

Answer: An omitted variable is something that has been left out of a study that, if included, would explain why two variables are correlated. For example, it is seen that the rate of employees quitting is lower in firms that pay higher wages. Thus, a conclusion can be drawn that higher wages result in lower quit rates. But many other variables might influence the quit rates apart from wages, such as employee benefits provided by the firm, age of employees, and work-life balance. These variables that have been left out are omitted variables and if included in the study would better explain the quit rates of firms.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

20) Reverse causality can create confusion between correlation and causation. What does reverse causality imply?

Answer: Reverse causality is said to happen when the direction of cause and effect is mixed up in a study. This can lead to wrong conclusions. For example, researchers may claim that jogging causes people to be healthy. There's a possibility of reverse causality in this claim, because it might be the case that healthy people tend to jog more.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Causation versus Correlation

21) It has been observed in country X that with an increase in college enrollment over a period of 6 years, the demand for televisions has also increased. Would it be right to conclude that the increase in college enrollment has caused the increase in demand for televisions? Why or why not?

Answer: The error in drawing such a conclusion is that the increase in both the variables may represent a correlation and not necessarily a causal relationship. Although both variables move together, it would be wrong to conclude that an increase in college enrollment is causing an increase in the demand for televisions. There may be other omitted variables, such as changes in the per capita income in country X or changes in the price of satellite television connections over the 6 years.

Difficulty: Easy

AACSB: Application of Knowledge

Topic: Causation versus Correlation

22) State the type of correlation between the following sets of variables.

- a) Consumption and income
- b) Education and unemployment
- c) Availability of health care and death rate
- d) Pollution control measures adopted in Canada and the number of cases of respiratory diseases in Australia

Answer:

- a) Consumption and income are likely to be positively correlated.
- b) Education and unemployment are likely to be negatively correlated.
- c) Health care and death rate are likely to be negatively correlated.
- d) The relationship between pollution control in Canada and the number of cases of respiratory diseases in Australia is likely to have zero correlation.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Causation versus Correlation

23) Does correlation always imply causation? Why or why not? Explain with the help of real-life examples.

Answer: No, correlation does not always imply causation. Both causation and correlation study the relationship between two or more variables and are therefore often mistaken for each other. Correlation means that there is a mutual relationship between two variables; as one variable changes, the other changes as well. Correlation between two variables does not necessarily imply that one causes the other. Correlation just looks at the strength of association between two variables, whereas causation occurs when one variable directly affects the other variable through a causal relationship. For example, if the use of some new packaging material improves the shelf life of bread, it represents a causal relationship. In contrast, if someone claims watching violent movies increases crime rates in a country, it is not necessarily a causal relationship. However, some degree of correlation may exist between both.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Causation versus Correlation

24) An experiment refers to \_\_\_\_\_.

- A) a simplified representation of some real-life phenomenon
- B) the process of collecting, measuring, and organizing data
- C) validating the claims of a model using statistics and facts
- D) a controlled method of investigating causal relationships among variables

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Experimental Economics and Natural Experiments

25) Which of the following is a feature of experiments?

- A) Experiments are restricted to laboratories.
- B) Experiments are carried out only in the study of economics.
- C) Experiments help determine cause and effect between variables.
- D) Experiments require the division of participants into a treatment group and a test group.

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Experimental Economics and Natural Experiments

26) To conduct a randomized experiment, researchers usually classify the participants into a \_\_\_\_\_.

- A) study group and a control group
- B) treatment group and a test group
- C) study group and a treatment group
- D) treatment group and a control group

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Experimental Economics and Natural Experiments

27) Randomization is the assignment of subjects by \_\_\_\_\_ to a \_\_\_\_\_.

- A) chance, rather than by choice; treatment group or to a test group
- B) choice, rather than by chance; treatment group or to a test group
- C) choice, rather than by chance; treatment group or to a control group
- D) chance, rather than by choice; treatment group or to a control group

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Experimental Economics and Natural Experiments

28) Which of the following statements is true?

- A) Randomization is not used in medical experiments.
- B) Randomization allows for the classification of participants according to their choice.
- C) The subjects in the treatment group and the control group of an experiment are identical in all respects and they are treated identically.
- D) The subjects in the treatment group and the control group of an experiment are treated identically, except along a single dimension.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Experimental Economics and Natural Experiments

29) A researcher wants to test the effects of daily meditation on the stress levels of individuals. She divides the participants randomly into a treatment group and a control group and conducts an experiment. She pays for meditation classes for half of the subjects, and the other half does not join the class. Which of the following statements is true of the two groups in this experiment?

- A) The participants in the treatment group are assigned by chance, whereas the ones in the control group are assigned by choice.
- B) The participants in the control group are assigned by chance, whereas the participants in the treatment group are assigned by choice.
- C) The treatment group is the group of subjects that receives payment from the researcher for meditation classes; the control group is the group that does not.
- D) The control group is the group of subjects that receives payment from the researcher to join the meditation class; the treatment group is the group that does not.

Answer: C

Difficulty: Medium

AACSB: Analytical Thinking

Topic: Experimental Economics and Natural Experiments

30) Which of the following is NOT a problem associated with randomized experiments?

- A) Experiments can sometimes get expensive for the researcher.
- B) The participants in the treatment group and the control group are not identical in all respects.
- C) Getting immediate answers to some important questions may not be possible.
- D) Sometimes experiments are conducted poorly, which may lead to inaccurate results.

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Experimental Economics and Natural Experiments

31) A natural experiment is an empirical study \_\_\_\_\_.

- A) in which the predictions of the model are not required to be tested with data
- B) that can only be used to understand natural phenomena and is widely used in subjects such as physics and biology
- C) in which the researcher assigns subjects to the control and treatment groups to verify a cause-effect relationship
- D) in which some process, outside the control of the experimenter, has assigned subjects to the control and treatment groups in a random or nearly random way

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Experimental Economics and Natural Experiments

32) Which of the following is an example of a natural experiment?

- A) A laboratory research on the effectiveness of solar power as an alternative source of fuel
- B) A research on the effectiveness of a new medicine among some voluntary participants
- C) A research on the effect of air pollution on lung disorders by observing the health conditions of people who stay close to industrial areas and those who stay away from industries
- D) A study on the benefits of regular exercise by paying for the membership fees at fitness clubs for one-half of the participants

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Experimental Economics and Natural Experiments

33) In research, what is the importance of experiments? What is meant by randomization in experiments?

Answer: An experiment is a controlled method of investigating causal relationships among variables. Randomization in experiments refers to the assignment of participants by chance, rather than by choice, to a treatment group or a control group.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Experimental Economics and Natural Experiments

34) To test the effectiveness of a newly developed medicine, 300 patients suffering from a heart ailment were divided into two groups of 150 people each. One group was treated with the new medicine, while the other was treated with an already existing, widely used medicine. In this scenario, identify the treatment group and the control group. What is the rationale behind dividing patients into two groups?

Answer: The treatment group refers to the group of patients who received the new medicine. The control group refers to the group of people who were not given the new medicine but were instead given the medicine that was already in widespread use. The rationale behind this division is to compare the health changes of the two groups over time. This experiment tests whether the new drug is better than the old drug.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Experimental Economics and Natural Experiments



35) What are the problems with experimentation?

Answer: There are three main problems associated with experimentation:

- i) Experiments can be very costly to conduct.
- ii) Experiments do not provide immediate answers to a number of important questions.
- iii) Experiments are sometimes conducted poorly, which can lead to inefficient results.

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Experimental Economics and Natural Experiments

36) Suppose a pharmaceutical company wants to test the effectiveness of a new drug in curing cancer.

Which approach should it use to test whether the new drug is more effective than existing medicines that are widely used?

Answer: The best way to test the effectiveness of the new drug is to conduct a randomized experiment. An experiment is a controlled method of investigating causal relationships among variables. To check the effectiveness of the drug, the researcher creates a treatment group and a control group chosen from all the patients with cancer. The participants are randomly divided into a treatment group or a control group. The patients in the treatment group receive the new medicine, while the patients in the control group receive the standard existing medication. The researcher then has to investigate the participants over a period of time, keeping a track of how their health changes. If the participants of the treatment group recover faster than the control group, it can be concluded that the new drug is more effective than the existing medicines prescribed currently.

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Experimental Economics and Natural Experiments

## 2.3 Economic Questions and Answers

1) Which of the following statements correctly indicates a property of good economic questions?

- A) A good economic question should always be easy to answer.
- B) A good economic question should always be positive and not normative.
- C) A good economic question must always include arithmetic calculations and graphical solutions.
- D) A good economic question addresses topics that are important to economic agents and/or to society.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Economic Questions and Answers

2) Which of the following is a property of a good economic question?

- A) A good economic question can be answered.
- B) A good economic question should always have a single solution.
- C) A good economic question always addresses topics that are important to the whole society and not to an individual economic agent.
- D) A good economic question should never incorporate elements from disciplines other than economics.

Answer: A

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Economic Questions and Answers

## Appendix: Constructing and Interpreting Charts and Graphs

1) A circular chart split into segments to show the percentages of parts relative to the whole is called \_\_\_\_\_.

- A) a histogram
- B) a time-series graph
- C) a pie chart
- D) a bar chart

Answer: C

Difficulty: Easy

AACSB: Application of Knowledge

Topic: Pie Charts

2) Which of the following graphical representations can be used most appropriately to show the distribution of a household's income, in terms of percentages, among the various categories of expenses?

- A) A bar chart
- B) A pie chart
- C) A histogram chart
- D) A time-series graph

Answer: B

Difficulty: Easy

AACSB: Application of Knowledge

Topic: Pie Charts

3) Which of the following statements is true?

- A) A bar chart has many limitations in comparison to pie charts.
- B) A bar chart does not allow for the comparison of a single variable across many segments.
- C) A bar chart can only be used to represent independent variables.
- D) A bar chart indicates the frequency of a variable by using rectangles of different heights or lengths.

Answer: D

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Bar Charts

4) Which of the following graphical representations is ideal for comparing a single variable across different groups?

- A) A histogram
- B) A bar chart
- C) A scatter plot
- D) A time series graph

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Bar Charts

5) An independent variable \_\_\_\_\_.

- A) cannot be measured
- B) cannot be represented on a bar chart
- C) is manipulated by the experimenter in an experiment
- D) is determined by the other variables in an experiment

Answer: C

Difficulty: Medium

AACSB: Analytical Thinking

Topic: Bar Charts

6) A variable that is potentially affected by an experimental treatment is referred to as a(n) \_\_\_\_\_.

- A) omitted variable
- B) independent variable
- C) dependent variable
- D) compulsory variable

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Bar Charts

7) When the objective of an experiment or a study is to understand the changes in the attributes of a variable on a month-to-month basis, a \_\_\_\_\_ is most useful.

- A) pie chart
- B) time series graph
- C) histogram
- D) bar chart

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Time Series Graphs

8) Which of the following is most likely to be represented by a time series graph?

- A) The relationship between hourly wages and a worker's productivity
- B) The growth in consumer income over 5 years
- C) The contribution of each sector to the total output of an economy
- D) The different sources of tax revenue for the government

Answer: B

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Time Series Graphs

9) On a line chart, the income of a consumer is measured along the horizontal axis, and his consumption is measured along the vertical axis. The slope of the line is equal to \_\_\_\_\_.

- A) change in consumption plus change in income
- B) change in consumption minus change in income
- C) change in consumption multiplied by change in income
- D) change in consumption divided by change in income

Answer: D

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Correlation Does Not Imply Causality

10) The slope of the line on a line chart measures the rate of change in \_\_\_\_\_.

- A) only the independent variable
- B) only the dependent variable
- C) the dependent variable as the independent variable changes
- D) the independent variable as the dependent variable changes

Answer: C

Difficulty: Easy

AACSB: Analytical Thinking

Topic: Correlation Does Not Imply Causality

11) As the number of billboards for a firm's product increases from 100 to 500, its sales increase from \$1,000 to \$10,000. If this information is plotted on a line chart, the slope of the line equals \_\_\_\_\_.

- A) \$20
- B) \$0.044
- C) \$22.5
- D) \$30.33

Answer: C

Difficulty: Medium

AACSB: Application of Knowledge

Topic: Correlation Does Not Imply Causality