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| 1. The essence of decision analysis is:   |  |  |  | | --- | --- | --- | |  | a. | breaking down complex situations into manageable elements. | |  | b. | choosing the best course of action among alternatives. | |  | c. | finding the root cause of why something has gone wrong. | |  | d. | thinking ahead to avoid negative consequences. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 2. Why would someone wish to use a spreadsheet model?   |  |  |  | | --- | --- | --- | |  | a. | To implement a computer model. | |  | b. | Because spreadsheets are convenient. | |  | c. | To analyze decision alternatives. | |  | d. | All of these. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 3. Which of the following fields of study is defined in Chapter One as the one that "uses computers, statistics, and mathematics to solve business problems"?   |  |  |  | | --- | --- | --- | |  | a. | Accounting | |  | b. | Information systems | |  | c. | Business analytics | |  | d. | Scientific management |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 4. In a decision-making problem, anchoring effects occur when   |  |  |  | | --- | --- | --- | |  | a. | decision makers are tied too closely to previous decisions. | |  | b. | organizations refuse to consider new alternatives. | |  | c. | a seemingly trivial factor serves as a starting point for estimations. | |  | d. | a person in a position of authority exerts his or her opinion very forcefully. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 5. Virtually everyone who uses a spreadsheet today for model building and decision making   |  |  |  | | --- | --- | --- | |  | a. | is a practitioner of business analytics. | |  | b. | possesses an advanced knowledge of mathematics and computer programming languages. | |  | c. | is a CPA. | |  | d. | is in a position to influence decision makers. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 6. Which of the following statements is true of using models in problem solving and decision analysis?   |  |  |  | | --- | --- | --- | |  | a. | It is a fairly new idea. | |  | b. | It is required in order to find good solutions. | |  | c. | It is something everyone has done before. | |  | d. | It is tied to the use of computers. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 7. A road map is an example of   |  |  |  | | --- | --- | --- | |  | a. | a mathematical model. | |  | b. | a mental model. | |  | c. | a physical model. | |  | d. | a visual model. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 8. The textbook figure of the problem-solving process is an example of a   |  |  |  | | --- | --- | --- | |  | a. | mental model. | |  | b. | prescriptive model. | |  | c. | graphical model. | |  | d. | visual model. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 9. Which of the following is most likely to be used when faced with the decision of how to arrange furniture in a room?   |  |  |  | | --- | --- | --- | |  | a. | Mathematical model | |  | b. | Mental model | |  | c. | Physical model | |  | d. | Visual model |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 10. To illustrate how a complex system will be built, an engineer will likely use a   |  |  |  | | --- | --- | --- | |  | a. | mathematical model. | |  | b. | mental model. | |  | c. | physical model. | |  | d. | visual model. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 11. Which of the following is the type of model used throughout this textbook?   |  |  |  | | --- | --- | --- | |  | a. | Mathematical model | |  | b. | Mental model | |  | c. | Physical model | |  | d. | Visual model |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 12. The best models   |  |  |  | | --- | --- | --- | |  | a. | accurately reflect relevant characteristics of the real-world object or decision. | |  | b. | are mathematical models. | |  | c. | replicate all aspects of the real-world object or decision. | |  | d. | replicate the characteristics of a component in isolation from the rest of the system. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 13. A mathematical model is considered to be "valid" when   |  |  |  | | --- | --- | --- | |  | a. | it accurately represents the relevant characteristics of the object or decision. | |  | b. | it has passed a validation test. | |  | c. | it replicates all aspects of the object or decision. | |  | d. | the left-hand and right-hand sides of expressions are equal. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 14. All of the following are benefits of modeling except:   |  |  |  | | --- | --- | --- | |  | a. | Modeling delivers needed information on a more timely basis. | |  | b. | Modeling finds the right answers to incorrect or flawed problem statements. | |  | c. | Modeling is helpful in examining things that would be impossible to do in reality. | |  | d. | Modeling is less expensive than implementing several alternative solutions. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 15. Better decision making due to using a modeling process is achieved due to   |  |  |  | | --- | --- | --- | |  | a. | the interaction with the spreadsheet. | |  | b. | the visualization of the system being studied. | |  | c. | the insight gained through the process. | |  | d. | the timeliness of the results obtained. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 16. In this text we use the term "mathematics" to encompass   |  |  | | --- | --- | | i. | familiar elements of math such as algebra. | | ii. | logic. | |  |  |  |  |  |  | | --- | --- | --- | |  | a. | i only | |  | b. | ii only | |  | c. | Both i and ii | |  | d. | Neither i nor ii |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 17. The specification or description of the relationship between the dependent and independent variables is generally called   |  |  |  | | --- | --- | --- | |  | a. | a constraint. | |  | b. | a declaration. | |  | c. | a function. | |  | d. | a mathematical model. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 18. Variables are termed independent when they satisfy which of the following?   |  |  |  | | --- | --- | --- | |  | a. | The function value depends upon their values. | |  | b. | The decision maker has no control over them. | |  | c. | The variables have no relationship to one another. | |  | d. | The variable is described as an output of the spreadsheet model. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 19. In the following expression, which is (are) the dependent variable(s)?  ​  PROFIT = REVENUE − EXPENSES   |  |  |  | | --- | --- | --- | |  | a. | Profit | |  | b. | Revenue | |  | c. | Expenses | |  | d. | (b) and (c) |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 20. In a spreadsheet, input cells correspond conceptually to   |  |  |  | | --- | --- | --- | |  | a. | dependent variables. | |  | b. | functions. | |  | c. | independent variables. | |  | d. | output cells. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 21. The categories of modeling techniques presented in this book include all of the following except:   |  |  |  | | --- | --- | --- | |  | a. | descriptive models. | |  | b. | predictive models. | |  | c. | prescriptive models. | |  | d. | preventive models. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 22. Consider the spreadsheet model shown in the figure below. This is an example of a   |  |  |  |  | | --- | --- | --- | --- | |  | A | B | C | | 1 |  |  |  | | 2 |  |  |  | | 3 | Purchase price | $32,500 |  | | 4 | less: |  |  | | 5 | Down payment | $  6,500 |  | | 6 | Trade-in | $  4,000 |  | | 7 | Amount financed | $22,000 |  | | 8 |  |  |  | | 9 | Term of loan | 5 years |  | | 10 |  |  |  | | 11 | Annual interest rate | 11.25% |  | | 12 |  |  |  | | 13 | Monthly payment | $481.08 |  | | 14 |  |  |  |  |  |  |  | | --- | --- | --- | |  | a. | descriptive model. | |  | b. | predictive model. | |  | c. | prescriptive model. | |  | d. | preventive model. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 23. Solutions to which of the following categories of modeling techniques indicate a course of action to the decision maker?   |  |  |  | | --- | --- | --- | |  | a. | Descriptive models | |  | b. | Predictive models | |  | c. | Prescriptive models | |  | d. | Preventive models |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 24. In which of the following categories of modeling techniques do the independent variables have unknown or uncertain values or coefficients?   |  |  |  | | --- | --- | --- | |  | a. | Descriptive models | |  | b. | Predictive models | |  | c. | Prescriptive models | |  | d. | Probabilistic models |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 25. In which of the following categories of modeling techniques are the specifications of the relationships between dependent and independent variables unknown or ill-defined?   |  |  |  | | --- | --- | --- | |  | a. | Descriptive models | |  | b. | Open models | |  | c. | Predictive models | |  | d. | Prescriptive models |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 26. Which of the following categories of modeling techniques includes optimization techniques?   |  |  |  | | --- | --- | --- | |  | a. | Capitalistic models | |  | b. | Descriptive models | |  | c. | Predictive models | |  | d. | Prescriptive models |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 27. Which of the following categories of modeling techniques addresses uncertainty in the values of the independent variables?   |  |  |  | | --- | --- | --- | |  | a. | Descriptive models | |  | b. | Predictive models | |  | c. | Prescriptive models | |  | d. | Scale models |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 28. Which of the following categories of modeling techniques involves determining the value of a dependent variable based on specific values of independent variables?   |  |  |  | | --- | --- | --- | |  | a. | Biased models. | |  | b. | Descriptive models. | |  | c. | Predictive models. | |  | d. | Prescriptive models. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 29. To be effective, a modeler must   |  |  |  | | --- | --- | --- | |  | a. | be an effective presenter of results. | |  | b. | collect the proper input data for the model. | |  | c. | understand how modeling fits into the problem-solving process. | |  | d. | apply the correct modeling technique. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 30. Identifying the real problems faced by the decision maker   |  |  |  | | --- | --- | --- | |  | a. | is not important since the decision maker has already defined the problem. | |  | b. | requires insight, some imagination, time and a good bit of detective work. | |  | c. | first requires a well-defined problem statement. | |  | d. | will lead to developing the best model. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 31. The ultimate goal of the problem identification step of the problem-solving process is   |  |  |  | | --- | --- | --- | |  | a. | collecting lots of information. | |  | b. | helping the decision maker realize there is a problem. | |  | c. | identifying the root problem or problems causing the mess. | |  | d. | convincing the decision maker the mess is really a problem that can be solved. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 32. Which step of the problem-solving process is considered the most important?   |  |  |  | | --- | --- | --- | |  | a. | Identify problem. | |  | b. | Analyze model. | |  | c. | Test results. | |  | d. | Implement solution. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 33. Which of the following steps in the problem-solving process is most likely to incur resistance from people affected by the proposed solution?   |  |  |  | | --- | --- | --- | |  | a. | Formulate model | |  | b. | Use model to analyze problem | |  | c. | Test results | |  | d. | Implement solution |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 34. There are a variety of problems a manager might face. While presenting and defending your approach, how would you complete this thought?  ​  Several different modeling techniques are available to solve managerial decision problems,   |  |  |  | | --- | --- | --- | |  | a. | the wrong choice of modeling technique is a common source of implementation difficulties. | |  | b. | students should develop a strong preference and expertise in one technique so when faced with problems as managers they can formulate them as a model that can be solved by their favorite technique. | |  | c. | fundamental characteristics of the problem guide the selection of an appropriate modeling technique. | |  | d. | most problems faced by managers are fundamentally the same. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 35. In which step of the problem-solving process is the main focus to generate and evaluate alternatives?   |  |  |  | | --- | --- | --- | |  | a. | Identify problem | |  | b. | Formulate model | |  | c. | Use model to analyze problem | |  | d. | Test results |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 36. Which of the following is true of "What if?" analysis?   |  |  |  | | --- | --- | --- | |  | a. | A well-designed spreadsheet facilitates "What if?" analysis. | |  | b. | It is not very useful when working with non mathematical models. | |  | c. | "What if?" analysis is an efficient optimization technique. | |  | d. | "What if?" analysis is useful in creating a well-defined problem statement. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 37. Beneficial uses of the testing process include all of the following except:   |  |  |  | | --- | --- | --- | |  | a. | double checking the validity the model. | |  | b. | finding that some important assumption has been left out of the model. | |  | c. | giving no new insights into the nature of the problem. | |  | d. | improving solutions after the implementation step. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 38. Implementing solutions to problems involves people and change. Which of the following is a suggested approach to effectively implement solutions?   |  |  |  | | --- | --- | --- | |  | a. | Decision-making authority centralized to those who have specialized training in decision making. | |  | b. | Involve anyone affected by the decision in all steps of the problem-solving process. | |  | c. | Making decisions according to majority vote. | |  | d. | More skillful communication of management decisions. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 39. Which of the following problem-solving steps is often considered the most difficult?   |  |  |  | | --- | --- | --- | |  | a. | Identify the problem. | |  | b. | Analyze the model. | |  | c. | Test results. | |  | d. | Implement the solution. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 40. If we do not identify the correct problem, the best we can hope for is:   |  |  |  | | --- | --- | --- | |  | a. | wasted time and effort. | |  | b. | useful experience in problem definition efforts. | |  | c. | a descriptive model. | |  | d. | the right answer to the wrong question. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 41. Chapter One discussed all of the following except:   |  |  |  | | --- | --- | --- | |  | a. | how models of decision problems differ in a number of important characteristics. | |  | b. | how spreadsheet modeling and analysis fit into the problem-solving process. | |  | c. | how spreadsheet models of decision problems can be used to analyze the consequences of possible courses of action. | |  | d. | how to implement a problem formulation as a spreadsheet model. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 42. The Chapter One "The World of Business Analytics" case reading offers the CEO alternatives to start the OR/MS collaboration process. All the following are alternatives offered except:   |  |  |  | | --- | --- | --- | |  | a. | Require the OR/MS group to save their yearly salary in every study. | |  | b. | Use OR/MS personnel as consultants. | |  | c. | Hire some OR/MS professionals and give them a problem to work. | |  | d. | Institute more participation from OR analysts. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 43. The main point brought forward in the Chapter One "The World of Business Analytics" case reading is:   |  |  |  | | --- | --- | --- | |  | a. | At a cocktail party, it is more efficient to divide the dip into several bowls and place them around the room. | |  | b. | Competitive rivalry between IS and OR/MS groups can be turned to advantage when tackling business process re-engineering projects. | |  | c. | Information system analysts trained in management science can help turn ordinary information systems into money-saving decision-support systems. | |  | d. | OR/MS professionals lack communication skills and tend to focus on "rigor without relevance". |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 44. Operations Research got its start   |  |  |  | | --- | --- | --- | |  | a. | during World War II. | |  | b. | with the first Univac computers in the early 1950's. | |  | c. | from roots in Operations Management. | |  | d. | from Frederick Taylor's Scientific Management. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 45. The Chapter One "The World of Business Analytics" case reading discusses the relationship between OR/MS and IS professionals. Which of the following statements is NOT true?   |  |  |  | | --- | --- | --- | |  | a. | OR/MS analysts need IS professionals' data for their models. | |  | b. | OR/MS analysts need to take many of the IS customers. | |  | c. | The IS professional cannot use OR/MS tools in their applications. | |  | d. | The IS tools can start to recommend solutions using OR/MS skills. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 46. The goal of the modeling approach to problem solving is to   |  |  |  | | --- | --- | --- | |  | a. | help individuals make good decisions. | |  | b. | ensure optimality of decisions. | |  | c. | determine a set of optimal decisions. | |  | d. | determine feasibility of decisions. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 47. A situation when decision quality is good and the resulting outcome quality is good is referred to as   |  |  |  | | --- | --- | --- | |  | a. | pure luck. | |  | b. | deserved success. | |  | c. | dumb luck. | |  | d. | poetic justice. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 48. A factor that plays a role in determining whether a good or bad outcome occurs is called   |  |  |  | | --- | --- | --- | |  | a. | luck. | |  | b. | intuition. | |  | c. | certainty. | |  | d. | predictability. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 49. Consistently using a structured, model based process to make decisions   |  |  |  | | --- | --- | --- | |  | a. | should produce good outcomes more frequently. | |  | b. | is less effective than making decisions in a haphazard manner. | |  | c. | is evidence that luck plays an important role in decision making. | |  | d. | always leads to well-deserved success in managerial decision making. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 50. A purely rational decision maker should   |  |  |  | | --- | --- | --- | |  | a. | consistently select the same alternative, regardless of how the problem is framed. | |  | b. | disregard the consequences of his/her choices. | |  | c. | always select optimal action. | |  | d. | allow emotions influence the decision. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 51. Two of the effects associated with decision problems are:   |  |  |  | | --- | --- | --- | |  | a. | anchoring and framing. | |  | b. | anchoring and loading. | |  | c. | framing and complacency. | |  | d. | anchoring and luck |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 52. Anchoring occurs when:   |  |  |  | | --- | --- | --- | |  | a. | a trivial factor is used as a starting point for estimations in a decision-making problem. | |  | b. | a difficult factor is incorporated in a problem. | |  | c. | an easy solution is obtained to a difficult problem. | |  | d. | obtaining a solution is trivial. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 53. Framing effect refers to:   |  |  |  | | --- | --- | --- | |  | a. | how a decision maker views the alternatives in a decision problem. | |  | b. | how difficult the decision is. | |  | c. | whether a software program can be used to obtain an optimal solution to a decision problem. | |  | d. | how structured the decision problem is. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 54. In a model Y=f(x1, x2), Y is called:   |  |  |  | | --- | --- | --- | |  | a. | a dependent variable. | |  | b. | an independent variable. | |  | c. | a confounded variable. | |  | d. | a convoluted variable. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 55. In a model Y=f(x1, x2), x1 is called:   |  |  |  | | --- | --- | --- | |  | a. | an independent variable. | |  | b. | a dependent variable. | |  | c. | a confounded variable. | |  | d. | a convoluted variable. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 56. A valid model:   |  |  |  | | --- | --- | --- | |  | a. | accurately represents a decision problem being studied. | |  | b. | produces an optimal solution. | |  | c. | produces a good solution. | |  | d. | produces a feasible solution. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 57. In a decision-making framework presented in Chapter One, the term "poetic justice" refers to a situation when the following occur:   |  |  |  | | --- | --- | --- | |  | a. | Good decision quality and good outcome quality. | |  | b. | Good decision quality and bad outcome quality. | |  | c. | Bad decision quality and good outcome quality. | |  | d. | Bad decision quality and bad outcome quality. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 58. A situation when decision quality is good and the resulting outcome quality is bad is referred to as   |  |  |  | | --- | --- | --- | |  | a. | pure luck. | |  | b. | deserved success. | |  | c. | bad luck. | |  | d. | poetic justice. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 59. A situation when decision quality is bad and the resulting outcome quality is bad is referred to as   |  |  |  | | --- | --- | --- | |  | a. | pure luck. | |  | b. | deserved success. | |  | c. | bad luck. | |  | d. | poetic justice. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 60. A situation when decision quality is bad and the resulting outcome quality is good is referred to as   |  |  |  | | --- | --- | --- | |  | a. | dumb luck. | |  | b. | deserved success. | |  | c. | bad luck. | |  | d. | poetic justice. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 61. In a decision-making framework presented in Chapter One, the term "dumb luck" refers to a situation when the following occur:   |  |  |  | | --- | --- | --- | |  | a. | Good decision quality and good outcome quality. | |  | b. | Good decision quality and bad outcome quality. | |  | c. | Bad decision quality and good outcome quality. | |  | d. | Bad decision quality and bad outcome quality. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 62. In a decision-making framework presented in Chapter One, the term "deserved success" refers to a situation when the following occur:   |  |  |  | | --- | --- | --- | |  | a. | Good decision quality and good outcome quality. | |  | b. | Good decision quality and bad outcome quality. | |  | c. | Bad decision quality and good outcome quality. | |  | d. | Bad decision quality and bad outcome quality. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 63. In a decision-making framework presented in Chapter One, the term "bad luck" refers to a situation when the following occur:   |  |  |  | | --- | --- | --- | |  | a. | Good decision quality and good outcome quality. | |  | b. | Good decision quality and bad outcome quality. | |  | c. | Bad decision quality and good outcome quality. | |  | d. | Bad decision quality and bad outcome quality. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 64. In which step of the problem-solving process is the concept of "probortunity" introduced?   |  |  |  | | --- | --- | --- | |  | a. | Identify problem | |  | b. | Formulate model | |  | c. | Use model to analyze problem | |  | d. | Test results |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 65. In order to be useful to a decision-maker, decision problems need to be   |  |  |  | | --- | --- | --- | |  | a. | valid. | |  | b. | analyzed. | |  | c. | simplified. | |  | d. | tested. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 66. Business analytics focuses on   |  |  |  | | --- | --- | --- | |  | a. | identifying and leveraging business opportunities. | |  | b. | formulating analytical models. | |  | c. | using models to analyze problem. | |  | d. | testing and implementing results. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 67. Business opportunities can be viewed and formulated as   |  |  |  | | --- | --- | --- | |  | a. | decision problems. | |  | b. | analytical models. | |  | c. | empirical models. | |  | d. | testing tools. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 68. The notion that every problem is also an opportunity is reflected in the term   |  |  |  | | --- | --- | --- | |  | a. | probortunity. | |  | b. | formulation. | |  | c. | simulation. | |  | d. | business opportunity. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 69. In the textbook the words "opportunity" and "problem" are   |  |  |  | | --- | --- | --- | |  | a. | disjoint. | |  | b. | used interchangeably. | |  | c. | mutually exclusive. | |  | d. | complementary. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 70. The mathematical modeling approaches presented in the textbook   |  |  |  | | --- | --- | --- | |  | a. | are a subset of the total problem-solving process. | |  | b. | cover the entire spectrum of decision support approaches. | |  | c. | are exhaustive. | |  | d. | are complementary. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 71. The concept of "probortunity" is   |  |  |  | | --- | --- | --- | |  | a. | the first step in the problem-solving process. | |  | b. | a decision support method. | |  | c. | part of testing results. | |  | d. | part of solution implementation. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 72. If results testing produces unsatisfactory results   |  |  |  | | --- | --- | --- | |  | a. | the problem-solving process requires new formulation and implementation. | |  | b. | minor adjustments to the existing model. | |  | c. | checking the solution algorithm. | |  | d. | repeated testing. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 73. The proliferation of powerful PCs and the development of easy-to-use electronic spreadsheets have made the tools of business analytics far more practical and available to a much larger audience.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 74. ​A mathematical model uses mathematical relationships to describe or represent an object or decision problem.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 75. ​Because they simplify reality, models are generally not helpful in examining things that would be impossible to do in reality.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

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| 76. ​In spreadsheet modeling of a problem, there is no direct correspondence between mathematical equation and the spreadsheet.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

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| 77. ​Defining a problem well will often make it much easier to solve.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 78. ​Humans usually do not make errors in estimation due to anchoring and framing effects.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

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| 79. ​Good decisions always result in good outcomes.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

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| 80. OR/MS specialists do not deliver business value. ​   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |