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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. |

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| *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. |

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| *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 |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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 |

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| --- | --- |
| *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. |

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| *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 |

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| --- | --- |
| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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 |

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| --- | --- |
| *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. |

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| *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. |

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| *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) |

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| *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. |

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| *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. |

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| *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 |

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| --- | --- |
| *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 |

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| --- | --- |
| *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 |

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| --- | --- |
| *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 |

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| *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. |

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| --- | --- |
| *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. |

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| --- | --- |
| *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. |

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| *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. |

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| *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. |

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| --- | --- |
| *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. |

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| --- | --- |
| *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?

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| --- | --- | --- |
|   | a.  | Identify the problem. |
|   | b.  | Analyze the model. |
|   | c.  | Test results. |
|   | d.  | Implement the solution. |

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| *ANSWER:* | d |

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| 40. If we do not identify the correct problem, the best we can hope for is:

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|   | a.  | wasted time and effort. |
|   | b.  | useful experience in problem definition efforts. |
|   | c.  | a descriptive model. |
|   | d.  | the right answer to the wrong question. |

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| *ANSWER:* | d |

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| 41. Chapter One discussed all of the following except:

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|   | 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. |

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| *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. |

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| *ANSWER:* | a |

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| 43. The main point brought forward in the Chapter One "The World of Business Analytics" case reading is:

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| --- | --- | --- |
|   | 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". |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *ANSWER:* | a |

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| 49. Consistently using a structured, model based process to make decisions

|  |  |  |
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|   | 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. |

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| *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. |

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| *ANSWER:* | a |

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| 51. Two of the effects associated with decision problems are:

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| --- | --- | --- |
|   | a.  | anchoring and framing. |
|   | b.  | anchoring and loading. |
|   | c.  | framing and complacency. |
|   | d.  | anchoring and luck |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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 |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *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. |

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| *ANSWER:* | a |

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| 72. If results testing produces unsatisfactory results

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| --- | --- | --- |
|   | 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. |

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| *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.

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| --- | --- | --- |
|   | a.  | True |
|   | b.  | False |

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| --- | --- |
| *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 |

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| --- | --- |
| *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.

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| --- | --- | --- |
|   | a.  | True |
|   | b.  | False |

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| --- | --- |
| *ANSWER:* | False |

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| 77. ​Defining a problem well will often make it much easier to solve.

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| --- | --- | --- |
|   | a.  | True |
|   | b.  | False |

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| --- | --- |
| *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.

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| --- | --- | --- |
|   | a.  | True |
|   | b.  | False |

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| *ANSWER:* | False |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 80. OR/MS specialists do not deliver business value. ​

|  |  |  |
| --- | --- | --- |
|   | a.  | True |
|   | b.  | False |

|  |  |
| --- | --- |
| *ANSWER:* | False |

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