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| 1. The decision-making concepts covered in *Data Analysis & Decision Making* book include which of the following?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Optimization techniques | b. | Decision analysis with uncertainty | |  | c. | Structured sensitivity analysis | d. | All of these options |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 2. Which of the following statements is *not* true?   |  |  |  | | --- | --- | --- | |  | a. | Dealing with uncertainty includes measuring uncertainty. | |  | b. | Dealing with uncertainty includes modeling uncertainty explicitly into the analysis. | |  | c. | Dealing with uncertainty includes eliminating uncertainty by using the normal probability distribution. | |  | d. | Uncertainty is a key aspect of most business problems, and dealing with uncertainty requires a basic understanding of probability. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 3. Which of the following is *not* one of the important themes of your *Data Analysis & Decision Making* book?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Data analysis | b. | Dealing with uncertainty | |  | c. | Decision making | d. | Data mining |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 4. Data analysis includes   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | data description | b. | data inference | |  | c. | the search for relationships in data | d. | All of these options |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 5. Which of the following is *not* one of the steps in the modeling process?   |  |  |  | | --- | --- | --- | |  | a. | Select scale for model. | |  | b. | Collect and summarize data. | |  | c. | Verify the model. | |  | d. | Present the results to the organization. | |  | e. | Implement the model and update it over time. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 6. Which of the following would *not* be included under data analysis?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Measuring uncertainty | b. | Data description | |  | c. | Data inference | d. | Search for relationships |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 7. The decision-making process includes   |  |  |  | | --- | --- | --- | |  | a. | optimization techniques for problems with no uncertainty | |  | b. | decision analysis for problems with uncertainty | |  | c. | structured sensitivity analysis | |  | d. | All of these choices |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 8. Which of the following is *not* one of the types of models described in *Data Analysis & Decision Making* book?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | Algebraic model | b. | Spreadsheet model | |  | c. | Scale model | d. | Graphical model |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 9. The modeling process discussed in *Data Analysis & Decision Making* book is a   |  |  |  | | --- | --- | --- | |  | a. | seven-step process | |  | b. | six-step process | |  | c. | five-step process | |  | d. | four-step process | |  | e. | three-step process |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 10. Which of the following is an Excel add-in for performing what-if analyses?   |  |  |  | | --- | --- | --- | |  | a. | PrecisionTree | |  | b. | TopRank | |  | c. | Solver | |  | d. | @Risk | |  | e. | StatTools |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 11. Which of the following statements are false?   |  |  |  | | --- | --- | --- | |  | a. | The modeling process discussed in *Data Analysis & Decision Making* book is five-step process. | |  | b. | Dealing with uncertainty requires a basic understanding of probability. | |  | c. | Uncertainty is a key aspect of most business problems. | |  | d. | Data description and data inference are included under data analysis. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 12. Which of the following statements are false?   |  |  |  | | --- | --- | --- | |  | a. | Decision-making includes *optimization techniques* for problems with certainty, *decision analysis* for problems with certainty, and structured *sensitivity analysis*. | |  | b. | Graphical models can be very helpful for simple problems. For complex problems, however, graphical models usually fail to show the important elements of a problem and how they are related. | |  | c. | Dealing with uncertainty includes *measuring* uncertainty and *modeling* uncertainty explicitly into the analysis. | |  | d. | All of these options |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 13. Which of the following statements are true?   |  |  |  | | --- | --- | --- | |  | a. | An alternative to algebraic modeling is spreadsheet modeling. Instead of relating various quantities with algebraic equations and inequalities, they are related in a spreadsheet with cell formulas. | |  | b. | Data are usually meaningless until they are analyzed for trends, patterns, relationships, and other useful information. | |  | c. | Algebraic models, by means of algebraic equations and inequalities, specify a set of relationships in a very precise way. Their main drawback is that they require an ability to work with abstract mathematical symbols. | |  | d. | When we make inferences from data and search for relationships in data, or when we use decision trees to help make decisions, we must deal with uncertainty. | |  | e. | All of these options |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 14. Which of the following statements are true?   |  |  |  | | --- | --- | --- | |  | a. | Three important themes run through the book. Two of them are in the title: data analysis and decision making. The third is dealing with uncertainty. | |  | b. | Data analysis includes data description, data inference, and the search for relationships in data. | |  | c. | Decision making includes optimization techniques for problems with no uncertainty, decision analysis for problems with uncertainty, and structured sensitivity analysis. | |  | d. | Dealing with uncertainty includes measuring uncertainty and modeling uncertainty explicitly into the analysis. | |  | e. | All of these options |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 15. Which of the following is an Excel add-in for simulation?   |  |  |  | | --- | --- | --- | |  | a. | PrecisionTree | |  | b. | TopRank | |  | c. | Solver | |  | d. | @Risk | |  | e. | StatTools |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 16. Data analysis includes data *description*, data *inference*, and the search for *relationships* in data.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 17. Decision-making includes *optimization techniques* for problems with certainty, *decision analysis* for problems with certainty, and structured *sensitivity analysis*.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

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| 18. Dealing with uncertainty includes *measuring* uncertainty and *modeling* uncertainty explicitly into the analysis.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 19. The authors of the *Data Analysis & Decision Making* book described three types of models: graphical models, algebraic models, and spreadsheet models.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 20. Graphical models are the least intuitive type of model. Its purpose is simply to provide enough quantitative details to enable us solve the problem of interest.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

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| 21. Three important themes run through this book: data analysis, decision making, and dealing with uncertainty.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 22. Graphical models can be very helpful for simple problems. For complex problems, however, graphical models usually fail to show the important elements of a problem and how they are related.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

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| 23. The overall modeling process typically done in the business world always require seven steps: define the problem, collect and summarize data, develop a model, verify the model, select one or more suitable decisions, present the results to the organization, and implement the model and update it over time.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

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| 24. Algebraic models, by means of algebraic equations and inequalities, specify a set of relationships in a very precise way. Their main drawback is that they require an ability to work with abstract mathematical symbols.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 25. Data are usually meaningless until they are analyzed for trends, patterns, relationships, and other useful information.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 26. An alternative to algebraic modeling is spreadsheet modeling. Instead of relating various quantities with algebraic equations and inequalities, they are related in a spreadsheet with cell formulas.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 27. When we use simulation models to help make decisions, we do not deal with uncertainty at all, since we often must make inferences from the simulated data.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

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| 28. When we make inferences from data and search for relationships in data, or when we use decision trees to help make decisions, we must deal with uncertainty.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 29. The @Risk is an Excel add-in that can be used to run replications of a simulation, keep track of outputs, create useful charts, and perform sensitivity analyses.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

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| 30. Graphical models are probably the least intuitive and most quantitative type of model.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |