

PRACTICE EXAM 20: LEAN SIX SIGMA BLACK BELT

(150 QUESTIONS)

This 150-question practice exam is aligned to the scored portion of the current ASQ CSSBB computer-delivered examination. The live exam contains 165 questions: 150 scored and 15 unscored. Allow 258 minutes of exam time, and select the single best answer for each question.

1. During an enterprise Six Sigma initiative, which method is the best choice for linking improvement work to customer value and business results in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. Six Sigma business value

2. During an enterprise Six Sigma initiative, which method is the best choice for owning the process and sustaining its performance in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. process owner
- D. an unrelated control activity

3. During an enterprise Six Sigma initiative, which method is the best choice for removing barriers and aligning projects with strategy in this situation?

- A. a team meeting record
- B. champion in context
- C. a routine project deliverable

D. an unrelated control activity

4. During an enterprise Six Sigma initiative, which method is the best choice for authorizing the work and defining the business case in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. project charter

5. During an enterprise Six Sigma initiative, which method is the best choice for identifying affected people and their influence in this situation?

- A. stakeholder analysis
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

6. During an enterprise Six Sigma initiative, which method is the best choice for clarifying responsibilities and decision authority in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. team roles
- D. an unrelated control activity

7. During an enterprise Six Sigma initiative, which method is the best choice for helping a group progress from forming to performing in this situation?

- A. team development
- B. a team meeting record

- C. a routine project deliverable
- D. an unrelated control activity

8. During an enterprise Six Sigma initiative, which method is the best choice for addressing differences constructively to protect project progress in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. conflict resolution

9. During an enterprise Six Sigma initiative, which method is the best choice for guiding a team toward productive participation and decisions in this situation?

- A. a team meeting record
- B. facilitation in context
- C. a routine project deliverable
- D. an unrelated control activity

10. During an enterprise Six Sigma initiative, which method is the best choice for matching project information to stakeholder needs in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. communication plan
- D. an unrelated control activity

11. During an enterprise Six Sigma initiative, which method is the best choice for quantifying savings, avoidance, or revenue impact in this situation?

- A. financial benefits

- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

12. During an enterprise Six Sigma initiative, which method is the best choice for capturing costs caused by defects and failures in this situation?

- A. a team meeting record
- B. cost of poor quality
- C. a routine project deliverable
- D. an unrelated control activity

13. During an enterprise Six Sigma initiative, which method is the best choice for ranking candidate projects against agreed criteria in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. project selection matrix
- D. an unrelated control activity

14. During an enterprise Six Sigma initiative, which method is the best choice for protecting data integrity and honest reporting in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. ethical conduct

15. During an enterprise Six Sigma initiative, which method is the best choice for removing waste while reducing variation in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. Lean integration

16. During an enterprise Six Sigma initiative, which method is the best choice for turning customer needs into actionable requirements in this situation?

- A. a team meeting record
- B. voice of the customer
- C. a routine project deliverable
- D. an unrelated control activity

17. During an enterprise Six Sigma initiative, which method is the best choice for decomposing broad needs into measurable drivers in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. critical-to-quality tree
- D. an unrelated control activity

18. During an enterprise Six Sigma initiative, which method is the best choice for separating basic, performance, and delight attributes in this situation?

- A. Kano analysis
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

19. During an enterprise Six Sigma initiative, which method is the best choice for framing suppliers, inputs, process, outputs, and customers in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. SIPOC in context
- D. an unrelated control activity

20. During an enterprise Six Sigma initiative, which method is the best choice for showing major steps and boundaries before detailed analysis in this situation?

- A. high-level process map
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

21. During an enterprise Six Sigma initiative, which method is the best choice for stating what the project includes and excludes in this situation?

- A. a team meeting record
- B. project scope
- C. a routine project deliverable
- D. an unrelated control activity

22. During an enterprise Six Sigma initiative, which method is the best choice for describing the measurable performance gap without prescribing a solution in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. problem statement

23. During an enterprise Six Sigma initiative, which method is the best choice for setting a specific, measurable target and deadline in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. goal statement

24. During an enterprise Six Sigma initiative, which method is the best choice for documenting current performance before changes in this situation?

- A. a team meeting record
- B. baseline in context
- C. a routine project deliverable
- D. an unrelated control activity

25. During an enterprise Six Sigma initiative, which method is the best choice for anticipating project threats and response actions in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. risk assessment
- D. an unrelated control activity

26. During an enterprise Six Sigma initiative, which method is the best choice for breaking project deliverables into manageable work in this situation?

- A. work breakdown structure
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

27. During an enterprise Six Sigma initiative, which method is the best choice for tracking tasks, owners, dates, and progress in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. Gantt chart
- D. an unrelated control activity

28. During an enterprise Six Sigma initiative, which method is the best choice for showing activity dependencies and critical paths in this situation?

- A. network diagram
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

29. During an enterprise Six Sigma initiative, which method is the best choice for confirming phase deliverables before proceeding in this situation?

- A. a team meeting record
- B. tollgate review
- C. a routine project deliverable
- D. an unrelated control activity

30. During an enterprise Six Sigma initiative, which method is the best choice for clarifying responsible, accountable, consulted, and informed roles in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. RACI matrix

31. A continuous-improvement initiative costs \$24,000 and produces annual net savings of \$48,000. What is the simple payback period?

- A. 0.25 years
- B. 0.50 years
- C. 1.00 years
- D. 2.00 years

32. During an enterprise Six Sigma initiative, which method is the best choice for specifying data, sources, method, ownership, and frequency in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. data collection plan

33. During an enterprise Six Sigma initiative, which method is the best choice for selecting observations that represent the process in this situation?

- A. sampling plan
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

34. During an enterprise Six Sigma initiative, which method is the best choice for giving units an equal chance of selection in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. random sampling
- D. an unrelated control activity

35. During an enterprise Six Sigma initiative, which method is the best choice for separating data by meaningful categories to reveal patterns in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. stratification in context

36. During an enterprise Six Sigma initiative, which method is the best choice for closeness of readings to the true value in this situation?

- A. a team meeting record
- B. measurement accuracy
- C. a routine project deliverable
- D. an unrelated control activity

37. During an enterprise Six Sigma initiative, which method is the best choice for consistency among repeated readings in this situation?

- A. measurement precision
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

38. During an enterprise Six Sigma initiative, which method is the best choice for systematic difference from a reference value in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. measurement bias
- D. an unrelated control activity

39. During an enterprise Six Sigma initiative, which method is the best choice for change in measurement bias across the operating range in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. linearity in context

40. During an enterprise Six Sigma initiative, which method is the best choice for consistency of a measurement system over time in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. stability in context
- D. an unrelated control activity

41. During an enterprise Six Sigma initiative, which method is the best choice for variation from one appraiser using one gauge repeatedly in this situation?

- A. a team meeting record
- B. repeatability in context
- C. a routine project deliverable
- D. an unrelated control activity

42. During an enterprise Six Sigma initiative, which method is the best choice for A gauge reads 10.4 mm when a certified 10.0 mm standard is measured. What is the measurement bias in this situation?

- A. 0.4 mm
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

43. During an enterprise Six Sigma initiative, which method is the best choice for estimating combined repeatability and reproducibility variation in this situation?

- A. a team meeting record
- B. gauge R&R
- C. a routine project deliverable
- D. an unrelated control activity

44. During an enterprise Six Sigma initiative, which method is the best choice for checking consistency of categorical ratings in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. attribute agreement analysis
- D. an unrelated control activity

45. During an enterprise Six Sigma initiative, which method is the best choice for comparing process spread and centering to specifications in this situation?

- A. process capability
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

46. During an enterprise Six Sigma initiative, which method is the best choice for A process has USL 112, LSL 88, and estimated standard deviation 2. What is C_p in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. 2

47. During an enterprise Six Sigma initiative, which method is the best choice for measuring actual capability including process centering in this situation?

- A. a team meeting record
- B. Cpk in context
- C. a routine project deliverable
- D. an unrelated control activity

48. During an enterprise Six Sigma initiative, which method is the best choice for assessing whether data reasonably follow a normal distribution in this situation?

- A. normal probability plot
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

49. During an enterprise Six Sigma initiative, which method is the best choice for displaying center, spread, and possible outliers in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. box plot
- D. an unrelated control activity

50. During an enterprise Six Sigma initiative, which method is the best choice for expressing a plausible range for a population parameter in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. confidence interval

51. During an enterprise Six Sigma initiative, which method is the best choice for prioritizing process inputs by their impact on outputs in this situation?

- A. cause-and-effect matrix
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

52. During an enterprise Six Sigma initiative, which method is the best choice for An FMEA has severity 7, occurrence 4, and detection 3. What is the RPN in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. 84
- D. an unrelated control activity

53. During an enterprise Six Sigma initiative, which method is the best choice for probing progressively toward an underlying cause in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. five whys

54. During an enterprise Six Sigma initiative, which method is the best choice for organizing possible causes under major categories in this situation?

- A. a team meeting record
- B. fishbone diagram
- C. a routine project deliverable
- D. an unrelated control activity

55. During an enterprise Six Sigma initiative, which method is the best choice for anticipating failure modes, effects, and controls in this situation?

- A. a team meeting record
- B. FMEA in context
- C. a routine project deliverable
- D. an unrelated control activity

56. During an enterprise Six Sigma initiative, which method is the best choice for multiplying severity, occurrence, and detection ratings in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. risk priority number
- D. an unrelated control activity

57. During an enterprise Six Sigma initiative, which method is the best choice for displaying performance over time without control limits in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. run chart

58. During an enterprise Six Sigma initiative, which method is the best choice for distinguishing common and special cause variation in this situation?

- A. control chart
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

59. During an enterprise Six Sigma initiative, which method is the best choice for describing routine variation built into the process in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. common cause variation

60. During an enterprise Six Sigma initiative, which method is the best choice for identifying an unusual assignable source of variation in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. special cause variation
- D. an unrelated control activity

61. During an enterprise Six Sigma initiative, which method is the best choice for examining a possible relationship between two variables in this situation?

- A. a team meeting record
- B. scatter plot
- C. a routine project deliverable
- D. an unrelated control activity

62. During an enterprise Six Sigma initiative, which method is the best choice for quantifying association without proving causation in this situation?

- A. correlation in context
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

63. During an enterprise Six Sigma initiative, which method is the best choice for estimating an outcome from one predictor in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. simple regression

64. For an FMEA, severity is 7, occurrence is 6, and detection is 3. What is the risk priority number?

- A. 126
- B. 84
- C. 144
- D. 168

65. During an enterprise Six Sigma initiative, which method is the best choice for the default statement tested statistically in this situation?

- A. a team meeting record
- B. null hypothesis
- C. a routine project deliverable
- D. an unrelated control activity

66. During an enterprise Six Sigma initiative, which method is the best choice for the competing statement supported when evidence is sufficient in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. alternative hypothesis
- D. an unrelated control activity

67. During an enterprise Six Sigma initiative, which method is the best choice for probability of results as extreme assuming the null is true in this situation?

- A. p-value in context
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

68. During an enterprise Six Sigma initiative, which method is the best choice for rejecting a true null hypothesis in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. Type I error

69. During an enterprise Six Sigma initiative, which method is the best choice for failing to reject a false null hypothesis in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. Type II error
- D. an unrelated control activity

70. During an enterprise Six Sigma initiative, which method is the best choice for probability of detecting a real effect in this situation?

- A. a team meeting record
- B. statistical power
- C. a routine project deliverable
- D. an unrelated control activity

71. During an enterprise Six Sigma initiative, which method is the best choice for testing a sample mean against a target in this situation?

- A. one-sample t test
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

72. During an enterprise Six Sigma initiative, which method is the best choice for comparing the means of two independent groups in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. two-sample t test
- D. an unrelated control activity

73. During an enterprise Six Sigma initiative, which method is the best choice for comparing linked before-and-after measurements in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. paired t test

74. During an enterprise Six Sigma initiative, which method is the best choice for testing association or fit with categorical data in this situation?

- A. a team meeting record
- B. chi-square test
- C. a routine project deliverable
- D. an unrelated control activity

75. During an enterprise Six Sigma initiative, which method is the best choice for comparing means across three or more groups in this situation?

- A. ANOVA in context
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

76. During an enterprise Six Sigma initiative, which method is the best choice for generating many possible solutions before judging them in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. brainstorming in context
- D. an unrelated control activity

77. During an enterprise Six Sigma initiative, which method is the best choice for ranking alternatives against weighted criteria in this situation?

- A. a team meeting record
- B. solution selection matrix
- C. a routine project deliverable
- D. an unrelated control activity

78. During an enterprise Six Sigma initiative, which method is the best choice for testing a change on a limited scale before rollout in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. piloting in context

79. During an enterprise Six Sigma initiative, which method is the best choice for studying factor effects through planned experimentation in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. design of experiments

80. During an enterprise Six Sigma initiative, which method is the best choice for an input deliberately varied in an experiment in this situation?

- A. a team meeting record
- B. factor in context
- C. a routine project deliverable
- D. an unrelated control activity

81. During an enterprise Six Sigma initiative, which method is the best choice for the measured outcome in an experiment in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. response in context
- D. an unrelated control activity

82. During an enterprise Six Sigma initiative, which method is the best choice for average change in response due to one factor in this situation?

- A. main effect
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

83. During an enterprise Six Sigma initiative, which method is the best choice for when one factor effect depends on another factor in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. interaction in context
- D. an unrelated control activity

84. During an enterprise Six Sigma initiative, which method is the best choice for A pilot change saves \$18,000 annually and costs \$6,000 to implement. What is the first-year net benefit in this situation?

- A. \$12,000
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

85. During an enterprise Six Sigma initiative, which method is the best choice for repeating experimental conditions to estimate variation in this situation?

- A. a team meeting record
- B. replication in context
- C. a routine project deliverable
- D. an unrelated control activity

86. During an enterprise Six Sigma initiative, which method is the best choice for grouping similar experimental units to reduce nuisance variation in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. blocking in context

87. During an enterprise Six Sigma initiative, which method is the best choice for preventing an error or making it immediately obvious in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. poka-yoke in context

88. During an enterprise Six Sigma initiative, which method is the best choice for documenting the best current method for a task in this situation?

- A. a team meeting record
- B. standard work
- C. a routine project deliverable
- D. an unrelated control activity

89. During an enterprise Six Sigma initiative, which method is the best choice for comparing expected benefits with required resources in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. cost-benefit analysis
- D. an unrelated control activity

90. During an enterprise Six Sigma initiative, which method is the best choice for sequencing rollout tasks, ownership, training, and timing in this situation?

- A. implementation plan
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

91. During an enterprise Six Sigma initiative, which method is the best choice for specifying monitoring, limits, owners, and reactions in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. control plan
- D. an unrelated control activity

92. During an enterprise Six Sigma initiative, which method is the best choice for stating actions when a measure signals loss of control in this situation?

- A. a team meeting record
- B. reaction plan
- C. a routine project deliverable
- D. an unrelated control activity

93. During an enterprise Six Sigma initiative, which method is the best choice for monitoring subgroup averages over time in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. X-bar chart

94. During an enterprise Six Sigma initiative, which method is the best choice for monitoring within-subgroup ranges over time in this situation?

- A. R chart
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

95. During an enterprise Six Sigma initiative, which method is the best choice for monitoring the fraction defective over time in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. p chart

96. During an enterprise Six Sigma initiative, which method is the best choice for monitoring defects per unit when opportunity varies in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. u chart
- D. an unrelated control activity

97. During an enterprise Six Sigma initiative, which method is the best choice for ensuring current approved procedures are used in this situation?

- A. document control
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

98. During an enterprise Six Sigma initiative, which method is the best choice for building competence for the improved process in this situation?

- A. a team meeting record
- B. training plan
- C. a routine project deliverable
- D. an unrelated control activity

99. During an enterprise Six Sigma initiative, which method is the best choice for checking adherence to standard work and controls in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. process audit
- D. an unrelated control activity

100. During an enterprise Six Sigma initiative, which method is the best choice for transferring ownership and sustainment responsibility to the process owner in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. handoff in context

101. During an enterprise Six Sigma initiative, which method is the best choice for aligning improvement portfolios with organizational objectives in this situation?

- A. strategic deployment
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

102. During an enterprise Six Sigma initiative, which method is the best choice for linking measures across customer, process, financial, and learning perspectives in this situation?

- A. a team meeting record
- B. balanced scorecard
- C. a routine project deliverable
- D. an unrelated control activity

103. During an enterprise Six Sigma initiative, which method is the best choice for cascading breakthrough objectives through the organization in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. policy deployment

104. During an enterprise Six Sigma initiative, which method is the best choice for selecting and balancing projects for enterprise value in this situation?

- A. a team meeting record
- B. portfolio management
- C. a routine project deliverable
- D. an unrelated control activity

105. During an enterprise Six Sigma initiative, which method is the best choice for building readiness and adoption for major change in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. organizational change management
- D. an unrelated control activity

106. During an enterprise Six Sigma initiative, which method is the best choice for identifying forces that may oppose a proposed change in this situation?

- A. change resistance analysis
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

107. During an enterprise Six Sigma initiative, which method is the best choice for presenting risk, results, and decisions to leadership in this situation?

- A. a team meeting record
- B. executive communication
- C. a routine project deliverable
- D. an unrelated control activity

108. During an enterprise Six Sigma initiative, which method is the best choice for developing capability through feedback and guided practice in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. coaching

109. During an enterprise Six Sigma initiative, which method is the best choice for sharing experience to develop future practitioners in this situation?

- A. mentoring
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

110. During an enterprise Six Sigma initiative, which method is the best choice for identifying gaps before designing learning in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. training needs analysis
- D. an unrelated control activity

111. During an enterprise Six Sigma initiative, which method is the best choice for tracking threats, likelihood, impact, and responses in this situation?

- A. project risk register
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

112. A Black Belt project yields \$125,000 in annual savings after a one-time implementation investment of \$40,000. What is the first-year net benefit?

- A. \$40,000
- B. \$75,000
- C. \$85,000
- D. \$125,000

113. During an enterprise Six Sigma initiative, which method is the best choice for discounting future cash flows to present value in this situation?

- A. a team meeting record
- B. net present value
- C. a routine project deliverable
- D. an unrelated control activity

114. During an enterprise Six Sigma initiative, which method is the best choice for estimating the discount rate that makes NPV zero in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. internal rate of return

115. During an enterprise Six Sigma initiative, which method is the best choice for estimating time needed to recover an investment in this situation?

- A. payback period
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

116. During an enterprise Six Sigma initiative, which method is the best choice for translating customer needs into technical requirements in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. quality function deployment
- D. an unrelated control activity

117. During an enterprise Six Sigma initiative, which method is the best choice for linking customer needs, technical responses, and priorities in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. house of quality

118. During an enterprise Six Sigma initiative, which method is the best choice for comparing performance or practices with relevant leaders in this situation?

- A. a team meeting record
- B. benchmarking
- C. a routine project deliverable
- D. an unrelated control activity

119. During an enterprise Six Sigma initiative, which method is the best choice for systematically resolving inventive technical contradictions in this situation?

- A. TRIZ
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

120. During an enterprise Six Sigma initiative, which method is the best choice for designing products and processes to meet requirements robustly in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. design for Six Sigma
- D. an unrelated control activity

121. During an enterprise Six Sigma initiative, which method is the best choice for defining, measuring, analyzing, designing, and verifying new designs in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. DMADV

122. During an enterprise Six Sigma initiative, which method is the best choice for designing products for reliable, efficient production in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. design for manufacturability

123. During an enterprise Six Sigma initiative, which method is the best choice for making performance insensitive to noise factors in this situation?

- A. a team meeting record
- B. robust design
- C. a routine project deliverable
- D. an unrelated control activity

124. During an enterprise Six Sigma initiative, which method is the best choice for evaluating how component variation affects assemblies in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. tolerance analysis
- D. an unrelated control activity

125. During an enterprise Six Sigma initiative, which method is the best choice for estimating the likelihood of failure-free performance in this situation?

- A. reliability analysis
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

126. During an enterprise Six Sigma initiative, which method is the best choice for modeling life data and failure behavior in this situation?

- A. a team meeting record
- B. Weibull analysis
- C. a routine project deliverable
- D. an unrelated control activity

127. During an enterprise Six Sigma initiative, which method is the best choice for measuring average operating time between repairable failures in this situation?

- A. mean time between failures
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

128. During an enterprise Six Sigma initiative, which method is the best choice for making lot decisions from sample inspection in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. acceptance sampling

129. During an enterprise Six Sigma initiative, which method is the best choice for showing acceptance probability at different quality levels in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. operating characteristic curve
- D. an unrelated control activity

130. During an enterprise Six Sigma initiative, which method is the best choice for risk of rejecting acceptable quality in this situation?

- A. a team meeting record
- B. producer risk
- C. a routine project deliverable
- D. an unrelated control activity

131. During an enterprise Six Sigma initiative, which method is the best choice for risk of accepting unacceptable quality in this situation?

- A. a team meeting record
- B. consumer risk
- C. a routine project deliverable
- D. an unrelated control activity

132. During an enterprise Six Sigma initiative, which method is the best choice for separating variation across positions, time, and streams in this situation?

- A. multi-vari study
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

133. During an enterprise Six Sigma initiative, which method is the best choice for structuring factors within levels of another factor in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. nested design

134. During an enterprise Six Sigma initiative, which method is the best choice for screening many factors with a subset of combinations in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. fractional factorial design
- D. an unrelated control activity

135. During an enterprise Six Sigma initiative, which method is the best choice for estimating main effects and interactions from all combinations in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. full factorial design

136. A full-factorial screening design includes five factors, each at two levels. How many treatment combinations are required?

- A. 32
- B. 10
- C. 16
- D. 25

137. During an enterprise Six Sigma initiative, which method is the best choice for removing known nuisance variation from an experiment in this situation?

- A. a team meeting record
- B. blocking
- C. a routine project deliverable
- D. an unrelated control activity

138. During an enterprise Six Sigma initiative, which method is the best choice for protecting experiments from time-related bias in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. randomization
- D. an unrelated control activity

139. During an enterprise Six Sigma initiative, which method is the best choice for estimating experimental error through repeated conditions in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. replication
- D. an unrelated control activity

140. During an enterprise Six Sigma initiative, which method is the best choice for checking whether a fitted model meets assumptions in this situation?

- A. residual analysis
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

141. During an enterprise Six Sigma initiative, which method is the best choice for analyzing data without requiring a normal population model in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. nonparametric test

142. During an enterprise Six Sigma initiative, which method is the best choice for modeling a binary outcome from predictors in this situation?

- A. a team meeting record
- B. logistic regression
- C. a routine project deliverable
- D. an unrelated control activity

143. During an enterprise Six Sigma initiative, which method is the best choice for analyzing several response variables jointly in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. multivariate analysis
- D. an unrelated control activity

144. During an enterprise Six Sigma initiative, which method is the best choice for classifying observations into predefined groups in this situation?

- A. a team meeting record
- B. discriminant analysis
- C. a routine project deliverable
- D. an unrelated control activity

145. During an enterprise Six Sigma initiative, which method is the best choice for modeling data dependence over time in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. time series analysis

146. During an enterprise Six Sigma initiative, which method is the best choice for forecasting by weighting recent observations more heavily in this situation?

- A. exponential smoothing
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

147. During an enterprise Six Sigma initiative, which method is the best choice for studying process behavior through a model in this situation?

- A. process simulation
- B. a team meeting record
- C. a routine project deliverable
- D. an unrelated control activity

148. During an enterprise Six Sigma initiative, which method is the best choice for analyzing waiting lines, capacity, and service in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. queueing analysis
- D. an unrelated control activity

149. During an enterprise Six Sigma initiative, which method is the best choice for capturing and sharing improvement learning in this situation?

- A. a team meeting record
- B. a routine project deliverable
- C. an unrelated control activity
- D. knowledge management

150. During an enterprise Six Sigma initiative, which method is the best choice for providing oversight, escalation, and decision control in this situation?

- A. a team meeting record
- B. governance review
- C. a routine project deliverable
- D. an unrelated control activity

Practice Exam 20: Answer Key and Explanations

1. **D** — Six Sigma business value is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.
2. **C** — process owner is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.
3. **B** — champion in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.
4. **D** — project charter is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.
5. **A** — stakeholder analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.
6. **C** — team roles is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.
7. **A** — team development is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.
8. **D** — conflict resolution is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.
9. **B** — facilitation in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

10. C — communication plan is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

11. A — financial benefits is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

12. B — cost of poor quality is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

13. C — project selection matrix is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

14. D — ethical conduct is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

15. D — Lean integration is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

16. B — voice of the customer is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

17. C — critical-to-quality tree is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

18. A — Kano analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

19. C — SIPOC in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

20. A — high-level process map is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

21. B — project scope is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

22. D — problem statement is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

23. D — goal statement is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

24. B — baseline in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

25. C — risk assessment is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

26. A — work breakdown structure is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

27. C — Gantt chart is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

28. A — network diagram is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

29. B — tollgate review is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

30. D — RACI matrix is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

31. B — 0.50 years is correct. Compute the requested value from the given data before comparing it with the alternatives. The keyed option applies the correct formula and units. Each other choice reflects a common mistake, such as reversing the ratio, omitting the investment, using an incomplete product, or applying the wrong experimental-design rule.

32. D — data collection plan is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

33. A — sampling plan is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

34. C — random sampling is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

35. D — stratification in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

36. B — measurement accuracy is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

37. A — measurement precision is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

38. C — measurement bias is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

39. D — linearity in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

40. C — stability in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

41. B — repeatability in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

42. A — 0.4 mm is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

43. B — gauge R&R is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

44. C — attribute agreement analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

45. A — process capability is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

46. D — 2 is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

47. B — Cpk in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

48. A — normal probability plot is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

49. C — box plot is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

50. D — confidence interval is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

51. A — cause-and-effect matrix is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

52. C — 84 is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

53. D — five whys is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

54. B — fishbone diagram is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

55. B — FMEA in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

56. C — risk priority number is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

57. D — run chart is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

58. A — control chart is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

59. D — common cause variation is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

60. C — special cause variation is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

61. B — scatter plot is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

62. A — correlation in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

63. D — simple regression is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

64. A — 126 is correct. Compute the requested value from the given data before comparing it with the alternatives. The keyed option applies the correct formula and units. Each other choice reflects a common mistake, such as reversing the ratio, omitting the investment, using an incomplete product, or applying the wrong experimental-design rule.

65. B — null hypothesis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

66. C — alternative hypothesis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

67. A — p-value in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

68. D — Type I error is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

69. C — Type II error is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

70. B — statistical power is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

71. A — one-sample t test is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

72. C — two-sample t test is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

73. D — paired t test is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

74. B — chi-square test is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

75. A — ANOVA in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

76. C — brainstorming in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

77. B — solution selection matrix is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

78. D — piloting in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

79. D — design of experiments is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

80. B — factor in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

81. C — response in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

82. A — main effect is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

83. C — interaction in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

84. A — \$12,000 is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

85. B — replication in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

86. D — blocking in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

87. D — poka-yoke in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

88. B — standard work is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

89. C — cost-benefit analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

90. A — implementation plan is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

91. C — control plan is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

92. B — reaction plan is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

93. D — X-bar chart is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

94. A — R chart is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

95. D — p chart is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

96. C — u chart is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

97. A — document control is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

98. B — training plan is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

99. C — process audit is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

100. D — handoff in context is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

101. A — strategic deployment is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

102. B — balanced scorecard is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

103. D — policy deployment is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

104. B — portfolio management is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

105. C — organizational change management is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

106. A — change resistance analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

107. B — executive communication is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

108. D — coaching is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

109. A — mentoring is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

110. C — training needs analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

111. A — project risk register is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

112. C — \$85,000 is correct. Compute the requested value from the given data before comparing it with the alternatives. The keyed option applies the correct formula and units. Each other choice reflects a common mistake, such as reversing the ratio, omitting the investment, using an incomplete product, or applying the wrong experimental-design rule.

113. B — net present value is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

114. D — internal rate of return is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

115. A — payback period is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

116. C — quality function deployment is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

117. D — house of quality is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

118. B — benchmarking is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

119. A — TRIZ is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

120. C — design for Six Sigma is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

121. D — DMADV is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

122. D — design for manufacturability is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

123. B — robust design is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

124. C — tolerance analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

125. A — reliability analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

126. B — Weibull analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

127. A — mean time between failures is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

128. D — acceptance sampling is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

129. C — operating characteristic curve is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

130. B — producer risk is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

131. B — consumer risk is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

132. A — multi-vari study is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

133. D — nested design is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

134. C — fractional factorial design is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

135. D — full factorial design is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

136. A — 32 is correct. Compute the requested value from the given data before comparing it with the alternatives. The keyed option applies the correct formula and units. Each other choice reflects a common mistake, such as reversing the ratio, omitting the investment, using an incomplete product, or applying the wrong experimental-design rule.

137. B — blocking is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

138. C — randomization is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

139. C — replication is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

140. A — residual analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

141. D — nonparametric test is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

142. B — logistic regression is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

143. C — multivariate analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

144. B — discriminant analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

145. D — time series analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

146. A — exponential smoothing is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

147. A — process simulation is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

148. C — queueing analysis is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

149. D — knowledge management is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.

150. B — governance review is the best answer because it directly addresses the need described in this scenario. A Black Belt selects the method that provides the appropriate leadership, analytical, design, financial, or control structure. The other alternatives may be useful activities, but they do not deliver the stated purpose as precisely or reliably.