

PRACTICE EXAM 17: SIX SIGMA GREEN BELT (100 QUESTIONS)

This 100-question practice exam uses applied Six Sigma Green Belt questions across organization-wide foundations and DMAIC. Select the single best answer. For ASQ CSSGB-style timed practice, allow approximately four hours. This independent study guide is not an official certification examination.

1. At a manufacturing site, a Green Belt reviews the available evidence. What does measurement bias indicate?
 - A. Random scatter around the reference value
 - B. A stable process average
 - C. A consistent difference from a reference value
 - D. A change in sample size
2. A customer-service team is preparing its next DMAIC decision. Which display best shows the distribution of continuous data?
 - A. Histogram
 - B. Pie chart
 - C. Gantt chart
 - D. SIPOC diagram
3. During a process-improvement workshop, the facilitator asks the team: A right-skewed distribution has which characteristic?
 - A. A longer tail extending to the left
 - B. Equal tails with no spread
 - C. No observations above the mean
 - D. A longer tail extending to the right
4. A project sponsor requests a defensible recommendation. What does the median represent?
 - A. The most frequent value
 - B. The middle value when data are ordered
 - C. The arithmetic average only
 - D. The difference between maximum and minimum

5. While investigating a quality concern, the team considers this question: Which measure is most sensitive to extreme values?
- A. Arithmetic mean
 - B. Median
 - C. Mode
 - D. Interquartile range
6. At a manufacturing site, a Green Belt reviews the available evidence. Standard deviation is a measure of what?
- A. The number of defects per unit
 - B. The average process specification
 - C. The direction of customer demand
 - D. The typical spread of observations around the mean
7. A customer-service team is preparing its next DMAIC decision. What does a box plot display particularly well?
- A. Sequence of process decisions
 - B. Responsibilities by project role
 - C. Center, spread, and potential outliers
 - D. Supplier and customer relationships
8. During a process-improvement workshop, the facilitator asks the team: A Pareto chart is used to help a team do what?
- A. Estimate a regression equation
 - B. Focus on the most significant categories
 - C. Measure appraiser agreement
 - D. Set a project schedule
9. A project sponsor requests a defensible recommendation. What does a scatter plot help examine?
- A. The order of process steps
 - B. Association between two variables
 - C. The frequency of categorical defects only
 - D. The assignment of team responsibilities
10. While investigating a quality concern, the team considers this question: Which statement about correlation is correct?
- A. Correlation always proves causation
 - B. Correlation can be used only with attribute data
 - C. Correlation alone does not establish causation
 - D. Correlation removes all confounding factors

11. At a manufacturing site, a Green Belt reviews the available evidence. A run chart is primarily used to display what?
- A. A ranked list of defect categories
 - B. The relationship between two variables
 - C. The parts of a measurement system
 - D. Data over time in their observed order
12. A customer-service team is preparing its next DMAIC decision. What is the purpose of a capability study?
- A. Compare process performance with specification limits
 - B. Determine individual team roles
 - C. Identify customer segments
 - D. Build an affinity diagram
13. During a process-improvement workshop, the facilitator asks the team: Cp primarily compares which quantities?
- A. Process mean and target value
 - B. Defect count and unit count
 - C. Customer needs and outputs
 - D. Specification width and process spread
14. A project sponsor requests a defensible recommendation. Cpk differs from Cp because Cpk also considers what?
- A. The number of appraisers
 - B. The sample collection method
 - C. How centered the process is within specifications
 - D. The project budget
15. While investigating a quality concern, the team considers this question: What does a p chart monitor?
- A. The proportion of defective units
 - B. The count of defects per unit
 - C. The process average of continuous data
 - D. The range within rational subgroups
16. At a manufacturing site, a Green Belt reviews the available evidence. What does a c chart monitor?
- A. The proportion of defectives in each sample
 - B. The count of defects when opportunity is constant
 - C. Individual measurements over time
 - D. The sample standard deviation

17. A customer-service team is preparing its next DMAIC decision. Rational subgrouping is intended to separate what?

- A. Short-term within-subgroup variation from longer-term change
- B. Customers from suppliers
- C. Goals from problem statements
- D. Continuous data from attribute data

18. During a process-improvement workshop, the facilitator asks the team: Which data type records counts of nonconformities?

- A. Continuous data
- B. Time-series data only
- C. Attribute data
- D. Ratio data only

19. A project sponsor requests a defensible recommendation. What is a key purpose of a measurement-system analysis before process decisions?

- A. Eliminate all process variation
- B. Set customer specifications
- C. Choose project sponsors
- D. Confirm that observed variation can be trusted

20. While investigating a quality concern, the team considers this question: A stable process is one that shows what?

- A. No variation in any observation
- B. Only common-cause variation over time
- C. Only customer-caused variation
- D. A mean exactly at the target

21. At a manufacturing site, a Green Belt reviews the available evidence. Which graph is useful for comparing distributions across categories?

- A. SIPOC diagram
- B. Box plot
- C. Tree diagram
- D. Swimlane map

22. A customer-service team is preparing its next DMAIC decision. What does the interquartile range measure?

- A. The distance from mean to target
- B. The count of defects per unit
- C. The proportion of observations outside limits
- D. The spread of the middle half of the data

23. During a process-improvement workshop, the facilitator asks the team: When collecting baseline data, the team should first ensure what?

- A. The improvement is already implemented
- B. All data points meet specification
- C. Definitions and methods are consistent
- D. The project is ready to close

24. A project sponsor requests a defensible recommendation. What is the primary purpose of a cause-and-effect diagram?

- A. Organize potential causes of a problem
- B. Rank defects by frequency
- C. Test a sample proportion
- D. Schedule project tasks

25. While investigating a quality concern, the team considers this question: The 5 Whys technique is used to do what?

- A. Calculate five separate averages
- B. Create five control limits
- C. Select five random samples
- D. Probe progressively toward an underlying cause

26. At a manufacturing site, a Green Belt reviews the available evidence. What does a hypothesis test evaluate?

- A. Whether a process map is complete
- B. Whether sample evidence supports a stated claim
- C. Whether customer needs are important
- D. Whether a charter has sufficient scope

27. A customer-service team is preparing its next DMAIC decision. The null hypothesis generally represents what?

- A. A baseline or no-effect position to test
- B. The desired project solution
- C. The most likely root cause
- D. A customer specification

28. During a process-improvement workshop, the facilitator asks the team: A Type I error occurs when a team does what?

- A. Fails to reject a false null hypothesis
- B. Uses a sample that is too large
- C. Rejects a true null hypothesis
- D. Calculates the wrong standard deviation

29. A project sponsor requests a defensible recommendation. A Type II error occurs when a team does what?
- A. Rejects a true null hypothesis
 - B. Fails to reject a false null hypothesis
 - C. Uses an incorrect control chart
 - D. Chooses the wrong project sponsor
30. While investigating a quality concern, the team considers this question: What does a p-value represent in hypothesis testing?
- A. The process capability index
 - B. The probability that the alternative is true
 - C. Evidence against the null under the assumed model
 - D. A guarantee that the result will repeat
31. At a manufacturing site, a Green Belt reviews the available evidence. Which analysis is appropriate for comparing means of two independent groups?
- A. Chi-square goodness-of-fit test
 - B. One-proportion test only
 - C. Individual moving-range chart
 - D. Two-sample t test
32. A customer-service team is preparing its next DMAIC decision. ANOVA is commonly used to compare what?
- A. Means across three or more groups
 - B. Two defect counts only
 - C. One process map with another
 - D. Customer comments by topic
33. During a process-improvement workshop, the facilitator asks the team: A chi-square test is often used with what kind of data?
- A. Only normally distributed measurements
 - B. Only paired continuous data
 - C. Only time-order observations
 - D. Categorical counts
34. A project sponsor requests a defensible recommendation. Regression analysis is used chiefly to model what?
- A. A relationship between a response and predictors
 - B. The order of project milestones
 - C. The color coding of a control plan
 - D. The sequence of brainstorming ideas

35. While investigating a quality concern, the team considers this question: What does a residual plot help assess?

- A. Whether the project charter is approved
- B. Whether a regression model has problematic patterns
- C. Whether a gauge is calibrated
- D. Whether a process has customers

36. At a manufacturing site, a Green Belt reviews the available evidence. A confounding variable is one that does what?

- A. Guarantees a statistically significant result
- B. Always becomes the response variable
- C. Obscures the separate effect of a factor
- D. Eliminates the need for randomization

37. A customer-service team is preparing its next DMAIC decision. What is the purpose of a multi-vari study?

- A. Calculate a single control limit
- B. Collect voice-of-customer comments
- C. Build a project communication plan
- D. Explore variation across sources such as time and location

38. During a process-improvement workshop, the facilitator asks the team: Which statement best describes a statistically significant result?

- A. The result is automatically important to customers
- B. The observed evidence is unlikely under the null model
- C. The process is necessarily capable
- D. The root cause is proven without context

39. A project sponsor requests a defensible recommendation. Why should practical significance be considered with statistical significance?

- A. A small effect can be statistically detectable but unimportant
- B. Statistical tests never use sample data
- C. Practical significance replaces measurement analysis
- D. Large p-values prove large business impact

40. While investigating a quality concern, the team considers this question: What is a key benefit of a designed experiment?

- A. It eliminates all process noise
- B. It replaces the need for a baseline
- C. It can estimate factor effects systematically
- D. It guarantees an optimal solution

41. At a manufacturing site, a Green Belt reviews the available evidence. Randomization in an experiment helps protect against what?
- A. The need to define factor levels
 - B. Bias from uncontrolled time-related influences
 - C. Variation caused by measurement systems
 - D. The use of response variables
42. A customer-service team is preparing its next DMAIC decision. Replication in an experiment provides what?
- A. A way to avoid selecting factors
 - B. A replacement for randomization
 - C. A method for drawing a SIPOC
 - D. An estimate of experimental error and consistency
43. During a process-improvement workshop, the facilitator asks the team: Blocking is used in experimental design to do what?
- A. Eliminate the response variable
 - B. Create additional customer segments
 - C. Account for known nuisance variation
 - D. Set final control limits
44. A project sponsor requests a defensible recommendation. What does an interaction mean in a factorial experiment?
- A. The effect of one factor depends on another factor level
 - B. Two factors have identical main effects
 - C. All factors must be held constant
 - D. The experiment has no random error
45. While investigating a quality concern, the team considers this question: Which tool is best for ranking potential failure risks by severity, occurrence, and detection?
- A. Histogram
 - B. Control chart
 - C. Failure mode and effects analysis
 - D. Scatter diagram
46. At a manufacturing site, a Green Belt reviews the available evidence. What is the purpose of a pilot test before full implementation?
- A. Replace all baseline data
 - B. Finalize project closure immediately
 - C. Avoid collecting customer feedback
 - D. Evaluate a proposed change on a limited scale

47. A customer-service team is preparing its next DMAIC decision. Which technique helps select among alternatives using weighted criteria?

- A. Decision matrix
- B. Run chart
- C. Cause-and-effect diagram
- D. p chart

48. During a process-improvement workshop, the facilitator asks the team: Poka-yoke is designed primarily to do what?

- A. Increase inspection sample sizes
- B. Prevent or immediately detect errors
- C. Estimate process capability
- D. Rank stakeholder power

49. A project sponsor requests a defensible recommendation. Which Lean method organizes the workplace through sort, set in order, shine, standardize, and sustain?

- A. DMAIC
- B. FMEA
- C. 5S
- D. SIPOC

50. While investigating a quality concern, the team considers this question: A kaizen event is best described as what?

- A. A long-term audit of financial statements
- B. A focused, short-term improvement effort
- C. A statistical method for comparing means
- D. A type of control-chart violation

51. At a manufacturing site, a Green Belt reviews the available evidence. Value stream mapping helps identify what?

- A. The appropriate alpha level
- B. The distribution of sample means
- C. The project sponsor hierarchy
- D. Value-added and non-value-added process flow

52. A customer-service team is preparing its next DMAIC decision. Which action most directly reduces changeover time?

- A. Separate internal and external setup activities
- B. Increase work-in-process inventory
- C. Add more final inspection steps
- D. Delay maintenance until failures occur

53. During a process-improvement workshop, the facilitator asks the team: What is a primary purpose of standard work?

- A. Allow each operator to choose any sequence
- B. Define the current best known method consistently
- C. Replace training with inspection
- D. Remove the need for improvement

54. A project sponsor requests a defensible recommendation. Which practice best supports implementation acceptance?

- A. Involve affected employees in testing and feedback
- B. Announce changes only after full deployment
- C. Keep process owners out of decisions
- D. Use only financial metrics to communicate

55. While investigating a quality concern, the team considers this question: A solution has high impact but high implementation effort. What should the team do?

- A. Reject it automatically
- B. Implement it without pilot testing
- C. Evaluate tradeoffs and plan resources before scaling
- D. Ignore stakeholder concerns

56. At a manufacturing site, a Green Belt reviews the available evidence. What does a cost-benefit analysis help compare?

- A. Only the number of defects
- B. Only the process mean
- C. Only the customer interview count
- D. Expected gains against required investment

57. A customer-service team is preparing its next DMAIC decision. Which item is most appropriate in an implementation plan?

- A. Only the final project savings
- B. Only the control-chart centerline
- C. Tasks, owners, dates, and required resources
- D. Only the project problem statement

58. During a process-improvement workshop, the facilitator asks the team: A control plan documents what?

- A. How key process characteristics will be monitored and reacted to
- B. How to write the initial charter
- C. How to conduct a brainstorming session
- D. How to select experimental factors

59. A project sponsor requests a defensible recommendation. The primary purpose of a control chart is to do what?
- A. Show every process step
 - B. Rank customer requirements
 - C. Estimate a project budget
 - D. Distinguish common-cause from special-cause variation
60. While investigating a quality concern, the team considers this question: A point beyond a control limit is most commonly interpreted as what?
- A. Proof that specifications were exceeded
 - B. A signal of potential special-cause variation
 - C. A normal random pattern by definition
 - D. Evidence that the gauge is biased
61. At a manufacturing site, a Green Belt reviews the available evidence. Which statement best describes Six Sigma as a business strategy?
- A. A method for ranking employee performance
 - B. A finance-only system for cutting budgets
 - C. A software package for scheduling projects
 - D. A disciplined approach for reducing variation and defects
62. A customer-service team is preparing its next DMAIC decision. What is the primary purpose of a balanced scorecard?
- A. Calculate a process standard deviation
 - B. Assign causes to a fishbone diagram
 - C. Translate strategy into a set of linked performance measures
 - D. Select a sample from a population
63. During a process-improvement workshop, the facilitator asks the team: Which Lean principle most directly emphasizes work that creates customer value?
- A. Increase batch sizes to reduce setups
 - B. Define value from the customer perspective
 - C. Inspect finished output more frequently
 - D. Separate departments by specialty
64. A project sponsor requests a defensible recommendation. A process operating at a Six Sigma level is chiefly associated with which outcome?
- A. Very few defects relative to opportunities
 - B. Equal numbers of defects and units
 - C. A process average at the specification limit
 - D. No need for process monitoring

65. While investigating a quality concern, the team considers this question: Which role normally sponsors a Six Sigma project and removes organizational barriers?

- A. Project champion
- B. Process operator
- C. Data collector
- D. External customer

66. At a manufacturing site, a Green Belt reviews the available evidence. What is a key distinction between a defect and a defective unit?

- A. Every defect always creates two defective units
- B. A unit may contain more than one defect
- C. Defects apply only to service processes
- D. Defective units cannot be counted

67. A customer-service team is preparing its next DMAIC decision. Which measure is most appropriate for tracking a continuous customer outcome?

- A. Number of returned invoices
- B. Count of late shipments
- C. Mean delivery time
- D. Percent of forms completed

68. During a process-improvement workshop, the facilitator asks the team: What does a process owner primarily provide to a Six Sigma team?

- A. A statistically random sample
- B. Independent certification of results
- C. The final exam scoring rule
- D. Authority and knowledge to sustain process changes

69. A project sponsor requests a defensible recommendation. Which activity is most consistent with a systems view of an organization?

- A. Optimizing one department without regard to others
- B. Replacing customer needs with internal targets
- C. Assessing interactions among connected processes
- D. Treating every defect as an isolated event

70. While investigating a quality concern, the team considers this question: What does the acronym COPQ commonly represent?

- A. Cost of poor quality
- B. Control of process quantity
- C. Customer output performance quotient
- D. Cost of preventive questioning

71. At a manufacturing site, a Green Belt reviews the available evidence. Which deployment practice best supports Six Sigma alignment?

- A. Choose projects only because data are easy to obtain
- B. Start every project with a control chart
- C. Assign projects without defined sponsors
- D. Link projects to strategic business objectives

72. A customer-service team is preparing its next DMAIC decision. What is the primary purpose of a project charter?

- A. Document the final control plan
- B. Define the business case, scope, goals, and team
- C. Calculate process capability indices
- D. List all individual observations

73. During a process-improvement workshop, the facilitator asks the team: Which item is usually outside a well-written project scope statement?

- A. The process boundaries being studied
- B. Major deliverables of the project
- C. Key stakeholders impacted by changes
- D. Unrelated processes not affected by the problem

74. A project sponsor requests a defensible recommendation. Voice of the customer data are used mainly to identify what?

- A. The order of hypothesis-test steps
- B. The sequence of control-chart limits
- C. Customer needs and expectations
- D. The value of the process mean

75. While investigating a quality concern, the team considers this question: A CTQ characteristic is best described as what?

- A. A measurable requirement critical to customer satisfaction
- B. A financial statement prepared by leadership
- C. A sampling method for process data
- D. A type of regression coefficient

76. At a manufacturing site, a Green Belt reviews the available evidence. Which tool summarizes suppliers, inputs, process, outputs, and customers?

- A. Scatter diagram
- B. SIPOC diagram
- C. Run chart
- D. Affinity diagram

77. A customer-service team is preparing its next DMAIC decision. What is the first practical step when forming a Six Sigma project team?

- A. Identify needed roles and relevant process knowledge
- B. Calculate Cp before selecting members
- C. Develop control limits for each member
- D. Write solutions before defining the problem

78. During a process-improvement workshop, the facilitator asks the team: A stakeholder analysis is most useful for which purpose?

- A. Estimating the process sigma level
- B. Choosing a probability distribution
- C. Computing a confidence interval
- D. Planning engagement and managing project influence

79. A project sponsor requests a defensible recommendation. Which project goal is written most effectively?

- A. Make invoice processing much better soon
- B. Reduce invoice defects from 8% to 3% by June
- C. Improve quality wherever possible
- D. Eliminate every possible source of variation

80. While investigating a quality concern, the team considers this question: What is a likely consequence of poorly defined project boundaries?

- A. More accurate measurement systems
- B. Automatic customer agreement
- C. Scope creep and unclear accountability
- D. Lower common-cause variation

81. At a manufacturing site, a Green Belt reviews the available evidence. A RACI matrix is used primarily to clarify what?

- A. Distribution shape and skewness
- B. The order of customer interviews
- C. The location of specification limits
- D. Roles such as responsible and accountable

82. A customer-service team is preparing its next DMAIC decision. Which team behavior best supports effective brainstorming?

- A. Defer judgment while ideas are generated
- B. Rank ideas before anyone speaks
- C. Allow only the project leader to contribute
- D. Require statistical proof for every suggestion

83. During a process-improvement workshop, the facilitator asks the team: What does a Kano analysis help a team understand?

- A. How to calculate a t statistic
- B. How to randomize experimental runs
- C. How different features affect customer satisfaction
- D. How to establish subgroup sizes

84. A project sponsor requests a defensible recommendation. A process map is most valuable in Define when the team needs to do what?

- A. Set final control limits
- B. Establish a shared view of the current workflow
- C. Prove a root cause statistically
- D. Estimate measurement bias

85. While investigating a quality concern, the team considers this question: Which statement best distinguishes a problem statement from a goal statement?

- A. The problem lists solutions; the goal lists defects
- B. The problem is optional; the goal is mandatory
- C. The problem states the gap; the goal states the target improvement
- D. The problem uses data; the goal must avoid data

86. At a manufacturing site, a Green Belt reviews the available evidence. What is a useful output of a voice-of-customer interview?

- A. Verbatim statements that can be translated into requirements
- B. A final hypothesis-test decision
- C. A calculated process capability ratio
- D. A completed failure mode ranking

87. A customer-service team is preparing its next DMAIC decision. Which action best manages a project risk?

- A. Ignore low-probability events
- B. Identify the risk, assess it, and plan a response
- C. Wait until the project closes
- D. Treat all risks as equal

88. During a process-improvement workshop, the facilitator asks the team: A communication plan should specify which element?

- A. Only the project budget
- B. Only the measurement equation
- C. Only the final report format
- D. Audience, message, method, and timing

89. A project sponsor requests a defensible recommendation. Which technique helps prioritize a large set of customer comments?
- A. Affinity diagramming
 - B. Random sampling
 - C. Regression analysis
 - D. Control-charting
90. While investigating a quality concern, the team considers this question: What is the main value of a high-level process map?
- A. It replaces detailed data collection
 - B. It calculates the defect rate
 - C. It proves causal relationships
 - D. It establishes boundaries and major process steps
91. At a manufacturing site, a Green Belt reviews the available evidence. A team uses a nominal group technique mainly to do what?
- A. Estimate a population mean
 - B. Generate and prioritize ideas with structured participation
 - C. Determine gauge repeatability
 - D. Set specification limits
92. A customer-service team is preparing its next DMAIC decision. Which statement describes a project constraint?
- A. A customer requirement translated to a CTQ
 - B. A common cause of variation
 - C. A limit on resources, time, or authority
 - D. A test statistic used in analysis
93. During a process-improvement workshop, the facilitator asks the team: What is the recommended response to a project objective that conflicts with strategy?
- A. Continue because the team has already started
 - B. Hide the conflict from stakeholders
 - C. Collect more data without informing anyone
 - D. Reassess or redirect the project with the sponsor
94. A project sponsor requests a defensible recommendation. What is an operational definition?
- A. A broad statement of the project vision
 - B. A precise, agreed method for measuring a characteristic
 - C. A financial estimate of benefits
 - D. A list of possible root causes

95. While investigating a quality concern, the team considers this question: Which sampling approach gives every population member an equal chance of selection?

- A. Convenience sampling
- B. Judgment sampling
- C. Simple random sampling
- D. Voluntary-response sampling

96. At a manufacturing site, a Green Belt reviews the available evidence. Why is stratification used during data analysis?

- A. To reveal patterns within meaningful subgroups
- B. To ensure all values are identical
- C. To remove the need for sampling
- D. To guarantee causation

97. A customer-service team is preparing its next DMAIC decision. Which chart is most appropriate for displaying a process sequence with decision points?

- A. Histogram
- B. Box plot
- C. Pareto chart
- D. Detailed flowchart

98. During a process-improvement workshop, the facilitator asks the team: What is the purpose of a data collection plan?

- A. Specify what data will be collected and how
- B. Select the final process solution
- C. Set a target capability index
- D. Write the project charter

99. A project sponsor requests a defensible recommendation. In a measurement system study, repeatability refers to variation from what?

- A. Different appraisers measuring the same item
- B. Different production shifts using one standard
- C. The same appraiser measuring the same item repeatedly
- D. The process changing over several months

100. While investigating a quality concern, the team considers this question: Reproducibility in a gauge study evaluates what?

- A. Variation within one appraiser
- B. Variation among appraisers using the same system
- C. Variation caused by specifications
- D. Variation caused by customer demand

Practice Exam 17: Answer Key And Explanations

1. C - The correct answer is A consistent difference from a reference value. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
2. A - The correct answer is Histogram. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
3. D - The correct answer is A longer tail extending to the right. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
4. B - The correct answer is The middle value when data are ordered. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
5. A - The correct answer is Arithmetic mean. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
6. D - The correct answer is The typical spread of observations around the mean. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.
7. C - The correct answer is Center, spread, and potential outliers. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
8. B - The correct answer is Focus on the most significant categories. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
9. B - The correct answer is Association between two variables. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

10. C - The correct answer is Correlation alone does not establish causation. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

11. D - The correct answer is Data over time in their observed order. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

12. A - The correct answer is Compare process performance with specification limits. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

13. D - The correct answer is Specification width and process spread. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

14. C - The correct answer is How centered the process is within specifications. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

15. A - The correct answer is The proportion of defective units. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

16. B - The correct answer is The count of defects when opportunity is constant. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

17. A - The correct answer is Short-term within-subgroup variation from longer-term change. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

18. C - The correct answer is Attribute data. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

19. D - The correct answer is Confirm that observed variation can be trusted. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

20. B - The correct answer is Only common-cause variation over time. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

21. B - The correct answer is Box plot. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

22. D - The correct answer is The spread of the middle half of the data. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

23. C - The correct answer is Definitions and methods are consistent. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

24. A - The correct answer is Organize potential causes of a problem. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

25. D - The correct answer is Probe progressively toward an underlying cause. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

26. B - The correct answer is Whether sample evidence supports a stated claim. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

27. A - The correct answer is A baseline or no-effect position to test. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

28. C - The correct answer is Rejects a true null hypothesis. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

29. B - The correct answer is Fails to reject a false null hypothesis. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

30. C - The correct answer is Evidence against the null under the assumed model. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

31. D - The correct answer is Two-sample t test. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

32. A - The correct answer is Means across three or more groups. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

33. D - The correct answer is Categorical counts. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

34. A - The correct answer is A relationship between a response and predictors. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

35. B - The correct answer is Whether a regression model has problematic patterns. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

36. C - The correct answer is Obscures the separate effect of a factor. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

37. D - The correct answer is Explore variation across sources such as time and location. It matches the scenario and purpose. The other choices describe quality concepts useful

elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

38. B - The correct answer is The observed evidence is unlikely under the null model. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

39. A - The correct answer is A small effect can be statistically detectable but unimportant. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

40. C - The correct answer is It can estimate factor effects systematically. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

41. B - The correct answer is Bias from uncontrolled time-related influences. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

42. D - The correct answer is An estimate of experimental error and consistency. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

43. C - The correct answer is Account for known nuisance variation. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

44. A - The correct answer is The effect of one factor depends on another factor level. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

45. C - The correct answer is Failure mode and effects analysis. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

46. D - The correct answer is Evaluate a proposed change on a limited scale. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

47. A - The correct answer is Decision matrix. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
48. B - The correct answer is Prevent or immediately detect errors. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
49. C - The correct answer is 5S. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
50. B - The correct answer is A focused, short-term improvement effort. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
51. D - The correct answer is Value-added and non-value-added process flow. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
52. A - The correct answer is Separate internal and external setup activities. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
53. B - The correct answer is Define the current best known method consistently. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
54. A - The correct answer is Involve affected employees in testing and feedback. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.
55. C - The correct answer is Evaluate tradeoffs and plan resources before scaling. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

56. D - The correct answer is Expected gains against required investment. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

57. C - The correct answer is Tasks, owners, dates, and required resources. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

58. A - The correct answer is How key process characteristics will be monitored and reacted to. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

59. D - The correct answer is Distinguish common-cause from special-cause variation. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

60. B - The correct answer is A signal of potential special-cause variation. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

61. D - The correct answer is A disciplined approach for reducing variation and defects. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

62. C - The correct answer is Translate strategy into a set of linked performance measures. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

63. B - The correct answer is Define value from the customer perspective. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

64. A - The correct answer is Very few defects relative to opportunities. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

65. A - The correct answer is Project champion. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this

question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

66. B - The correct answer is A unit may contain more than one defect. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

67. C - The correct answer is Mean delivery time. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

68. D - The correct answer is Authority and knowledge to sustain process changes. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

69. C - The correct answer is Assessing interactions among connected processes. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

70. A - The correct answer is Cost of poor quality. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

71. D - The correct answer is Link projects to strategic business objectives. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

72. B - The correct answer is Define the business case, scope, goals, and team. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

73. D - The correct answer is Unrelated processes not affected by the problem. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

74. C - The correct answer is Customer needs and expectations. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

75. A - The correct answer is A measurable requirement critical to customer satisfaction. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

76. B - The correct answer is SIPOC diagram. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

77. A - The correct answer is Identify needed roles and relevant process knowledge. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

78. D - The correct answer is Planning engagement and managing project influence. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

79. B - The correct answer is Reduce invoice defects from 8% to 3% by June. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

80. C - The correct answer is Scope creep and unclear accountability. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

81. D - The correct answer is Roles such as responsible and accountable. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

82. A - The correct answer is Defer judgment while ideas are generated. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

83. C - The correct answer is How different features affect customer satisfaction. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

84. B - The correct answer is Establish a shared view of the current workflow. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

85. C - The correct answer is The problem states the gap; the goal states the target improvement. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

86. A - The correct answer is Verbatim statements that can be translated into requirements. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

87. B - The correct answer is Identify the risk, assess it, and plan a response. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

88. D - The correct answer is Audience, message, method, and timing. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

89. A - The correct answer is Affinity diagramming. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

90. D - The correct answer is It establishes boundaries and major process steps. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

91. B - The correct answer is Generate and prioritize ideas with structured participation. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

92. C - The correct answer is A limit on resources, time, or authority. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

93. D - The correct answer is Reassess or redirect the project with the sponsor. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

94. B - The correct answer is A precise, agreed method for measuring a characteristic. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

95. C - The correct answer is Simple random sampling. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

96. A - The correct answer is To reveal patterns within meaningful subgroups. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

97. D - The correct answer is Detailed flowchart. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.

98. A - The correct answer is Specify what data will be collected and how. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

99. C - The correct answer is The same appraiser measuring the same item repeatedly. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective.

100. B - The correct answer is Variation among appraisers using the same system. It matches the scenario and purpose. The other choices describe quality concepts useful elsewhere, but they do not answer this question or support the decision. Select the tool or action that fits process evidence and the improvement objective. It is appropriate for the situation described in this question.