



SAMPLE EXAMINATION

The purpose of the following sample examination is to provide an example of what is provided on exam day by ASQ, complete with the same instructions that are provided on exam day.

The test questions that appear in this sample examination are retired from the CSQE pool and have appeared in past CSQE examinations. Since they are now available to the public, they will NOT appear in future CSQE examinations. This sample examination WILL NOT be allowed into the exam room.

Appendix A contains the answers to the sample test questions. ASQ will not provide scoring and analysis for this sample examination. Remember: These test questions will not appear on future examinations so your performance on this sample examination may not reflect how you perform on the formal examination. A self-appraisal of how well you know the content for the specific areas of the body of knowledge (BOK) can be completed by using the worksheet in Appendix B.

On page 2 of the instructions, it states “There are 160 questions on this 4-hour examination.” Please note that this sample exam only contains 75 questions.

If you have any questions regarding this sample examination, please email mrehm@asq.org

© 2004 ASQ

ASQ grants permission for individuals to use this sample examination as a means to prepare for the formal examination. This examination may be printed, reproduced and used for non-commercial, personal or educational purposes only, provided that (i) the examination is not modified, and (ii) ASQ’s copyright notice is included. The user assumes all risks of copyright infringement.

THIS PAGE WAS LEFT BLANK INTENTIONALLY



NAME _____

CERTIFIED SOFTWARE QUALITY ENGINEER

Please print your name above. Read all the instructions before beginning the examination. If you are unsure about any part of the instructions, consult your proctor.

General Instructions

All answers **must** be recorded on the Scantron Answer Sheet; no exam will be graded with the answers marked in the exam booklet.

1. Using a soft lead pencil (#2 or softer) only, blacken the circle of the correct answer. **Do not use ink.** If you change your answer, be sure to erase the previous answer completely.
2. Each question has **ONE** correct answer only.
3. This is a timed test; do not linger over difficult questions. Instead, skip the questions of which you are unsure; return to them when you reach the end of the test.
4. Do not fold, staple, or tear the answer sheets.
5. Although this is an open book examination and personally generated materials/notes from training or refresher courses **are** allowed, the following conditions apply:
 - Each examinee must make his/her reference materials available to the proctor for review.
 - Absolutely no collections of questions and answers or weekly refresher course quizzes are permitted. Reference sources that contain such copy are not allowed unless the questions and answers are removed or obscured. **Examples of such sources include but are not limited to refresher and preparatory primers.**
 - **Calculator Policy:** With the introduction of palmtop computers and increasing sophistication of scientific calculators, ASQ has become increasingly aware of the need to limit the types of calculators that are permitted for use during the examinations. **Any silent, hand-held, battery-operated calculator WITHOUT an alphabetic keyboard will be permitted; however, all programmable memory must be cleared from the calculator before you enter the exam room.** The examination is written so that a simple calculator will be sufficient to perform calculations.
 - No laptop or palmtop computers are allowed.
 - Reference materials and calculators may not be shared.
6. When you have finished, check your answer sheet to be sure it is properly identified with your name and member number. Return your examination booklet, answer sheet, examinee comment form and scratch paper to your proctor. You must sign the roster sheet to signify the return of your test booklet.
7. It is strictly forbidden to copy or remove examination materials. You will be disqualified from the examination and not certified by ASQ if you breach this trust.
8. **PLEASE BE PATIENT** - you will receive your results in approximately two weeks. Sorry, but we do not answer telephone requests for results. If you pass, your certificate will be sent directly to your address of record. If you do not pass, you will receive a Pareto analysis of your test results along with retake information.

Special Instructions

1. Please note that your answer sheet has been personalized with your name, member number, section number, and test type.
2. Do NOT make any changes to these parts of the answer sheet. Doing so will only delay your exam results. Notify the Proctor of any changes.
3. If you don't have a personalized answer sheet, see your Proctor for further instructions.
4. There are 160 questions on this 4-hour examination. Please check that you have the correct number of questions.

OPTIONAL

PLEASE NOTE: Information gathered from the following questions will be used only as grouped data, in order to ensure that the test is fair.

- A. Please indicate your gender (see #1 on sample).
- B. Please indicate your race/ethnic background as follows (see #2):
1. Asian American
 2. American Indian
 3. Black/African American
 4. Caucasian
 5. Hispanic/Latino
 6. Other

LAST NAME										FIRST NAME										MI			ASQ SECTION		
MARTIN										MARY															
A	●	A	A	A	A	A	A	A	A	A	●	A	A	A	A	A	A	0	0	0					
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	1	1	1					
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	2	2	2					
D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	3	3	3					
E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	4	4	4					
F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	5	5	5					
G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	6	6	6					
H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	7	7	7					
I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	8	8	8					
J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	9	9	9					
K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K								
L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L								
M	●	M	M	M	M	M	M	M	M	M	●	M	M	M	M	M	M								
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N								
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O								
P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P								
Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q								
R	●	R	R	R	R	R	R	R	R	R	●	R	R	R	R	R	R								
S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S								
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T								
U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U								
V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V								
W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W								
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y								
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z								

MEMBER NUMBER		S	M	F				
0	9	8	0	1	1	7	1	IMPORTANT USE NO. 2 PENCIL ONLY EXAMPLE: (A) ● (C) (D) ERASE COMPLETELY TO CHANGE
1	1	1	1	1	1	1		
2	2	2	2	2	2	2		
3	3	3	3	3	3	3		
4	4	4	4	4	4	4		
5	5	5	5	5	5	5		
6	6	6	6	6	6	6		
7	7	7	7	7	7	7		
8	8	8	8	8	8	8		
9	9	9	9	9	9	9		

RACE/ETHNIC	
1	
2	
3	
4	
5	
6	
7	
8	

<input type="radio"/>	CMI
<input type="radio"/>	CQT
<input type="radio"/>	CQE
<input type="radio"/>	CQA
<input type="radio"/>	CRE
<input type="radio"/>	MANAGER
<input checked="" type="radio"/>	CSQE
<input type="radio"/>	HACCP
<input type="radio"/>	CQIA
<input type="radio"/>	SIX SIGMA
<input type="radio"/>	BIOMEDICAL
<input type="radio"/>	CCT
<input checked="" type="radio"/>	ORIGINAL
<input type="radio"/>	RETAKE
<input type="radio"/>	RECERT

STOP

DO NOT CONTINUE UNTIL INSTRUCTED

CERTIFIED SOFTWARE QUALITY ENGINEER Test

Directions: Each of the questions or incomplete statements below is followed by four suggested answers or completions. Select the one that is best in each case and then fill in the corresponding space on the answer sheet.

1. Which of the following individuals is typically responsible for funding software process change activities?
 - (A) Agent
 - (B) Sponsor
 - (C) Champion
 - (D) Target

2. When software reliability measures are used to determine when to stop testing, the best types of test cases to use are those that
 - (A) push the system beyond its designed operation limits and are likely to make the system fail
 - (B) exercise unusual and obscure scenarios that may not have been considered in design
 - (C) exercise system functions in proportion to the frequency they will be used in the released product
 - (D) exercise the most complicated and the most error-prone portions of the system

3. Which of the following techniques is most useful in narrowing issues and limiting discussion?
 - (A) Brainstorming
 - (B) Quality function deployment
 - (C) Cause and effect analysis
 - (D) Multivoting

4. The inspection process assigns different roles to each of the inspectors in order to
 - (A) keep the inspection teams small and manageable
 - (B) encourage different viewpoints during the inspection process
 - (C) use fewer organizational resources at any point in time
 - (D) empower the inspection team members

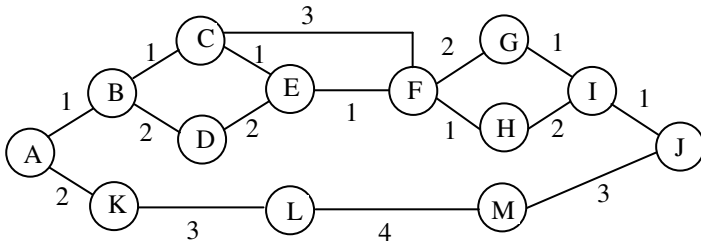
5. Informal change control is appropriate only
 - (A) before software configuration items become part of a baseline
 - (B) until the production baseline is built
 - (C) when a project has a short duration and limited functionality
 - (D) until acceptance testing begins

6. The publisher of a social services resource guide has contracted for the development of an electronic version of its guide. The product has been loosely defined to date due to the limited knowledge of the technology available to the user community and to the limited technical expertise of the publisher's staff. The development team for this project will consist of two employees who are new to the company and one programmer with minimal experience. Which of the following approaches would best serve the needs of this project?
 - (A) Cleanroom methods
 - (B) Waterfall model
 - (C) Object oriented development
 - (D) Iterative development

7. Software process evaluations are used to determine
- (A) how much progress the supplier is making toward completing assigned tasks
 - (B) how much progress the supplier is making toward process improvement
 - (C) potential risks to the assigned projects
 - (D) whether a project is ready to make the transition to the next phase
8. Which of the following statements is true about white-box testing?
- (A) It includes functional testing.
 - (B) It includes loop testing.
 - (C) It is usually done after black-box testing.
 - (D) It is usually done during the integration testing phase.
9. A software quality assurance plan should be based principally on the quality requirements of
- (A) IEEE 730
 - (B) ISO 9001
 - (C) the customer
 - (D) software engineering
10. A module that performs a single task within a software procedure and requires little interaction with procedures being performed in other parts of a program is defined as having high
- (A) cohesion
 - (B) coupling
 - (C) abstraction
 - (D) complexity
11. Major changes to a software process should start with
- (A) conducting a formal assessment
 - (B) obtaining management commitment
 - (C) developing a project plan
 - (D) establishing firm requirements
12. In which phase of a project's development life cycle does the lack of requirements control prove most costly?
- (A) Requirements
 - (B) Design
 - (C) Test
 - (D) Maintenance
13. Which of the following is a benefit of using the goal-question-metric paradigm when software metrics are selected?
- (A) Only well-defined metrics are selected.
 - (B) Metrics are selected on the basis of organizational objectives.
 - (C) Buy-in from the project personnel is achieved for the selected metrics.
 - (D) Metric models are simplified to include only the most important elements.
14. Equivalence class partitioning is a testing technique best defined as the organization of each
- (A) element of the specification into workable pieces
 - (B) combination of states into two or more groups
 - (C) program function by intuition and experience
 - (D) input domain into two or more groups
15. Which of the following statements is true about software requirements baselines?
- (A) They are the basis for software change control.
 - (B) They are established during the planning phase.
 - (C) They are not used until the testing phase.
 - (D) They are placed under version control and not changed until the next release.

16. Which of the following is a primary objective of risk exposure analysis?
- (A) Collecting information that can be used for future risk analysis
 - (B) Defining risk aversion steps
 - (C) Estimating the impact of the risk on the project and the product
 - (D) Assessing whether the identified risks should be accepted or mitigated
17. Software trouble reports should be analyzed by a developer or a maintainer to determine
- (A) whether the software errors are distinguishable and reproducible
 - (B) whether the maximum number of allowable errors and anomalies has been reached
 - (C) the problem effect and the fix rate
 - (D) what regression testing is required and when
18. Rank order, from first to last, the following elements to be developed when a software engineer is translating customer expectations.
1. Actual results
 2. Design specifications
 3. Code
 4. Functional specifications
- (A) 2, 3, 4, 1
 - (B) 3, 4, 1, 2
 - (C) 4, 2, 3, 1
 - (D) 4, 3, 2, 1
19. Which of the following is most likely to compromise the integrity of data collected in a software metrics program?
- (A) Using automated data collection tools
 - (B) Using nonparametric statistical methods
 - (C) Using the data to monitor team performance
 - (D) Using the data to monitor individual performance
20. Which of the following is likely to contribute most to an effective project meeting?
- (A) Distributing and following an agenda
 - (B) Assigning action items during the meeting
 - (C) Limiting interruptions
 - (D) Recording minutes during the meeting
21. For a released software product that is not undergoing change, the fault density over time can be expected to
- (A) increase linearly
 - (B) decrease linearly
 - (C) remain constant
 - (D) decrease exponentially
22. With respect to sample size and its relationship to confidence level and margin of error, which of the following statements is true?
- (A) No correlation exists between sample size and either confidence level or margin of error.
 - (B) The smaller the acceptable margin for error, the smaller the sample size.
 - (C) The larger the sample size, the higher the confidence level.
 - (D) The smaller the sample size, the higher the confidence level.
23. Maintenance releases and technical assistance centers are examples of which of the following costs of quality?
- (A) External failure
 - (B) Internal failure
 - (C) Appraisal
 - (D) Prevention
24. Quality function deployment (QFD) is a methodology for
- (A) removing bugs from code
 - (B) identifying and defining key customer demands
 - (C) measuring the reliability of a software product
 - (D) training employees in quality issues

25.



Which of the following is the critical path in the activity network above?

- (A) A, B, C, F, G, I, J
- (B) A, B, D, E, F, G, I, J
- (C) A, B, D, E, F, H, I, J
- (D) A, K, L, M, J

26. A particular code unit has had four builds since version 1.0. Three of those builds were the result of design changes. Which of the following version identifiers could describe the current build?

- (A) 3.0
- (B) 3.4
- (C) 4.1
- (D) 4.3

27. A software manager for a company that provides embedded, real-time software is asked to benchmark the department's development and test processes. It would be appropriate for the manager to select a process model from a company that develops software for

- (A) data processing applications
- (B) database management systems
- (C) robotic systems
- (D) graphical user interfaces

28. Which of the following models is characterized as being suitable for a software development project that has well-defined requirements?

- (A) Prototyping
- (B) Spiral
- (C) Waterfall
- (D) Iterative

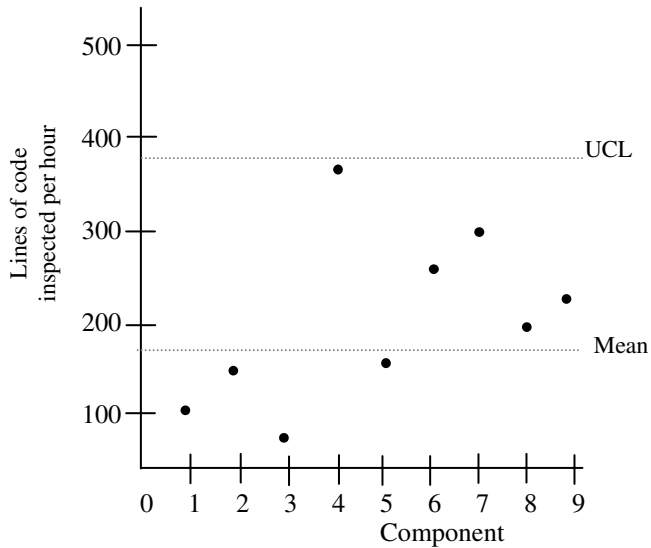
29. A project that is in the implementation phase is six weeks behind schedule. The delivery date for the product is four months away. The project is not allowed to slip the delivery date or compromise on the quality standards established for this product. Which of the following actions would bring this project back on schedule?

- (A) Eliminate some of the requirements that have not yet been implemented.
- (B) Add more engineers to the project to make up for lost work.
- (C) Ask the current developers to work overtime until the lost work is recovered.
- (D) Hire more software quality assurance personnel.

30. Change X requires a higher level of authority than Change Y in which of the following pairs?

	<u>Change X</u>	<u>Change Y</u>
(A)	Code in development	Code in production
(B)	Specifications during requirements analysis	Specifications during systems test
(C)	Documents requested by the technical development group	Documents requested by customers
(D)	A product distributed to several sites	A product with a single user

Questions 31-32 are based on the following chart.



31. On the basis of the control chart above, which of the following statements is true?

- (A) Components 1, 2, 3, and 5 should be reinspected because they are below the mean.
- (B) Only component 4 should be investigated because it is closest to the upper control limit.
- (C) Components 4, 6, 7, 8 and 9 should be investigated because they are above the mean.
- (D) No action is required; all data points are within acceptable statistical variance.

32. After the control chart above was generated, three more components were inspected at the following rates:

- 10: 312 LOC per hour
- 11: 420 LOC per hour
- 12: 29 LOC per hour

In this situation, which of the following actions should be taken, if any?

- (A) A reinspection should be performed on component 10.
- (B) Unit testing of component 12 should be increased.
- (C) The high inspection rate of component 11 should be investigated.
- (D) No action is required.

33. According to the CMMISM, the purpose of software project planning is to

- (A) provide management with the actual project processes so that effective corrective actions can be taken
- (B) provide a common understanding of the functional requirements between the customer and the software project engineering group
- (C) establish and maintain plans that define project activities
- (D) allow the software engineering group to participate actively with the other engineering groups

34. Which of the following types of audits should be used to ensure that detail design is being done according to the software development plan?

- (A) A product audit
- (B) A process audit
- (C) A quality system audit
- (D) A quality management audit

35. The use of test automation would provide the best return on investment for which of the following?

- (A) Unit testing
- (B) Usability testing
- (C) Regression testing
- (D) Acceptance testing

36. Which of the following is NOT required for a functional configuration audit?

- (A) Formal test documentation
- (B) A function point analysis report
- (C) A review of all approved changes
- (D) Updates to previously delivered documents

37. Which of the following is a method for calculating a quality cost factor due to an external failure?
- (A) Totaling the penalty fees that must be paid to the customer due to late delivery of a software product
 - (B) Measuring the amount of effort spent performing code reviews
 - (C) Measuring the amount of time spent fixing defects found during system testing
 - (D) Measuring the customer's system downtime over a one-year period
38. A customer satisfaction survey used the following rating scale:
- 1 = very satisfied
 - 2 = satisfied
 - 3 = neutral
 - 4 = dissatisfied
 - 5 = very dissatisfied
- This is an example of which of the following measurement scales?
- (A) Nominal
 - (B) Ordinal
 - (C) Ratio
 - (D) Interval
39. Effective process benchmarking for a company begins with an understanding of its
- (A) own existing processes
 - (B) own improvement goals
 - (C) competitor's processes
 - (D) competitor's organizational structure
40. Which of the following approaches would reduce the length of a total project schedule?
- (A) An overlap of activities that are on the critical path
 - (B) An overlap of activities that are not on the critical path
 - (C) A decrease in the duration of activities that are on the critical path
 - (D) A decrease in the duration of activities that are not on the critical path
41. Which of the following would be the most useful criterion to use when determining which subcontractor to select for a project?
- (A) The subcontractor's prior experience with similar applications
 - (B) The subcontractor's process capability maturity level
 - (C) The prime contractor's costs for evaluating and managing the subcontractor
 - (D) The prime contractor's process capability maturity level
42. Which of the following is intended to result in the creation of program components that are inherently reusable?
- (A) Structured analysis
 - (B) Structured programming
 - (C) Object-oriented programming
 - (D) Prototyping
43. Records of the results of inspections should include which of the following?
- (A) Identification of inspectors, list of defects, and date performed
 - (B) Work product, list of defects, and configuration status
 - (C) Identification of inspectors, their qualifications, and their training records
 - (D) Date performed, management approval, and resources used
44. Which of the following types of libraries is used for managing baselines?
- (A) Controlled
 - (B) Public
 - (C) Dynamic
 - (D) Static

45. A defect-seeding program inserts 81 defects into an application. Inspections and testing found 5,832 defects. Of these, 72 were seeded defects. How many errors or defects are predicted to remain in the application?
- (A) 523
 - (B) 640
 - (C) 648
 - (D) 729
46. Which of the following sets of components is critical to an internal problem-tracking system?
- (A) Problem description, severity, category
 - (B) Tester name, test case identification, log number
 - (C) Date, source of the problem, original developer's name
 - (D) Frequency, repair comments, maintenance schedule
47. If the entire area under the Rayleigh curve becomes smaller, then the projected defect rate will be
- (A) higher at later testing phases
 - (B) higher during maintenance
 - (C) lower in production
 - (D) unchanged during the coding phase
48. The primary goal of comparing a user manual with the actual behavior of the running program during system testing is to
- (A) find bugs in the program
 - (B) check the technical accuracy of the document
 - (C) ensure the ease of use of the document
 - (D) ensure that the program is the latest version
49. Which of the following is an appropriate reason to use quality assurance test consultants to monitor an inspection process?
- (A) They bear the liability risk instead of the company that hired them.
 - (B) They increase indirect overhead costs only.
 - (C) They bring specific knowledge that can be retained by the work group.
 - (D) They expedite the task without increasing the labor costs.
50. Which of the following is the most important criterion for selecting a software reliability model?
- (A) Quality of assumptions
 - (B) Predictive validity
 - (C) Simplicity
 - (D) Capability
51. In a training program on quality for software engineers, which of the following would be the LEAST appropriate learning objective?
- (A) Creation of beneficial change
 - (B) Prevention of adverse change
 - (C) Fundamentals of data collection and analysis
 - (D) Personal time management
52. A project manager has been transferred to a major software development project that is in the implementation phase. The highest priority for this project manager should be to
- (A) establish a relationship with the customer
 - (B) learn the project objectives and the existing project plan
 - (C) modify the project's organizational structure to meet the manager's management style
 - (D) ensure that the project proceeds at its current pace

53. One purpose of software configuration management is to

- (A) replace the need for program management
- (B) help avoid multiple copies of the same information
- (C) eliminate “fire-fighting” during the development lifecycle
- (D) ensure that adequate test cases are developed

54. Which of the following techniques is used in identifying underlying problems?

- (A) Cause and effect analysis
- (B) Prioritization matrix
- (C) Force field analysis
- (D) Pareto analysis

55. The following code segment contains a potential “divide by 0” error.

```
J=50
K=1
while (N>=-10) and (N<=10) loop
    M [K] = J/N
    K = K + 1
    N = N - 1
end loop
```

Which of the following is the most effective way of detecting this error?

- (A) Boundary testing
- (B) Condition testing
- (C) Compilation of the source code
- (D) Source code inspection

56. Which of the following functions is NOT typically supported by a software quality information system?

- (A) Record keeping
- (B) System design
- (C) Evaluation scheduling
- (D) Error reporting

57. Which of the following characteristics is primarily associated with software reusability?

- (A) The extent to which the software can be used in other applications
- (B) The extent to which the software can be used by many different users
- (C) The capability of the software to be moved to a different platform
- (D) The capability of one system to be coupled with another system

58. Which of the following is a fundamental principle of software defect prevention?

- (A) Software quality engineering must evaluate all errors.
- (B) A balance of white-box and black-box testing is necessary.
- (C) A single root cause taxonomy should be used by all projects.
- (D) Feedback to the individuals who introduced the defect is essential.

59. Which of the following is the principle reason for developing a prototype?

- (A) It can be used as an early production tool.
- (B) It may solve a problem that is not included in the requirements.
- (C) It allows the customer to provide feedback about requirements.
- (D) It reduces the schedule for development through alpha testing.

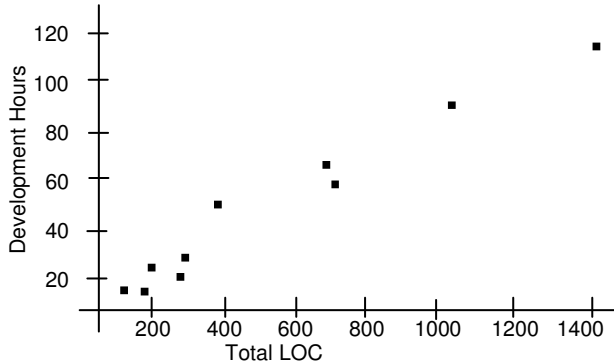
60. Which of the following statements is NOT true about a software verification and validation program?

- (A) It strives to ensure that quality is built into software.
- (B) It provides management with insights into the state of a software project.
- (C) It ensures that alpha, beta, and system tests are performed.
- (D) It is executed in parallel with software development activities.

61. A configuration item list, a specification tree, and an equipment planning diagram are inputs to configuration

- (A) identification
- (B) control
- (C) baselining
- (D) accounting

62.



On the basis of the diagram above, which of the following statements is true?

- (A) Development hours appears to be positively correlated with total LOC.
- (B) Development hours appears to be negatively correlated with total LOC.
- (C) The two variables are probably uncorrelated.
- (D) As the size of a project increases, development hours increase.

63. One person has been dominating the current software process improvement meeting. Which of the following techniques should the facilitator use to bring other team members into the discussion?

- (A) Confront the person and ask that other team members be allowed to express their opinions.
- (B) Wait for the person to pause, acknowledge the person's opinion, and ask for someone else's opinion.
- (C) Switch the topic to an issue about which the person does not have a strong opinion.
- (D) Express an opinion that differs from the person's opinion in order to encourage others to express their ideas.

64. Which of the following is a valid software quality goal?

- (A) "Improve quality by 100% within one year."
- (B) "Implement metrics without increasing project costs."
- (C) "Reduce the average number of defects found during code inspection by 50%."
- (D) "Achieve a cumulative defect removal efficiency greater than 90% within 18 months."

65. The most appropriate driver for developing metrics is

- (A) poor results in internal quality audits
- (B) management goals
- (C) customer complaints
- (D) missed milestones

66. Which of the following software change management activities is most vital to assessing the impact of proposed software modifications?

- (A) Baseline identification
- (B) Configuration auditing
- (C) Change control
- (D) Version control

67. Which two of the following are characteristics of a successful defect prevention program?

- I. It is performed using a top-down approach.
- II. A root cause analysis of defects is conducted.
- III. Historical defect data are tracked.
- IV. It is initiated at the end of the design phase.

- (A) I and III
- (B) I and IV
- (C) II and III
- (D) II and IV

68. Which of the following is the most important feature of an audit report?
- (A) It is verifiable.
 - (B) It follows ISO 19011.
 - (C) It includes responses to all checklist questions.
 - (D) It is based on the lead auditor's recommendations.
69. Which of the following is responsible for authorizing changes to a controlled library?
- (A) Corporate entity
 - (B) Configuration control board
 - (C) The development team
 - (D) Configuration manager
70. A company is experiencing competitive pressures for market share from a low-cost competitor. The company is in the process of adding new functionality to their software products. If their goal is to minimize development costs, which of the following metrics is best suited to measure the achievement of that goal?
- (A) Engineering effort
 - (B) Code coverage
 - (C) Customer surveys
 - (D) Process maturity
71. During a functional configuration audit, a software auditor's principal responsibility is to verify that the
- (A) product meets specifications
 - (B) processes used in software development were performed
 - (C) documentation of the product satisfies the contract
 - (D) documentation accurately represents the product
72. An architectural model should be used to
- (A) document design procedures
 - (B) develop a system design
 - (C) verify code
 - (D) deploy a system model
73. According to ISO 9001, quality records must be maintained in order to
- (A) demonstrate achievement of the required quality and the effective operation of the quality system
 - (B) demonstrate progress in accordance with the associated quality plan
 - (C) justify the current funding and staffing of the quality organization
 - (D) demonstrate that the design and coding activities have alleviated the need for unit testing
74. Which of the following is NOT a requirement of an effective software environment?
- (A) Ease of use
 - (B) Capacity for incremental implementation
 - (C) Capability of evolving with the needs of a project
 - (D) Inclusion of advanced tools
75. Which of the following is the best resource for validation testing of an object-oriented system?
- (A) PERT charts
 - (B) Use case scenarios
 - (C) Entity relationship diagrams
 - (D) Decomposition matrices

STOP.

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY GO BACK AND CHECK YOUR WORK ON THIS TEST.

APPENDIX A: Answer Sheet

For each sample test question, the correct answer is provided below along with the area of the body of knowledge (BOK) that the item is classified to. This sample examination is not intended to represent all areas of the BOK but to provide a sampling from each major topic area. All ASQ examinations are based on the BOK for that particular exam. To view the BOK for CSQE, please go to <http://www.asq.org/certification/software-quality-engineer/bok.html>

Question	BOK	Correct Answer
1	III.B.2	B
2	VI.D.1	C
3	I.C.3	D
4	VI.B.3	B
5	VII.C.1	A
6	IV.A.3	D
7	V.B.5	C
8	VI.C.3	B
9	II.A.4	C
10	III.D.1	A
11	I.C.1	B
12	III.B.2	D
13	V.A.1	B
14	VI.C.4	D
15	VII.B.2	A
16	IV.C.1	C
17	VI.A.3	A
18	II.A.5	C
19	V.C.1	D
20	I.C.2	A
21	VI.D.3	C
22	V.C.2	C
23	II.B.3	A
24	III.C.2	B
25	IV.A.3	D
26	VII.B.3	C
27	I.A.3	C
28	III.A.1	C
29	IV.C.3	A
30	VII.C.3	D
31	V.C.3	D
32	V.C.3	C
33	I.B.3	C
34	II.C.2	B
35	VI.C.2	C
36	VII.E.1	B
37	IV.B.2	D
38	V.A.2	B

Question	BOK	Correct Answer
39	I.A.3	A
40	IV.A.1	C
41	II.A.2	A
42	III.D.2	C
43	VI.B.4	A
44	VII.A.3	A
45	V.B.4	D
46	IV.B.3	A
47	IV.B.2	C
48	VI.D.5	B
49	II.A.2	C
50	III.E.2	B
51	I.D.3	D
52	IV.B.4	B
53	VII.A.1	B
54	V.C.4	A
55	VI.B.1	D
56	II.A.4	B
57	V.B.3	A
58	I.A.2	D
59	III.C.2	C
60	VI.A.2	C
61	VII.B.1	A
62	V.B.2	A
63	I.C.4	B
64	II.A.1	D
65	V.A.3	B
66	VII.D.2	C
67	II.B.6	C
68	II.C.3	A
69	VII.A.2	B
70	V.B.1	A
71	II.C.1	A
72	III.A.2	B
73	I.B.1	A
74	III.A.1	D
75	VI.A.1	B

APPENDIX B: Analyzing Body of Knowledge (BOK) Content

The following worksheet can be used to help you analyze the results of your answers on this sample examination. It can be used to determine which areas of the body of knowledge (BOK) you may want to study.

After learning which sample test questions you had correct, total the number you had correct and enter that number into the 2nd column of the worksheet. The 3rd column provides the total number of test questions that are in this sample examination for that major area of the BOK. The last column provides the total number of test questions that appear in a formal ASQ examination for that area of the BOK.

BOK Topic Area	Total You Had Correct on Sample Exam	Total in the Sample Exam	Total in Formal ASQ Exam
I. General Knowledge, Conduct, and Ethics		10	<i>16</i>
II. Software Quality Management		11	<i>30</i>
III. Software Engineering Processes		10	<i>26</i>
IV. Program and Project Management		9	<i>24</i>
V. Software Metrics, Measurement, and Analytical Methods		13	<i>24</i>
VI. Software Verification and Validation (V&V)		12	<i>24</i>
VII. Software Configuration Management		10	<i>16</i>
GRAND TOTAL		75	<i>160</i>