

**ASTQB Certified Tester  
Advanced Test Analyst v4.0  
Sample Exam Questions**



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American Software Testing Qualifications Board

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**Structure has 1 point for K2's, 2 points for K3's, and 3 points for K4's.**

**45 questions**

**78 total points**

**51 points to pass**

- 1. (1 pt) In which development models is regression testing most important?**
  - a. Sequential and incremental
  - b. Sequential and iterative
  - c. Incremental and iterative
  - d. It is equally important in all models
  
- 2. (1 pt) During which activity does a test analyst define the low-level test cases?**
  - a. Test analysis
  - b. Test design
  - c. Test implementation
  - d. Test execution
  
- 3. (1 pt) During which activity does exploratory testing usually occur?**
  - a. Test analysis
  - b. Test design
  - c. Test implementation
  - d. Test execution

**4. (1 pt) What is meant by the quality criterion “Necessity” for test cases?**

- a. The test case covers boundary conditions
- b. The test case covers negative conditions
- c. The test case covers something that needs to be tested
- d. The test case is required as a predecessor for another test case

**5. (1 pt) Which of the following is a recommended capability in a test environment?**

- a. Regular backup and restore capability
- b. Full integration with all interfacing systems with no mocking or stubbing
- c. Performance capabilities that are representative of the production environment
- d. All user roles have super user access to avoid testing delays caused by insufficient permissions

**6. (1 pt) You are testing a payroll system and need test data. What is a concern you need to have if you are going to use production data for this testing?**

- a. Format
- b. Confidentiality
- c. Traceability
- d. Availability

- 7. (1 pt) Which type of tool is used to manage the traceability matrix?**
- a. Defect management
  - b. Test management
  - c. Test data management
  - d. Configuration management
- 8. (2 pts) You are testing an online banking application. In particular, you want to test the ability of a customer to make a payment to a creditor. You have compiled the following list of keywords for this capability:**
- 1. Login**
  - 2. Select Account**
  - 3. Select Creditor**
  - 4. Enter Amount**
  - 5. Push “Pay”**
  - 6. Logout**

**What important testing activity is missing?**

- a. Most people would check their balance before making a payment, so Check Balance is needed
- b. The keyword should suggest how the account and creditor will be selected, such as “Select Creditor from dropdown list of pre-defined creditors”
- c. There is no verification that the action happened, such as “Confirm Payment” and “Check Balance”
- d. There are no keywords for negative tests such as “Login Failed” and “Payment Failed”

**9. (1 pt) Which of the following is an activity a Test Analyst should perform as part of Risk Assessment?**

- a. Determining the likelihood of a risk occurring
- b. Determining the impact of a risk if it should be realized
- c. Participating in brainstorming sessions with the users to identify unexpected risks and corner cases
- d. Reviewing the code to identify the risky areas where testing must be concentrated

**10. (3 pts) You have been working in an iterative model on a large software project. You have developed a traceability matrix that tracks the risk of each requirement and maps that to the test case that tests that requirement. You have just received a new release and the developers have assigned the regression risk based on what they know they have changed. Consider the following risk table (1 = highest risk):**

Test Case	Requirement Risk	Regression Risk	Pre-requisites
1	1	1	
2	1	N/A	
3	2	1	Test #4
4	3	4	Test #5
5	4	N/A	Test #1

**Given this information, in what order should the test cases be executed to help mitigate the regression risk?**

- a. 1, 2, 3, 4, 5
- b. 1, 3, 4 and 2, 5 if there is time
- c. 5, 4, 3, 1 and do not execute 2
- d. 1, 5, 4, 3 and 2 if there is time

**11. (3 pts) You have the following table which indicates which areas of the software are covered by test cases.**

Test Case #	Priority	Coverage Area	Critical Use
1	1	A	Yes
2	1	B	No
3	2	C	Yes
4	2	D	No
5	3	C	Yes

**You want to use operational profiles to focus the testing. Your research indicates that areas A, C, and D have been impacted by this change. Given this information, which test cases should be executed and in which order?**

- a. 1, 3, 5 only
- b. 1, 3, 4, 5 only
- c. 2, 4 only
- d. 1, 2, 3, 4, 5

- 12. (2 pts) You are using simplified coverage for domain testing. The software is checking exam scores for students, particularly looking for anyone who did not get a score of 100 (whole numbers only).**

**Which of the following sets of values for x need to be tested to achieve 100% simplified coverage?**

- a. 100, 99, 98
- b. 100, 101, 99
- c. 100, 101, 120, 99, 72
- d. 100, 0, 200

- 13. (2 pts) You are using reliable coverage for domain testing. The equation being tested is as follows:**

**If MoneyPaid  $\geq$  10.00 then  
Print “10.00 plus”;**

**Which of the following sets of values for x need to be tested to achieve 100% reliable coverage?**

- a. 10, 11, 9
- b. 10.00, 9.99, 12.00, 7.00
- c. 10.00, 10.01, 9.99
- d. 10.00, 9.00

- 14. (2 pts) You are testing a web site that allows people to sign up for a waiting list for a puppy. The following parameters are available:**

Breed	Color	Gender
Labrador	Brown	Male
Poodle	Black	Female
Terrier	White	Do not care

**Research has shown that the most commonly selected puppy is a black male labrador. Given this information, what is the best order for the test case values in the order in which they should be executed using the base choice coverage criteria?**

Test	Breed	Color	Gender
1	Labrador	Black	Male
2	Poodle	Brown	Female
3	Terrier	White	Do not care
4	Labrador	Brown	Male
5	Labrador	White	Male
6	Labrador	Black	Female

- a. 1, 2, 3
- b. 1, 4, 6
- c. 1, 3, 6
- d. 4, 5, 6



- 15. (2 pts) You are working for a car sales company. Metrics have shown that the most popular car choice is as follows:**

**Color = white**

**Transmission = automatic**

**Engine = hybrid**

**Using the pairwise coverage as the combinatorial coverage criteria, which of the following is the correct next combination to test?**

- a. Red, Manual, Electric
  - b. White, Automatic, Hybrid
  - c. White, Manual, Hybrid
  - d. Red, Automatic, Electric
- 16. (1 pt) When using random testing for validation purposes, what data distribution is best?**
- a. One that is based on operational profiles
  - b. One that is usage-agnostic
  - c. One that is based on boundary conditions
  - d. One that is applied to meet the specified coverage conditions
- 17. (1 pt) What does CRUD represent?**
- a. The lifecycle of data entities
  - b. The test approach that centers on operating systems
  - c. The ability to randomize testing in a domain
  - d. A static testing approach for access rights

- 18. (2 pts) You are testing login software. If the user enters a valid username/password combination, they are taken to the welcome page. If they enter an invalid combination, they are taken to the Forgot password page where they can then request to be emailed their username or change their password. Which of the following state tables correctly shows only the state changes from the Login state?**

a.

Start State	Event	Condition	Action	End State
Login	Username / password entered	Valid	Welcome page	Welcome

b.

Start State	Event	Condition	Action	End State
Login	Username / password entered	Valid	Welcome page	Welcome
Login	Username / password entered	Invalid	Forgot password page	Forgot

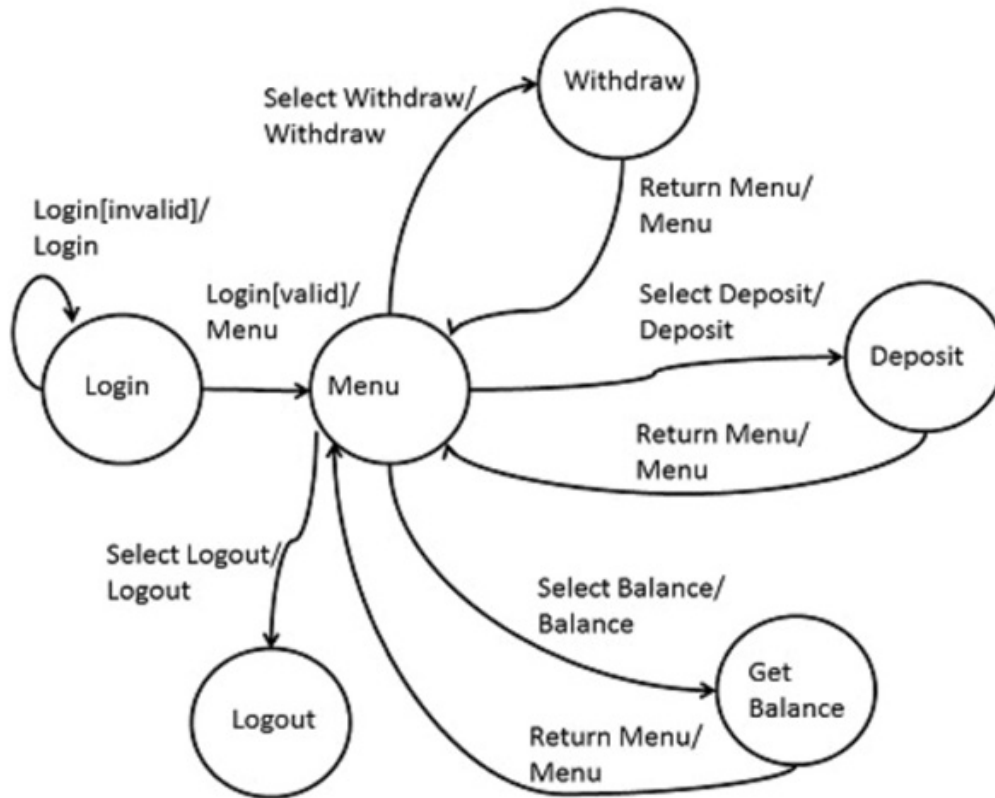
c.

Start State	Event	Condition	Action	End State
Login	Username / password entered	Valid	Welcome page	Welcome
Login	Username / password entered	Invalid	Forgot password page	Forgot
Forgot	Created new password		Login page	Login

d.

Start State	Event	Condition	Action	End State
Login	Username / password entered	Valid	Welcome page	Welcome
Login	Username / password entered	Invalid	Forgot password page	Forgot
Forgot	Created new password		Login page	Login
Forgot	Got user ID		Login page	Login
Login	Username / password entered	Valid	Welcome page	Welcome

**19. (2 pts) Consider the following state diagram for a simple ATM.**



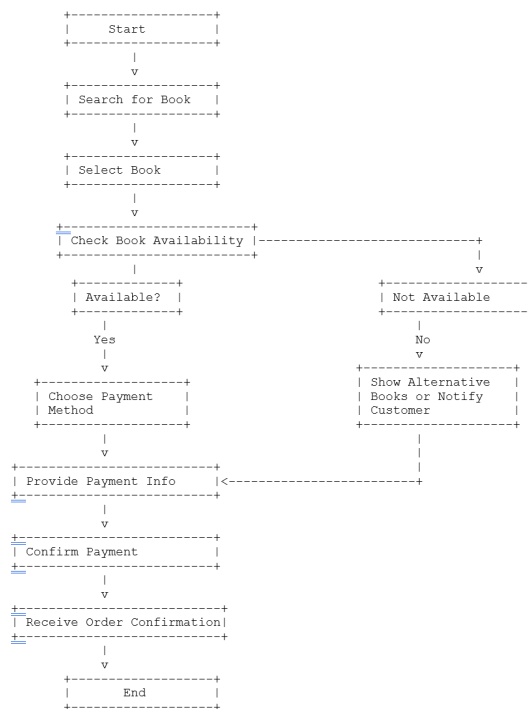
**How many test cases are required for achieve 1-switch coverage of the entire state diagram?**

- a. 8
- b. 17
- c. 18
- d. 24

20. (2 pts) You have used ChatGPT to create an activity diagram for the user scenario of buying a book. You have received the following output:

**Key Actions for Book Purchase:**

1. **Start**
2. **Search for Book**
3. **Select Book**
4. **Check Book Availability**
5. **Choose Payment Method**
6. **Provide Payment Information**
7. **Confirm Payment**
8. **Receive Order Confirmation**
9. **End**



**Other than a rough drawing, what has ChatGPT not included?**

- a. The happy path
- b. The main scenario
- c. Exception paths
- d. The business scenario being captured

- 21. (2 pts) You are testing a banking application. In the past, invalid login attempts were limited to three and then the account was locked. This has caused many complaints from customers, so the number of attempts has been changed to 10. You need to test this capability. How many tests do you need to test the invalid login to achieve simple loop coverage?**
- a. 3
  - b. 4
  - c. 10
  - d. 11

**22. (2 pts) You are testing an application that controls upgrading a cell phone's operating system. The following conditions must be tested:**

- 1. Login is required**
- 2. Power connection is required**
- 3. Check is made if update is needed only if power is connected**
- 4. User is prompted to accept update**

**The following full decision table has been created to cover these conditions:**

Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Login Successful	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
Power Connected	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	N	N	N
Update Needed	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N
Update Accepted	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
Action																
Load Update	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Display Error Message	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

**The conditions are tested in the order specified. The program stops when the first negative condition is encountered.**

**Given this information, which of the following tables shows the correct use of the “do not care” operator?**

a.

Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Login Successful	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N
Power Connected	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N
Update Needed	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N
Update Accepted	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N

b.

Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Login Successful	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
Power Connected	Y	Y	Y	Y	N	N	N	N	-	-	-	-	-	-	-	-
Update Needed	Y	Y	N	N	Y	Y	N	N	-	-	-	-	-	-	-	-
Update Accepted	Y	N	Y	N	Y	N	Y	N	-	-	-	-	-	-	-	-

c.

Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Login Successful	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
Power Connected	Y	Y	Y	Y	N	N	N	N	-	-	-	-	-	-	-	-
Update Needed	Y	Y	N	N	-	-	-	-	-	-	-	-	-	-	-	-
Update Accepted	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-

d.

Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Login Successful	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
Power Connected	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	-	-	-	-
Update Needed	Y	Y	N	N	Y	Y	-	-	Y	Y	-	-	Y	Y	-	-
Update Accepted	Y	N	Y	-	Y	-	Y	-	Y	-	Y	-	Y	-	Y	-

**23. (2 pts) Given the following partially minimized decision table, what is the smallest set of tests that should be run?**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Login Successful	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
Power Connected	Y	Y	Y	Y	N	N	N	N	-	-	-	-	-	-	-	-
Update Needed	Y	Y	N	N	-	-	-	-	-	-	-	-	-	-	-	-
Update Accepted	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-

- a. 1, 2, 3, 5, 9
- b. 1, 2, 3, 4, 5, 6, 7, 8, 9
- c. 1, 2, 4, 6
- d. All these tests should be run

**24. (2 pts) You are testing the password setup for an e-commerce system. The user is allowed to have between 8 and 16 keyboard characters for their password and they must enter the same password twice to confirm it. What is the metamorphic relation that could be applied to this scenario?**

- a. All passwords must be within a certain length
- b. The password and username must both be unique and must be within the required character set
- c. The password and confirmation password must be the same and be within the required length and character set
- d. The password and username must both be unique and must be within the required length and character set



- 25. (2 pts) You are working on a medical application that measures the number of drinks taken per day to the incidence of cirrhosis of the liver. The assumption is that the higher the number of drinks, the higher the incidence of cirrhosis. How can metamorphic testing be applied to help generate test inputs?**
- a. It can determine the number of drinks required to affect the incidence of the disease
  - b. It can supply a varying number of drinks per person
  - c. It can determine the cirrhosis levels across a wide variety of individuals
  - d. It can be used by doctors to anticipate treatment plans
- 26. (2 pts) You are a test manager on a large project. The team really wants to do exploratory testing, but you are concerned that they will not target their testing appropriately and may overlap each other resulting in overtesting some areas and undertesting others. Which of the following is a tool that can be used to help guide the testing?**
- a. A test summary report
  - b. A test charter
  - c. A decision table
  - d. A list of appropriate test techniques that can be applied

- 27. (2 pts) You are a tester working on testing the checkout capability of an e-commerce web site. You have been given a test charter that describes the operational profiles, the objectives and scope of testing, the description of the test environment to be used, and the expected limitations of the product. What else do you need to start testing?**
- a. Information about existing users
  - b. Test credit cards that can be used for checkout
  - c. A list of valid addresses for shipping
  - d. The performance and security requirements for the login function

**28. (2 pts) You have been using the following checklist to test the ability to view the account balance on an ATM:**

- 1. Does valid login work and invalid login fail? (valid/invalid account/password pairs)**
- 2. Are all accounts displayed and selectable?**
- 3. Does the screen meet the UI standards?**
- 4. Can you pick one account and view the balance?**
- 5. Is the balance consistent with the database?**
- 6. Do you have a variety of ways to exit (logout, walk away, check timeout)?**
- 7. Does exiting disconnect the session?**

**In following this checklist, you have found that the user is asked if they want to print or view the balance. What should you do?**

- a. Create another checklist as this one is going to exceed the 7-step limit
- b. Add another step to see if the user can select print or view and then a step to see if the amount is actually displayed or printed
- c. Fail the test as there is a step in the real flow that does not match a step in the checklist
- d. Write a defect for checklist maintenance so it can be added to the backlog and picked up later as a task to update the checklist

**29. (2 pts) You are developing a set of checklists for a new web site. You are particularly concerned about the UI because previous versions of the product have been rejected by the users as too complicated and misleading. You want to be sure this UI is much better and is up to industry standards. Which of the following would be a good place to look for input for your checklist?**

- a. The developers
- b. The order history from a sample of the web site users
- c. The defect libraries and defect taxonomies published by experts in UI testing
- d. The websites of competitors to see if they are easier to use and have different functionality than yours

**30. (1 pt.) Your organization has just created a new application that is designed for use by the general public to get up to date weather information. The application uses geo-location to determine where it is and to give the local weather forecast and update. You want to use crowd testing to get a wider view of the functionality across the geos, but your colleague says the quality of the testing will be so poor that it will be useless. Will this be a problem?**

- a. Likely no because the application is designed for the general public, so it should be usable by all
- b. Yes, and you will have to retest everything that is done in each geo
- c. Likely yes because there will be time zone issues that will make communication difficult
- d. No, because the security will ensure unqualified testers cannot access the functionality

- 31. (3 pts) You have been investigating the defects that have escaped to production for a particular application that is used to calculate distances between aircraft in the air. There is a significant amount of data measures that are used for these calculations, but you have found that most of the serious defects have been caused by mishandling of data on the borders of equivalence partitions. Which of the following test techniques would be most suitable to use when testing this part of the application?**
- a. Exploratory testing
  - b. Domain testing
  - c. CRUD testing
  - d. Metamorphic testing
- 32. (3 pts) You are testing an update to an existing financial system. The requirements are limited to “like for like” and the requirements for the original system do not exist. You do have process maps that are used for training new users on the old system, and you think these will be applicable to the new system. Given this information, what type of testing would be most suitable?**
- a. Data-based testing
  - b. Decision-table testing
  - c. State-based testing
  - d. Scenario-based testing

- 33. (1 pt.) Which of the following is a drawback to using a test model to help with test design?**
- a. It is slow
  - b. It can only be developed by the developers, and they may not have time to maintain it
  - c. It may become too complex to maintain without AI
  - d. It may miss test conditions that are not shown in the model
- 34. (1 pt.) You have been testing an application that is designed for use by the general public on their mobile phones. Unfortunately, you have found that it is difficult to use, and users are confused regarding how to complete tasks. This is a failure in which area?**
- a. Functional appropriateness
  - b. Functional completeness
  - c. Functional correctness
  - d. Functional disassociation
- 35. (1 pt.) You have seen a prototype of a new web application, but you are concerned that the user interface seems awkward and difficult to use. What should you do?**
- a. Support a usability expert in conducting a usability review
  - b. Submit the application for a WCAG evaluation
  - c. Start working on building better help text
  - d. Develop a comparison chart between your product and a competitor's similar product

- 36. (1 pt) You have been conducting installability testing. You have verified that the installation procedure is clear and easy to follow. You have also verified that the software installation completes without errors. What do you need to test next?**
- a. Nothing, you are done
  - b. Uninstall
  - c. Verify that the newly installed software functions correctly
  - d. Verify that there are no coexistence issues with any other product
- 37. (1 pt) You have just installed a new application on your phone that will organize your contacts across multiple applications. You have found that now your email does not work. What type of testing should have been done to detect this problem?**
- a. Adaptability
  - b. Co-existence
  - c. Replaceability
  - d. Interoperability
- 38. (1 pt) What measure can be used to determine if defects are being found as soon as possible?**
- a. Defect removal efficiency (DRE)
  - b. Phase containment effectiveness (PCE)
  - c. Root case analysis (RCA)
  - d. Defect convergence charting (DCC)

**39. (2 pts)**

Role	Create	Read	Update	Delete
DBA	Y	Y	Y	Y
Account maint app	Y	Y		Y
General user		Y		

**What is a problem that is visible in this CRUD table?**

- a. The account maintenance application cannot read the existing data to check for duplicates
- b. The DBA can do everything
- c. The general user will not be able to see the data
- d. The account maintenance application cannot do an update

**40. (2 pts) You have been developing a use case from a requirements document. You have been able to determine the main path and several extension paths. The requirements include nothing about possible error conditions or how to handle them. What part of your use case should highlight this issue?**

- a. The exception paths cannot be built with the existing information
- b. The main path should have included the possible errors
- c. The extension paths should have included the possible errors
- d. The domain is too ill defined to allow the assignment of data entities



- 41. You are working on a new Learning Management System (LMS) for a university. The faculty has been heavily involved in developing the requirements and they are very happy with the result. What review technique would be helpful to help ensure the LMS is usable by all target users?**
- a. Checklist-based reviewing
  - b. Scenarios-based reviewing
  - c. Role-based reviewing
  - d. Perspective-based reviewing
- 42. (2 pts) You have been reviewing requirements documents as a team. There are a number of use cases in the requirements, but these seem to be skipped by most reviewers. How can you help to make the use cases more interesting to review and more likely to expose defects?**
- a. Checklist-based reviewing
  - b. Scenario-based reviewing
  - c. Role-based reviewing
  - d. Perspective-based reviewing

**43. (3 pts) You have looked at the defect clustering numbers for the last release of an ERP system. You have found that the reports for the system had many more defects than any other area. You can also see that these defects tended to be higher in priority than the defects in other clusters. What should you do at this point?**

- a. Improve the rigor of testing for this area and increase the regression testing in the area as well
- b. Distribute the testing evenly across all the areas of the software rather than concentrating on specific areas with clusters of defects
- c. Build test automation for the areas with high defect clusters as this will alleviate the issues
- d. Increase the rigor of testing for this area and decrease the regression testing as it will no longer be as important

**44. (3 pts) Your Defect Detection Percentage (DDP) on the last project was 62%. Although the project was considered to be a success, there was a significant discussion about the cost of testing, particularly in the later stages of the project. How can you use DDP to improve the testing for the next project?**

- a. Set a higher DDP goal
- b. Examine why there were so many escapes in the previous project and fix the process as needed
- c. Quit reporting DDP as you have already proven that testing was effective with the low defects in production
- d. Concentrate more testing in the defect prone areas based on the cluster analysis

**45. (1 pt) How does defect classification help with root cause analysis?**

- a. It groups defects together so they can be analyzed together
- b. It helps to rank the defects in order of importance
- c. It saves time when reporting a defect as some of the information is no longer needed
- d. It provides testers with the freedom to report defects in the most efficient way