PMI-ACP® Practice Exam Answers
Agile Practices for Waterfall Projects by Barbee Davis, J. Ross Publishing, 2012.

There is information on this test that was not covered in the book. This is your chance to add additional learning to your "toolkit" before sitting for the PMI-ACP® Exam.

As in all certification preparation, you will need to put aside your personal experiences and ideas that may differ from those shown, and learn the logic and answers that will get you the best test scores. Once you are on the job, you are free to adjust the theories to those that are the most helpful and appropriate in your situation.

For the best test success, be sure you not only understand the correct answer and why it is correct; also know and understand why the incorrect answers are incorrect. Wrong answer explanations may introduce new terms, or give you an additional review of term meanings and uses.

1. An example of the most effective form of communication for agile teams is:

    a. A recorded webinar available asynchronously for the team.
    b. A conference call on a single phone in a conference room.
    c. A low-tech, face-to-face conversation.

C. Face-to-face conversations are best for one-on-one interactions and also for team meetings. When those are not possible, for example with distributed teams, gathering each team in a face-to-face setting and connecting the teams with technology that allows both audio and video connectivity is the next best option.

    d. A virtual meeting with phone and video connectivity.

2. The best description of a Project Roadmap to help your team and other project stakeholders understand the project is:

    a. A map of where the team will hold their Iteration Demonstration meetings so that Product Owners can attend.
    b. A list of all of the User Stories that will be completed within this Iteration.
    c. A high level overview of the Releases and Iterations of this project.

C. A Project Roadmap is the highest level look at an entire agile project. It plans out multiple Releases, which may or may not be broken into multiple Iterations at the start. Usually, the first Release, and the nearer Iterations, are decomposed into greater detail than those in the future. The list of User Stories in answer B is called the Iteration Backlog, while the list of User Stories references in answer D is called the Product Backlog. Usually the Product Backlog list is not entirely prioritized at the outset, rather it is done for the current Iteration and perhaps a little further out.

    d. The list of prioritized User Stories to be completed within this project.

3. Which of the following team practices are not usually associated with agile?

    a. Burnup Charts.
    b. Weekly Status Meetings.

B. Weekly status meetings are more closely associated with Waterfall projects rather than agile ones. In an agile environment, they are replaced with Daily Stand-up Meetings where each team member states what they did yesterday, what they will do today, and what impediments are blocking their ability to complete the work of the project. It is the job of the project manager or the ScrumMaster to work to remove those constraints.

    c. Weekly Sprints.
    d. Customer Demos.

4. Which of these statements does not fit into the Agile Manifesto philosophy?

    a. We favor responding to change over following a plan.
    b. We favor agile practices over working software and products.

B. This is not found in the Agile Manifesto. In fact, agile practices were intended as merely a flexible and fast way to get to working software. The intent was that the minimal marketable feature, the smallest possible set of functionality that, by itself, has value in the marketplace or organization, could be created and released more quickly.

    c. We favor individuals and interactions over processes and tools.
    d. We favor customer collaboration over contract negotiations.

5. Planning Poker is an estimating technique for agile teams. Which answer best describes it?

    a. A way to estimate how much the project will cost in human and material resources.
    b. A way for the team to include all members in sizing User Stories relative to each other.

B. Planning Poker is a way to get the entire team involved by simultaneously showing their playing card with a Fibonacci number on it to show how hard they think it will be to do a task, rather than how long it will take to do it. The outlying large and small numbers explain their reasoning, and the game continues until all of the team members estimate roughly the same number of difficulty points. These difficulty points are then used to choose how much a team will commit to complete in an Iteration. This is totally a team process, with neither the Product Owner nor the Project Manager playing.

c. A way for the Product Owner to work with the team to decide how many days each User Story will take to complete.
d. A way for the Project Manager and the team to fairly decide which User Stories should be done in the upcoming Iteration.

6. Which of the following correctly identifies how the work of the project is decomposed in an agile environment?

a. Epic, Program, Project, Activity, Task.
b. Backlog, User Story, Iteration, Retrospective, Release.
c. Epic, Release, Iteration, User Story, Task.

C. This is the correct structure to show the decomposition of the work of the project. Answer A is a mix of traditional project management terms, with Epic added instead of Functional and Technical Requirements. Answers B and D use agile terms, but are more about the timeline through which products, services, and software move through the value stream, with parts left out and distracters added.

d. Mission, Vision, Iteration, Customer Demo, Release.

7. Which of the following answers is the best reason to add risks to the Backlog?

a. To make sure that the team works on them early in the first Iterations.

A. When prioritizing User Stories, risk is one of the primary considerations in moving an item into the first, or at least very early Iterations. Since the Project Owner is prioritizing the Backlog, he or she will see them, and this is a way for the team to bring risks forward for discussion. But that does not mean that they are necessarily "very serious", or that the Project Owner would be unaware of them until viewing the Backlog list. (Answer D)

Since the team is discussing and documenting risks on the User Story cards prior to their addition to the Backlog, they would not forget to consider risk. Placing them in the Backlog does help keep them in the team's focus, but that is not the main reason they are placed there. (Answer B)

If some of the risks need to be addressed outside of the production team environment, i.e., by the Project Manager/ScrumMaster or Product Owner or Customer, there might be a separate Risk Backlog created to be a visible communication radiator for the team showing how and when those risks outside their circle are being addressed. Since there may be a separate Risk Backlog, Answer C is incorrect.

b. To ensure that the team does not completely forget the project risks.
c. Because it takes too much time in a low-document environment to maintain an additional list for risks.

d. So that the Project Owner is aware that this project has very serious risks.

8. On an agile team, who decides when a User Story or a Feature task is "Done"?

    a. The Product Owner or External Customer.
    b. The Project Manager or ScrumMaster.
    c. The end-user or external customer.
    d. The agile team or Scrum team.

D. Since the agile team is self-directed and responsible for the work they produce, they are the final arbitrators of when a User Story or Feature task is "Done" and they are ready to move on to the next task. In organizations where there is an outside quality or compliance team, their approval may be needed before the task is truly considered finished.

9. If a Release has four Iterations, each two weeks in length, how long should the Project Owner typically expect the Release to be?

    a. Forty days.
    b. Eight weeks.

B. If each Iteration is two weeks and there are four of them, the Release would be eight weeks. This question tests whether or not you understand that each Iteration is the same length, and that added together they make up the length of the Release. Answer A is incorrect, because although there would be forty days of work, the calendar duration of the Release would be 56 days since each two day weekend for eight weeks would add another 16 days. Answer C is incorrect, since not every month is exactly four weeks. Since each Iteration is usually the same length, Answer D is incorrect.

    c. Two months.
    d. It depends on the length of each Iteration.

10. Which of the following statements best defines an iterative phase-to-phase relationship?

    a. Only one phase is planned at a time, and the planning for the next is carried out as the work progresses.

A. This is the definition of an iterative relationship. Answer B describes a sequential relationship, Answer C is for an overlapping relationship, and Answer D describes nothing ordinarily found as a relationship.

    b. One phase begins, and when it is completed the next phase can begin.
    c. A phase starts prior to the completion of the previous one.
    d. Two phases are completed simultaneously, with one overlapping the other.

11. Which is not an appropriate statement by team members during a Daily Stand-up Meeting or a Daily Scrum?

    a. These are the constraints or impediments standing in my way.
    b. This is what I did yesterday.
    c. This is what I intend to complete today.
    d. These are the tasks I have chosen to complete in this Iteration.

D. This is the incorrect answer. The tasks chosen by a team member to complete in this Iteration are shown in the To Do list, but not enumerated on a daily basis in the meeting.

12. Which statement about the amount of planning time dedicated for an agile project is most correct?

    a. Time on an agile project is dedicated to doing the work to create the product, service, or software, not to planning.
    b. The amount of time used in planning on an agile project is roughly the same as on a traditional project, but distributed throughout the project rather than used mostly at the beginning of the project.

B. This correctly represents the planning on an agile project. It is a myth that agile projects are created and run "ad hoc" with little or no planning.

    c. The amount of time used in planning on an agile project is less than the amount used on a Waterfall project, because no Work Breakdown Structure or weekly reports are created.
    d. The amount of time used to plan an agile project is greater than on a traditional project, because involving all of the team members takes more time.

13. The agile practice which allows teams to build releasable products, services, and software in a shorter time is called:
    a. Iterative and incremental development.

A. By following a process you repeat periodically, perhaps every 1 to 2 weeks (iterative), and doing one piece or chunk of the work at a time from start to finish including testing and running quality checks (incremental development), you can create releasable output in the shortest possible time.

    b. Refactoring and release planning.
    c. Transparency and Test Driven Development.
    d. Sequential planning and social-loafing development.

14. A Burndown Chart is:

    a. A transparency radiator showing the number of man hours completed each day down to the day the team will burn out.
    b. A chart of the amount of work on a project and the team's progress towards completion, plotted as the work done toward the end goal as an ascending line to zero.
    c. A chart of the total number of features requested by the Project Owner, plus the risk and architecture requirements added by the agile team.
    d. A visual representation of the amount of work on a project and the team's progress towards completion, plotted as a line from the starting amount down to the zero point.

D. This answer best describes the Burndown Chart. Answer B more closely resembles a Burnup Chart, Answer C makes one think of a Product Backlog, and Answer A is a non-existent artifact for agile teams.

15. Agile teams find it is an advantage to limit the WIP (Work In Progress). Which of the following is the not an important advantage of limiting WIP?

    a. It focuses throughput on the items prioritized by the Product Owner/Customer.
    b. It allows focus on isolating bottlenecks, or constraints, and removing them when they might be lost in the confusing of too much work being done at the same time.
    c. It allows each resource to be fully utilized on a daily basis, so no work hours are left unscheduled.

C. All of the other answers *are* advantages of limiting WIP. However, in agile teams fully utilized resources are not seen as a goal, or an advantage. Allowing team members to have time to collaborate, reflect, and rework project features provides a higher quality end result.

    d. It targets finished, workable, releasable products, services, or software in small pieces as the goal.

16. Which of the following statements correctly states the way Extreme Programming suggests software code be written.

    a. Developers should write automated tests, then write software that, hopefully, will pass the tests.

A. Developers should write automated tests first, so that they are not subconsciously writing tests based on knowledge of the code they have already created. Code must not only pass the automated tests in a small chunk, but as it is integrated into larger pieces it must be run against all previous tests to be sure that no hidden issues arise.

b. Developers should write software, then write automated tests to check the software functionality.
c. Code must pass the most recent automated test in order to be placed into the final software release.
d. Code must be written, tested by hand, refactored, and then checked by a pair programmer.

17. PMI circulates a PMI Code of Ethics and Professional Conduct with all of its Certification Handbooks. These guidelines apply to:

a. All full-time Project Management Institute employees and their families.
b. All those who hold a PMI certification or are PMI members.
c. All those who volunteer for PMI, hold certifications, or are PMI members.

C. Volunteers, all certificants whether or not they are members of PMI, and all PMI members are expected to abide by the PMI ethics and conduct guidelines outlined in these publications.

d. All those who hold a position with the title, "Project Manager".

18. The best description of affinity estimates is:

a. A method of assigning Story Points to User Stories by arranging them in relative size, rather than estimating how long it will take to do them.

A. Answer A is the correct definition. Story Points can be used to choose how much the team can complete in an Iteration, as mentioned in Answer D, but team velocity is not involved with initially assigning Story Points to User Stories.

The tee-shirt technique is one way to show relative sizing of User Stories and arrive at Story Points, Answer C, but it does not involve actually purchasing and distributing tee-shirts to the team. Answer B, is a true statement – User Stories can be chosen for Iterations based on the size of the team and the length of the Iteration, but it is not a definition for affinity estimates.

b. A method of assigning User Stories to Iterations based on how much time the agile team has to complete them.
c. A way to reward team members by collecting their tee-shirt sizes and handing out shirts at the Retrospective.
d. A method of assigning Story Points to User Stories by estimating how many Story Points the team can complete in this Iteration based on their velocity.

19. Which of the following statements best describes the concept of creating the minimum marketable feature (MMF)?

    a. The organizational assets of the project are best protected by preparing and testing the product, service, or software to the minimum quality standards allowable in the marketplace.
    b. Only the minimum number of features that will allow this product, service, or software to pass governmental or outside regulatory inspection and allows the company to receive the most profit should be created.
    c. The business value of the project is best served in an agile project by creating the smallest possible set of functionality that, by itself, has value in the marketplace or the organization.

C. is the correct answer. Answer A gets into the question of quality - your product or service is what it was intended to be and functions as originally planned, or grade – the rank your product holds based on its features, price, or other factors. This is an organizational decision, but is not MMF. Answer B is incorrect, as regulatory inspections do not set the company goals for their products. And there is no guarantee that low price and high volume will happen, Answer D, or that it is the best organizational strategy for your employer. Plus, this decision is outside of the responsibility of the agile team.

    d. Create only the minimum number of features that will sell, and drive the business value for your organization by low price and higher volume.

20. If reducing errors is the goal, which of the following practices is a good team behavior?

    a. Prioritized Products.
    b. Planning Poker.
    c. Perfect Personna.
    d. Pair Programming.

D. Pair Programming is a software development practice whereby two programmers work together, typically one at the keyboard and the other sitting next to him to watch and advise. The intent is to reduce errors at their source. Adapted for Waterfall projects, this is often called Pair Collaboration, and can either be two people working together, or as simple as one person preparing work and asking a team colleague to look it over before it is submitted.

21. Which statement best shows the relationship of the ideas, actions, and practices of agile?

    a. Agile philosophies, values or belief structures, can be expressed in a list of principles which, when turned into behaviors, result in daily practices for teams.

A. The values or belief structures are called agile philosophies. These beliefs can be translated into a series of principles. By basing the team practices on actions that reflect the principles, such as respect for the customer, the agile philosophy is transitioned into the daily life of the team in a concrete way.

b. Agile philosophies can be expressed in lists of daily practices for teams, which must be followed to be agile.
c. Agile principles are a list of agile philosophies which suggest that teams should each create their own rules.
d. Agile values are distilled from the practices of agile teams who match their actions to the needs of their industry.

22. The term velocity is often used in planning a Sprint or Iteration. What does it measure?

a. How fast the team can complete a Release.
b. How many days it will take the team to complete the Story Points or User Stories of the Backlog.
c. How many Story Points or User Stories a team can complete in this Sprint or Iteration.

C. The team velocity is the measured capacity of the team to deliver value, or as shown in this answer, the number of Story Points a team can complete during a Sprint or an Iteration. This shows the rate at which the team can produce work to allow the Project Manager and Product Owner to estimate a timeline for the project and a reasonable expectation for the amount of features which can be completed.

Answer A is incorrect, as the team will complete the timebox of a Release in the number of weeks in an Iteration times the number of Iterations. It has nothing to do with team velocity. Answer B is wrong because the team will probably not finish all the items in the Backlog, and some of the lower priority items may not even be estimated in Story Points earlier in the project. Answer D is not relevant to this question, as motivation and social-loafing may affect velocity, but they are not the definition of the term.

d. The amount of motivation or social-loafing found in a team.

23. How frequently should the Product Owner or the Customer work with the agile team?

a. Twice a week.
b. He or she, or a representative with decision-making authority, should be available to the agile team daily.

B. The flexibility of creating the items from the Backlog that bring the most business value to the organization in the shortest possible time rests on the ability of the team to have frequent contact with the project decision maker. If this person is not

available 100% of the day, there should at least be times within the day when the team can get questions answered.

c. At the Customer Demonstration at the end of each Iteration.
d. At the intersection of the Project Roadmap and the Project Milestones.

24. Which is the most accurate statement regarding the Project Charter?

a. The Project Charter is not used by an agile team, as they prefer lower levels of documentation.
b. The Project Charter is still created by the organization, but the agile team only pretends to use it as it has no value to them.
c. The Project Charter must be reconfigured to show that the agile team will work in an iterative and incremental way before it should be used.
d. The Project Charter must still be created to authorize the use of company funds and resources, guide the team goals, and provide project deadlines.

D. Although an agile team may work in a different way than a traditional team to complete the work of the project, the organization still must have a tangible way to authorize the work of the project, set deadlines, dedicate funds, and possibly assign a project manager or ScrumMaster to the team.

25. When using animal metaphors for team roles, which role is typified as which animal by the agile community?

a. The Project Team are the chickens and the Product Owner/Customer is the pig.
b. The Product Owner/Customer is the chicken and the core agile team are the pigs.

B. Based on the old "chicken and pig" joke, the agile team consider themselves to be the pigs, as they feel they are the ones totally committed to the project, i.e., they are "giving their lives to see that this works". They see the Product Owner/Customer as merely involved.

c. The Product Owner/Customer is the fox and the core agile team are the chickens.
d. The Stakeholders are the sheep and the agile developers are the wolves.

26. The statement which best fits with the term "refactoring" in software development is:

a. Refactoring does not change the functionality of code, but makes it more readable, less complex, and improves its maintainability.

A. Refactoring is a software development term that means taking a second look at code even after it is functioning to be sure that it is as concise, clear, simple, and

easy to maintain long term as possible. It does not add additional features or functionality.

b. Refactoring code adds more features in a shorter period of time that were available originally through factored code.
c. Code that has been refactored has been tested and had 100% of the errors removed, so that no further updates are necessary.
d. Code that is refactored has been changed from its original programming language into an updated version of that language.

27. If the team chooses a two week Iteration, the overhead (non-work time) will take approximately how much of the time?

a. Roughly fifty-percent, divided between project management meetings, milestone meetings, Scrum retrospectives, and refactoring meetings.
b. Roughly twenty-percent, spread over Roadmap, Release, Iteration Planning, Customer Demos, and Retrospectives.

B. A two-week Iteration time breakdown estimates about 6 hrs total for Roadmap and Release planning, 2 hours for Iteration Planning, and 4 hours each for Customer Demos and team Retrospectives. This totals 16 hours, or 2 days out of 10 working days, which is roughly 20 percent of the 80 working hours in the 2 week Iteration.

c. About thirty-five percent, considering Daily Stand-up or Sprint meetings, Customer prioritization of the Backlog, and End-Use Releases.
d. About sixteen percent, bookending both ends of the agile process with traditional practices.

28. One advantage of agile practices is that it allows teams to work at a constant pace. For what period of time can you expect your agile team to maintain this steady flow of work?

a. For one Iteration.
b. For one Release.
c. Indefinitely.

C. By not mandating overtime, by involving the team members in the overall vision and goals of the project, and by setting a clear, repeatable process that becomes continuously improved through the Retrospective process, agile teams should be able to keep a constant pace throughout the time of the project.

d. Until the customer adds additional User Stories to the Backlog.

29. The prioritization of the User Stories in the Product Backlog should be set by:

    a. The Product Owner/Customer.

A. Since the Product Owner/Customer is the individual, or corporate representative, responsible for funding the work of the project and delivering the business value of the project, this person or his or her authorized representative is who should prioritize the User Stories in the Product Backlog. In practice, the Project Manager might also help this person understand the process, particularly if they are unfamiliar with the agile philosophy.

    b. The agile team.
    c. The Project Manager/ScrumMaster.
    d. The end-users.

30. The role of the Project Manager/ScrumMaster is different under an agile philosophy. Which of the following statement best describes this new role?

    a. A Constraint-administrator who provides the documentation to the rest of the company, freeing the team to do the work of the project.
    b. A Scrum-Owner who prioritizes the work of the Iteration Backlog with the concerns of the team in mind.
    c. A Directive-Tell Assertive who leads the project with the help of the agile processes, rather than traditional methods.
    d. A Servant-leader who supports a self-directed team by removing constraints and being a liaison between the team and other parts of the organization.

D. With an agile philosophy, the former roles that supervised and led the teams are transformed into servant-leaders who act as "servants" to remove the constraints identified by the team in the Daily Stand-up Meetings (and through other means) and lead by showing respect for the team members as knowledge workers. While they do serve to free the team to do the work of the project (Answer A), the name is not Constraint-administrator.

Answer B is incorrect because the Backlog, whether Product or Iteration, is not prioritized with the concerns of the team in mind. The team has other ways and opportunities for input. A Directive-Tell Assertive (Answer C) is closest to a communication style, not an agile role. The correct name would be Driver, Task-Directed/Controlled.

31. The best overview of the entire agile project is developed through:

    a. Rolling Wave Planning.
    b. Roadmap Planning.

B. Roadmap Planning creates a visual overview of an agile project that shows it in its entirety. It is further broken down into Releases and Iterations. Rolling Wave Planning (Answer A) is a method of planning work in the near future in greater detail and leaving future work at a higher level less planned, but does not have as it's goal to create a visual overview. Release Planning (Answer C) creates an overview for a sub-part of the project, but it is not as useful for looking at the entire project. Responsiveness Planning is not an agile term, rather one of the axes in the Wilson Learning Communication Styles grid.

c. Release Planning.
d. Responsiveness Planning.

32. One of the positive results of teams located in a common space is that information flows in the background hearing of the team so that relevant ideas are gradually absorbed. This is called:

a. Osmotic Communication.

A. The definition shown above describes osmotic communication. Pair collaboration is a form of pair programming, one person hands-on while the other watches for errors and considers the big picture (Answer B). Homeostasis is the tendency for us to think "what we have is what we need" (Answer C). Overlapping Communication, Answer D, is not an agile term.

b. Pair Collaboration.
c. Homeostasis.
d. Overlapping Communication.

33. A Lean manufacturing system process in which workers signal when they are going to need more parts relies on:

a. A Kaizan request.
b. A Scrum artifact.
c. A Kanban card.

C. Kanban is also know in English as a "pull" system, in which cards are prepared by workers to alert upstream colleagues when more parts are needed. It is associated with both the Toyota Production System (TPS) and Lean manufacturing. Answer A, Kaizan, refers to practicing continuous improvement, and the other two answers are not associated with Lean.

d. A Cumulative Flow Diagram.

34. Agile suggests delaying project decisions until the "Last Responsible Moment". Which of the following answers best describes the value to doing this?

    a. Delaying project decisions as late as possible can save money, as the high priced consultants will have moved to another client by then.
    b. Delaying project decisions can allow the team to take advantage of additional information, internal or external decisions that can alter the project, or results from prototypes.

B. Money is often wasted when decisions are made before the team can possibly know all they need to know to make the best choices. Delay allows other pertinent information to be decided, other relevant decisions to have time to be announced, and the results of prototypes, market analysis, and both changing customer preferences and competitive behavior to be rolled into the final decision. The other answers may or may not have relevance, but they do not adequately summarize the advantage of waiting.

    c. Delaying project decisions until the last moment will allow the company to invest its money and earn interest on it until it is actually necessary to the project.
    d. Delaying project decisions until the last moment will allow the team to create as many features as possible to add to the value stream before releasing the product to the end-users.

35. One technique for helping prioritize the Backlog in a meaningful way relies on the MoSCoW Technique. MoSCoW stands for:

    a. Maybe Helps, Should Help, Can't Help, and Won't Help.
    b. Might Have, Should Not Have, Can't Have, and Will Not Have This Time.
    c. Must Hold, Shall Hold, Can't Hold, and Wouldn't Hold.
    d. Must Have, Should Have, Could Have, Won't Have This Time.

D. This is the correct meaning for the MoSCoW acronym.

36. Alistair Cockburn coined a term which means a display posted in a place where people can see it as they work, or walk by. The term is:

    a. Information backlog.
    b. To-Do List.
    c. Cumulative Flow Diagram.
    d. Information radiator.

D. Information radiator is the term coined by Alistair Cockburn. Although the other answers may be displayed, they have specific purposes and are not the collective, generic term.

37. Wideband Delphi is a variation of the Delphi technique used for estimating story sizing. It is differs from the traditional Delphi technique in that:

    a. It expands the number of User Stories that can be discussed by widening the group beyond the core agile team.
    b. It is the form of estimating used in Planning Poker and it widens the number of card numbers that can be used.
    c. It involves greater participation by using more interaction and communication between the participants than traditional Delphi.

C. Planning Poker is a form of the estimation technique known as Wideband Delphi. It is different from the traditional Delphi technique in which user input is kept anonymous, and allows the team to discuss the points where their User Story estimates vary widely. Answer A in incorrect, as only the core agile team participates, Answer B is wrong since this technique does not expand the numbers on the Planning Poker cards, and while this technique can be used through electronic forms of communication (both audio and visual), it is not by definition only a technique used electronically.

    d. It is an electronic form of communication and can involve distributed teams as long as they have broadband access.

38. Acceptance test-driven development means that:

    a. You know the acceptance standards before you write tests or code.

A. Acceptance standards are usually set by the Product Owner/Customer, so you want to know what they are first. Then, since its test-driven development, you create tests before you write lines of code. Answer B can't be right, because once you write code you have created features, or at least partial features. And, remember in test-driven scenarios you write the tests before the code. Answer D is a correct stand-alone statement, but does not fit as the proper answer to a definition of Acceptance Test-Driven Development. Answer C makes no sense, even if you do not know much about software development.

    b. You write the code before you create the features or tests.
    c. You accept failing code before you write tests to allow them to pass.
    d. You write tests, then code, then get them accepted by compliance auditors.

39. Agile contracts are most successful when you do which of the following statements?

    a. Plan for a fixed budget, insist on a detailed feature list up front, test as you go, and release once a quarter.
    b. Plan for a fixed length of time, insist on Product Owner/Customer involvement, demo the results on a fixed schedule, and allow for scope adjustment.

B. If the project is to allow for flexibility in scope, it is best to start out with a fixed amount of time, make sure the Product Owner/Customer is there to prioritize the Backlog and attend demos so that you get early feedback. You can expect the scope to adjust, but since you are only planning out in detail one, possibly two Iterations, that is not an issue and there is no planning time wasted on things that do not turn out to add the most business value.

All of the other answers have some parts that can be true, but have incorrect and undesirable ideas mixed in, such as "insist on a detailed feature list up front", "release once a quarter" (possible, but not mandatory), "use a third-party team" (possibly, but not mandatory), "involve the Product Owner/Customer in doing a portion of the project work" (No. Even the Project Manager shouldn't do the project work), and "create a Scope Plan as you go".

c. Plan for a time and materials contract, adjust it at the end of each Iteration, use a third-party team, and leave flexibility if either party wants to stop the project.
d. Plan for a fixed cost plus bonus for early completion project, involve the Product Owner/Customer in doing a portion of the project work, allow free changes at the end of each Release, and create a Scope Plan as you go.

40. Extreme Programming introduces the idea of an ideal programming week. This term describes:

a. The velocity you can reach when features are similar to the ones you created for your last project.
b. The user stories "Done" when the conflict on your team is at a minimum and the Daily Stand-up Meetings are placed on hold.
c. The story points you can finish in a week where the customer makes no scope changes.
d. The amount of work you can complete in a week where there are no interruptions.

D. The concept of an ideal programming week is used in XP as a way to create arbitrary units of effort to use in estimation. The method is based on what you could complete with no interruptions, no meetings, you are not pulled off to work on another project, you don't have to help anyone else, no one calls you, you don't answer email, you aren't sick, and all of the stars configure to place you in a productivity nirvana. This estimate is then translated to real world scenerios, but the ideal estimates allow you to compare tasks to each other without factoring in the variety of interruptions that may be different for each team member each day.

41. The ability to identify, assess, and control the emotions of oneself, of others, and of groups is an important skill for those working in or leading teams. This skill is called:

    a. Employment Maximization (EM).
    b. Emotional Intelligence (EI).

B. This is the term defined in this question. It is increasingly important to learn, improve, and possess if you are working in an agile environment. Check your glossary at the back of the book for the definitions of Empirical Process Control and Explicit Knowledge. (Answers C and D). Answer A is not a real term.

    c. Empirical Process Control (EPC).
    d. Explicit Knowledge (EK).

42. Since it is difficult to make the best decisions to bring value to the product stream without having enough information, one good way to help you make better choices is:

    a. Parkinson's Law.
    b. Planned Value.
    c. Productized Processes.
    d. Prototyping.

D. Prototyping is producing an early sample, or perhaps several, of an item to check its functionality and customer acceptance. The prototype allows a less expensive way to test items or learn from it. Parkinson's Law, Answer A, is that work expands so as to fill the time available for its completion. Planned value,

Answer B, is an Earned Value Method term showing the value of work originally schedule by a team during a set period of time. Productized processes, Answer C, are "little agile" methodologies that may include books, classes, certifications, and other supporting materials, that are sold as a for-profit product or service.

43. Using the 0-100% Start-Finish Rule, an agile task has 0 value until:

    a. It is done, meets acceptance criteria, is approved by the Product Owner/Customer, and is approved by any other necessary outside compliance inspections.

A. This answer lists the checkpoints the task must pass before it is shown as 100% complete in terms of figuring the value according to the Agile Earned Value Method.

    b. It is finished, tested, packaged, released, and has been proven to provide value to the company revenue stream.
    c. It is completed, demoed to the customer, passes the Quality Compliance team tests, and is posted for sale to the company website.

d. It is "Done, Done, Done", approved by the Project Manager/ScrumMaster, and an increment has been released internally, or externally, for further feedback.

44. The signers of the Agile Manifesto found that they had some new values that they prized more than earlier values connected to more traditional project management approaches. Which of the following is NOT a value from the manifesto?

a. Responding to change over following a plan.
b. Working software over comprehensive documentation.
c. Customer collaboration over contract negotiation.
d. Individuals and teams over stakeholders and management.

D. This value is incorrect. It should read, Individuals and interactions over processes and tools. The other three are actual values from the Agile Manifesto.

45. Stakeholder management is an important part of any project. In an agile environment this means:

a. Including the project stakeholders on a daily basis, especially at the Daily Stand-up Meeting.
b. Thinking of what the project stakeholders might want and need, and designing the project results to include those items.
c. Involving the project stakeholders throughout the process, rather than just at the end after the project is complete.

C. The project stakeholders should be involved throughout the process rather than after the project is complete and it is too late to adjust the work of the project based on their input. They are welcome to attend the Daily Stand-up, but it is not mandatory that they attend. (Answer A) Rather than thinking of what they might want and need, (Answer B) the agile team asks them from the beginning, and periodically throughout the project process. Agile teams tend to avoid daily reports, opting instead for clearly visible information radiators. The Retrospectives are for the agile team, not the stakeholders. (Answer D)

d. Managing the expectations of the stakeholders through daily reports and including them in the team Retrospectives.

46. As project managers adjust to a new agile role, what is the one responsibility where they may be hesitant to step in, but which is most damaging to the team?

a. They may avoid pair collaboration, as it makes the team appear that it is not fully utilized.
b. They may avoid interactions with customers, as the teams are now self-directed.

c. They may avoid conflict resolution, as they think team conflicts will smooth over with time.

C. Many project managers and ScrumMasters avoid getting involved in the team conflicts, thinking that they don't want to make enemies on the team. However, conflict between team members can drain the team productivity of not only the two people involved, but the other team members who are drawn into choosing "sides". Developing the skill to address team conflicts in a successful way is an important part of the new project manager's role.

d. They may avoid standing team assignments, as it may not fit in with the functional organization hierarchy.

47. An important agile artifact is a Risk-adjusted Backlog. Which of the following statements best described this term and its importance to an agile project?

a. When the Backlog is prioritized, risk is one of the considerations for how high a User Story is placed. It is best to place high risk items at the beginning.

A. Risk should be considered along with Story Points and other factors when prioritizing items in the Backlog. Place high risk items at the beginning where it is cheaper to correct them and where you have more time to recover from them should they occur. The team is free to bring up risks to discuss with the Project Owner/Customer at the Planning meetings.

b. When the Backlog is prioritized, risk is not a factor. Risk lists should be maintained in a separate location.
c. When the Backlog is prioritized, risk is one of the considerations for how high a User Story is placed. It is best to place high risk items near the end of the project, as they may not happen.
d. When the Backlog is prioritized, risk is one of the considerations. Items with risk are not a good corporate investment and should be removed.

48. Who can speak at a Daily Stand-up Meeting?

a. Both the Project Manager and the agile team members.
b. Only the ScrumMaster and the Scrum team lead.
c. Only the members of the agile team.

C. At the actual Daily Stand-up Meeting where team members report what they did yesterday, what they will do today, and their constraints, only team members can speak. It is important to have others interested in the project in attendance, however, as this is a major communication opportunity for the extended stakeholder pool. Once the meeting is over, the agile team should return to the work of the project leaving the Project Manager/ScrumMaster to answer questions and manage other portions of the project.

d. Both the External Customer and the Product Owner.

49. In order to personalize and visualize the needs of various end-users who might interact with a product, service, or software, teams often create imaginary, specific, detailed description of that person. This sample user is called a:

a. Archetype.
b. Avatar.
c. Personification.
d. Persona.

D. The persona is an example of the type of person who might use your product. The team may ask, "Would Ethel be able to replace this battery?" Although the other answers have a similar meaning, persona is the correct agile term.

50. Assembling pieces as you go, or building things in small parts and making sure each new thing works with the others before moving on is:

a. Cumulative Flow Approach.
b. Continuous Integration.

B. This is the definition of Continuous Integration. It is a process that has to do with the tangible output of your work and fitting pieces together sooner rather than at the end of the project. Answers A and D are made-up terms. Answer C means to have a long-term vision and then constantly work in the short term to improve the process to meet your goals.

c. Continuous Improvement.
d. Incremental Processing.

51. Agile teams often use method tailoring or process tailoring. The best definition for this term is:

a. A process to determine the best system development approach on a project by project basis.

A. Tailoring, or adjusting the method by which the work of the project is fulfilled depending on the situation and needs of a specific project, is the best definition for this term.

b. A process where the Product Owner uses a Waterfall approach, but allows the team to use Scrum.
c. An Extreme Programming process for internal projects in order to provide the best quality output.

d. A Tee-shirt process, which is based on the relative tailored sizes of the User Stories.

52. The four key roles in XP are:

a. Product Owner, Customer, Project Manager, Team Member.
b. Product Owner, Development Team, Stakeholders, and Managers.
c. Coach, Customer, Programmers, and Tracker.

C. These are the four key roles in XP. The Coach could be a Team Lead or an outside consultant with technical skills in XP, the Customers are just what you envision them to be, the Programmers are the Team Members, and the Tracker is a similar role to the Project Manager – monitoring the progress of the team and alerting them when adjustments to the schedule or a rebalancing of tasks might be required.

d. Coach, Referee, Functional Manager, and Business Analyst.

53. When using a Scrum methodology, when do Retrospectives occur?

a. At the end of a Sprint review.
b. At the end of a Daily scrum.
c. At the end of a Sprint.

C. In Scrum, Retrospectives occur at the end of a Sprint. In a more generic agile team process the Retrospective would occur at the end of an Iteration.

d. At the end of Sprint Planning.

54. There are three core artifacts in Scrum. They are:

a. Metaphors, Refactoring, and Coding Standards.
b. Burnup chart, Project backlog, To Do Chart.
c. Continuous Flow Diagram, WBS, and Epic Stories.
d. Burndown chart, Sprint backlog, and Product backlog.

D. Artifacts are the tangible by-products produced during the development of agile projects. For the Scrum methodology, they are Burndown chart, Sprint backlog, and Product backlog, although other artifacts may also be created and used. Answer A shows three of the thirteen practices of Extreme Programming teams. Answer B lists agile artifacts, but they are not specifically associated with Scrum. In Answer C, a Continuous Flow Diagram and Epic Stories are things used in agile teams, but the WBS tends to related more to Waterfall teams.

55. Which of the following statements best describes a good agile contract?

    a. They can easily accommodate change if the customer is willing to pay a late fee.
    b. They are worded to encourage change as needed and usually require customer participation with the team.

B. Agile contracts may be written for short amounts of time and can be easily renewed or terminated after an agreed upon number of Iterations. They usually require the Product Owner/Customer to be available to the team and to participate in the appropriate team ceremonies.

    c. They are only appropriate for clearly defined items to be created in specific numbers.
    d. They are worded to favor the agile team, and to provide a bonus to the organization if the team completed the work ahead of schedule.

56. Many of the "little agile" methodologies are productized. Which of the following is a vendor-independent methodology?

    a. ASTD.
    b. XP.
    c. RUP.
    d. DSDM.

D. The Dynamic Systems Development Method (DSDM), used primarily in Europe, is the agile methodology that is distributed through the DSDM Consortium and prides itself on being vendor-independent. Answer A stands for American Society of Training and Development, which is not an agile methodology. Answers B and C are methodologies: Extreme Programming (XP) and Rational Unified Process (RUP). RUP is marketed by IBM Corporation, and both have training, consulting and items available for purchase in conjunction with their use, i.e., they are productized, as is Scrum and other methodologies.

57. Which of the following statements about a Burnup Chart is incorrect?

    a. It shows the progress of the team toward completing the work of the project.
    b. It shows the work done toward the goal of the project as a whole.
    c. It shows the part of the work that is to be completed in this Iteration.

C. Is the incorrect statement about a Burnup Chart. It does not show all of the work that the team has committed to complete in this Iteration. That is the Iteration Backlog. Since it shows only the part of the work that is "done" against the total goal, it may or may not show all of the work for the entire Iteration.

    d. It shows the work done toward the project goal on an ascending line.

58. Dealing with escaped defects is an important part of software development. Which of the following statements best describe escaped defects and how you should deal with them?

    a. Escaped defects are features that have escaped elimination from the Product Backlog and now are causing defects in product performance.
    b. Escaped defects are reported by the Customer since they have escaped detection by all of the software quality processes. They should be treated as ranked backlog items.

B. This is the actual definition of escaped defects. Since they have slipped through the net of earlier software defect detection processes, and need to be corrected, they need to be added back into the Software Backlog and ranked and prioritized along with the other backlog items.

    c. Defects that can be released to the Customer are said to have "escaped" the Iteration Backlog and can now bring business value to the organization.
    d. Defects are items on which a Quantitative Risk Analysis has already occurred, which allows them to escape further scrutiny.

59. The difference between a value stream map and a story map is:

    a. The value stream map is a lean technique to analyze and design material and information flow, while a story map explains the reason the lean technique is being used to the Product Owner.
    b. The value stream map is a horizontal representation of the Software or Product Backlog to show the length of time it will take to produce it, while the story map uses end-user personas to show how they will benefit.
    c. The value stream map shows the flow of business value, while the story map illustrates how various prototypes might be used by customers.
    d. The value stream map is a lean technique to analyze and design materials and information flow, while a story map arranges the story cards in a horizontal way to show the sequence in which the stories are needed by the business.

D. This is the correct answer, as it correctly defines each term. Answer A is incorrect, as the story map does not explain why a lean technique has been chosen. Answer B is incorrect, as a value stream map shows the flow of materials and information required to bring a product or service to a customer. Analyzing that map can help you locate bottlenecks or constraints and eliminate waste. It is NOT about the Product Backlog or estimating total project time. Plus, it is not about end-user benefits. Answer C is not correct as Story Maps do not involve prototypes.

60. The amount of work you can complete is a week where there are no interruptions, meeting, and other non-project interference is:

    a. An XP idea called ideal time, or an ideal programming week.

A. is the correct answer. Answer B is an agile idea, but velocity is the measured capacity of the team to deliver value. It shows the number of Story Points a team can complete during an Iteration, however, the definition in the questions does not match the term Iteration velocity. Answer C references a Scrum idea, which should be the Scrum Product Backlog, which shows all of the User Stories for this project, but it does not show how many of them can be created in a week. Answer D is totally false as neither DSDM, nor any of the other methodologies, have a term "agile man hour".

    b. An agile idea called Iteration velocity.
    c. A Scrum idea called Product Backlog.
    d. A DSDM idea called an agile man hour.

61. Which definition correctly expresses the meaning for a website wireframe?

    a. It is a prototype of a website made of wire to represent the relationship between the browser, computer, and server positions.
    b. It is the first page created to show the design work of a website before other elements are created.
    c. It is a basic visual guide that shows the architectural structure of a website and the relationship between its pages.

C. This answer is the definition of a website wireframe. It shows all of the important elements of a webpage and how it will relate to the other pages on the site. Since it can be created informally on paper, or within a special software application, it is not made of wire, which makes Answer A incorrect. Answer B is reversed from the correct statement. The wireframe is created prior to creating the design elements of a website, rather than vice-versa. Answer D is incorrect because, although there are applications to allow end-users to create their own websites, that software is not a website wireframe, although some screens in the application may show similar visual architectural structure relationships.

    d. It is an automated webpage creator that allows an end-user to create his or her own web page.

62. Planning Poker, a technique to involve the agile team in greater communication and interaction is based on:

    a. The Fist of Five and FSP.
    b. Fibonnaci numbers and Wideband Delphi.

B. is the correct answer. The Fibonacci mathematical series of 0, 1, 1, 2, 3, 5, 13, etc., with the addition of the non-Fibonacci numbers of 20, 40 and 100, is an expansion of the Delphi estimation technique. It is called "wideband" because it involves greater interaction and communication between participants that the traditional Delphi process.

Answer A. Fist of Five is an estimating technique, but it is not involved in Planning Poker. FSP is Finished Story Points. Answer C. is partially right, in that Planning Poker is a form of team estimation, however, Parkinson's Law is "work expands so as to fill the time available for its completion", not an estimating technique. Answer D shows two lean terms related to "improvement" and a "pull" system, respectively.

c. Team estimation and Parkinson's Law.
d. Kaizan and Kanban.

63. A test-driven development process involves:

a. Creating automated tests first, then using them to test actual code.

Answer A. Also called TDD, tests are created first so that the developer does not subconsciously write tests that are easier for the lines of code to pass. Answer B has reversed the correct steps. Answer C would allow an entire feature to be created before testing, rather than the small, constant tests that are the reality of TDD. Answer D is incorrect, as this kind of development and testing is primarily related to testing software, not test driving automobiles.

b. Writing code first, then creating automated tests to test it.
c. Creating a minimum marketable feature (MMF) and then testing it before it is released.
d. Creating a Google car and test driving it before it is allowed on the highway.

64. Only people from one project role are allowed to speak at a Daily Stand-up Meeting. That role is:

a. The Project Manager or ScrumMaster.
b. The Product Owner or External Customer.
c. The Tracker or Coach.
d. The agile team or Scrum team member.

D. While the Project Manager/ScrumMaster, the Product Owner/External Customer, or the XP Roles of Tracker or Coach may be present at the meeting. Only the team members may speak during the actual Stand-up Meeting. Then, they are released to return to complete the work of the project, or form small, quick follow-up meetings as necessary with other stakeholder personnel.

65. Which answer best describes the relationship between collocated teams and distributed teams?

    a. Collocated teams share the same project methodology, while distributed teams have multiple methodologies in the same team.
    b. Collocated teams are physically in the same workspace, while distributed teams are in other US or global locations.

Answer B is the best answer. For Answer A, usually collocated teams, those physically sharing an office space, share the same project methodology, but distributed teams could share that methodology or have a different, but uniform method within their own team. Answer C. is incorrect as while it is valuable for collocated teams to overlap skill sets, they may not all have identical ones. The same is true for a distributed team, which is in essence just a team not located in the same physical space as the collocated team. While often collocated teams can be in the US, Answer D., and distributed teams could possibly be somewhere else in the world, a team might also be called distributed if it is in another city or even in another building across town.

    c. Collocated teams share identical skill sets, which distributed teams may have a variety of skill sets represented on the team.
    d. Collocated teams are in the United States, while distributed teams may be in an emerging economy elsewhere in the world.

66. A mutual discussion and arrangement of the terms of a project transaction or agreement is called:

    a. Verification.
    b. Validation.
    c. Negotiation.

C. Negotiation is the correct answer. Answer A., Verification, is the process of evaluating software to see whether on not the features developed satisy the conditions laid out at the start of the phase or iteration. For example, the expressed user requirement such as, this product can weigh no more than 1 pound. Answer B. Validation, another software development term checks to see that during, or at the end of the development phase or iteration, it satisfies specified requirements.

These requirements are implied. For example, "Why must it weigh no more that 1 pound?" Because it must be easy to carry for long distances." You could validate this by asking forty typical users to carry it for one mile. If they had no issues or complaints, the implied validation is that it is OK in terms of weight.

Answer D, Agile Modeling, is a practice-based methodology, or a model for a process to develop software that is more flexible than traditional methods.

d. Agile Modeling.

67. Adaptive leadership is a new for of leadership. The two kinds of problems it recognizes are:

a. Technical problems and adaptive problems.

Answer A is correct. In order to function well, organizations need to recognize whether a problem is a technical problem for which solutions are already in place, or adaptive problems where there are no set procedures or experts. Agile teams are well-suited to work together to address adaptive problems and attempt to find new solutions.

b. Software problems and product problems.
c. Services problems and team problems.
d. Organization problems and adaptive customer problems.

68. In software development a risk spike is often used. Which of the following answers best describe it?

a. A risk-based spike is a sharp rise in the metric tracking the workflow of the project software, which appears in a form that resembles a railroad spike.
b. A risk-based spike is when the cost to create the product, service, or software exceeds the business value to be gained when the product is released.
c. A risk-based spike is where the negative possibilities for project work are moved to the front of the prioritized backload where the cost is less.
d. A risk-based spike is an XP term used to characterize a timeboxed period in which the team performs a small experiment to give them more insight on a risk.

D. A risk-based spike is an XP term used to characterize a timeboxed period in which the team, when faced with a new technology or approach, for example, takes a short period of time, maybe 10 minutes, to perform a small isolated experiment to gain more information or research the answer to a problem. This can help to remove uncertainty regarding risk, estimating, deciding feasibility of an approach, or it can affect the inclusion or exclusion of a feature. Answer A is nonsense.

Answer B. is a valid idea, but refers to when to drop features or not fix small defects, rather than presenting an explanation of what constitutes a risk-based spike. Answer C may have a familiar idea, to move risk to the front of the project where the time to recover is longest if the risk occurs, and the cost to change things, if necessary, is lowest. But it does not describe a risk spike.

69. Which of the following is a possible formula to use in Agile EVM?

    a. MMF – ROI = PDCA.
    b. FSP – CSP = ASV.

B. Earned Value Management (EVM) is a numeric tracking of progress and the business value of that progress. One of several formulas in the EVM technique figures Schedule Variance. In the agile world, a similar number can be calculated, for an Iteration, for example, by taking FSP (Finished Story Points) less CSP (Committed Story Points) to arrive at ASV (Agile Schedule Variance). You can also figure Agile Cost Variance and other common metrics. The rest of the formulas are nonsense. In Answer A, for example, MMF is Minimal Marketable Feature. Taking ROI, Return on Investment from it to get Shrewhart's Plan, Do, Check, Act cycle is nonsense.

    c. EVM – PVM = ASV.
    d. BCWP – ACWP = ACV.

70. The lean technique of "pull" employs the use of which of the following agile artifacts?

    a. Kanban cards or task boards.

A. A Kanban card, or task board, is the physical item a worker marks to signal when they are going to need more parts. Answer B, Kaizan, is also a Japanese term, but it means "improvement" or "change for the better." Information radiators is an agile term coined to mean a display posted in a place where people can see it as they work, or walk by it. Answer C., just-in-time-inventory control is a lean method to describe in the "pull" or "kanban" system in English. But it names the entire method, not just the artifacts, or tangible items, produced by a team. Answer D, vertical slice, describes a small portion of the final product or service that was created so that it contains all the necessary elements to make it usable.

    b. Kaizan or information radiators.
    c. Just-in-time inventory control.
    d. Vertical slices.

71. When you have Emotional Intelligence as a leader, which of these behaviors best describe you?

    a. You can control your emotions so that no one sees you cry, get upset, or come into conflict with team members or other project managers.
    b. You can articulate the formal information you know and write it down and share it in corporate documents.
    c. You are self-aware and able to identify, assess, and influence your own emotions, those of others, and those of groups.

C. This is the formal definition of Emotional Intelligence. Answer B describes "explicit knowledge"; as compared to "tacit knowledge" which is unwritten, but can be transmitted between team members in group settings. Answers A and D are just poor behavior sets.

d. You are self-absorbed and able to lead groups to follow you successfully, no matter the project.

72. Which of the statements below best characterize a chartering session in an agile team?

a. A chartering session precedes the formation of the agile team and allows them corporate permission to use the resources of the organization to complete the work of the project.
b. A chartering session allows an agile team to develop and display team rules in the team space so that all can read them at will.
c. A chartering space is the location within the organization where the agile team can meet to share ideas and come up with innovative ideas with other teams.
d. A chartering session precedes release planning and allows all parties to understand the why, how, and who of the project. It verbally conveys information similar to that found in a Project Charter.

D. This is the definition of a chartering session. Answer A is more related to the Project Charter of a traditional project management process. Answer B recounts an important practice of agile teams, but it is more about team formation practices than the term chartering session. And Answer C again recounts a worthwhile practice organizations might follow in providing a collaborative space for teams and other workers to interact, but this is not called a chartering session.

73. An agile team that wishes to use progressive elaboration to plan the work of their project would do which of these practices?

a. Plan the entire project in detail, and then negotiate changes just before doing the work of the project to avoid the risk to the project and shorten the timeline.
b. Plan the entire project in broad strokes, then add more detail just before doing the work to lower the risk to the project and lower the cost of change.

B. This answer clearly describes the planning process of progressive elaboration. By having a clear Roadmap for the entire project, both the team and customer see the goals and share the vision of the project. But by waiting until just before the timebox of the next iteration is to start to flesh out the details of the work to be done, the most current information can be at hand and the most recently prioritized list of user stories can be used to select the work that will be done. This lowers risk and lowers the cost of change, since it tends to minimize rework.

Answer A. is more related to traditional, or Waterfall, projects; however, it does not necessarily shorten the timeline, as customer changes and alterations in the external environment can potentially mean additional time is needed. Answers C and D are mixtures of relevant and irrelevant terms and ideas. For example, in Answer C, even the best agile techniques do not totally eliminate the cost of change; they can merely try to reduce the need for change after a portion of the project work is complete and in that way impact the cost of change for the project.

Answer D is incorrect since a Scrum Master does not create a Work Breakdown Structure (WBS) as part of his or her role, plus, a WBS has no connection to transferring project risk, and only tangentially is connected to shortening the timeline by at least getting the intended work of a project down on paper. In that way, it might shorten the timeline as opposed to starting out with no type of understanding of the scope of the project at all.

c. Plan only the work to be done in the next two weeks, and then develop MMFs as the customer adds them to the Product Backlog to eliminate the cost of change.
d. Document and elaborate on only the WBS that has been developed by the ScrumMaster in order to transfer the risk to the project and shorten the timeline.

74. Which answer best describes the difference between lead time and cycle time in an agile IT department?

a. Lead time is a modification of a logical start-to-finish relationship that allows an acceleration of the successor activity, while cycle time is the elapsed time of an activity when it can run unmanned around the clock.
b. Lead time is the head start a team gets when they set team rules and work as a standing team before the project is assigned. Cycle time refers to the loss of work product brought about by the need to go through an agile cycle each iteration.
c. The lead time "clock" starts when a request is made and ends when the solution is delivered to the customer; while the cycle time starts when the actual work on the solution begins, and ends when the solution is delivered to the customer.

Answer C correctly explains lead time vs. cycle time. Answer A points out that there is a more traditional project management term, also called lead time, which is correctly defined in the first part of the question. The last half of the answer describes "elapsed time", not cycle time.

Answer B is partially logical, because there is value to a team working together project after project and being familiar and experienced with self-written team rules to guide them, but this is not called "lead time". And the second part of Answer B. is incorrect, because mastering an agile cycle through repetition and

continuous improvement allows it to add work product output, not reduce it. Answer D's comments are incorrect, in that that lead time does not mean led by a project manager, and there is no corresponding term for when the team works in an agile way.

d. The lead time is the time when the programmers are led by a tradition project manager and the cycle time is when they are led in a more cyclical, agile manner.

75. The best statement to explain the agile methodology is:

a. Agile is a methodology that first recognized the knowledge worker, the concept of outsourcing, and had respect for the worker as an asset and not a liability.
b. Agile is a management technique that brings high quality products by evaluating the manager, the team, and the final product. If the team produces a good product, the manager did a good job.
c. Agile is a technique that is time-based and rests on the team's assessment of the amount of effort required to complete the work, and the complexity and amount of concentration it will take to produce it.
d. Agile is a technique to bring high quality products, services, or software, to market more quickly, and get business value or revenue from them faster, while protecting and motivating the people on the team.

D. This is the best definition of agile. Answer A describes the ideas of Peter Drucker, the business theory guru, although they have influenced agile principles and practices. Answer B. defines the 3-D Theory of Management created by James Reddin, although evaluating success as a team rather than on an individual basis is a good practice. Answer C. defines the term, "degree of difficulty", which is the basis for agile team estimates. This information is applicable to agile teams, but not the best description for the entire agile concept.