PMI-ACP - Quiz Questions with Answers

Domain I. Agile Principles and Mindset

1.

Janel is a project manager who is currently transitioning into the Agile methodology. She is ready to work with the Scrum development team to plan upcoming work. Amir just joined the team as a new developer planning. During the planning meeting, Janel lists what each developer should focus on in the next sprint.

Based on Scrum, what is wrong with this approach?

Janel should have let the team self-organize its work.

Janel should have developed an Agile project plan first.

Amir should have taken the lowest item in the backlog since he is new.

Amir should have paired with another programmer before the meeting.

Correct answer: Janel should have let the team self-organize its work.

One of the Agile Manifesto principles states, "Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done." This principle encompasses empowering teams to drive their work, giving them autonomy and space for innovation.

There is no such thing as an Agile project plan. The level or proficiency of a team member has no bearing on the work items they will take.

2.

Which of the following is not included in a Scrum activity?

- **Refactoring**
- Planning
- Retrospective
- Review

Correct answer: Refactoring

Refactoring is an activity done by the product team in XP, not in a Scrum activity.

Although Agile is based on adapting more than planning, sprint planning for small portions of work is a crucial part of Scrum activities.

Retrospectives are also "inspect and adapt" sessions, forming part of Scrum activities.

Sprint reviews are a part of the scrum activities to the extent that the backlog is managed at the sprint level.

3.

Fatima is the Agile project manager tasked to deliver a new line of products based on an existing prototype. The stakeholders do not want to wait until the end of the project to start reaping the benefits. The stakeholders also want to have room for changing their minds about requirements as they go along. What project life cycle should Fatima look to in order to meet these requirements?

Incremental

Predictive

Iterative

Spike

Correct answer: Incremental

Incremental project life cycles are optimized for speed, frequently delivering increments of the final solution. This allows for the end user to receive value early on and to deviate from the original vision if something new is discovered.

4.

Agile projects are characterized by:

a combination of management and leadership.

a management approach.

a leadership approach.

a coaching approach.

Correct answer: a combination of management and leadership.

Agile projects need a combination of the mechanics of management and a people-oriented approach to leadership to be successful. This means that management needs to get things done without interfering in individuals' ability to innovate and feel empowered to do their work as best they can.

5.

Hana is new to the Agile team, but she is ready to begin closing items from the backlog in the Kanban board. She notes that there are just a few items in the development and testing columns of the Kanban board, while most of the tasks are either done or sitting in the to-do column. She wonders why the team has not pulled some of the to-do tasks that remain there.

What is the best explanation for what Hana is observing?

Limit the WIP

Deliver fast

Pull left to right

Develop iteratively

Correct answer: Limit the WIP

"Limit the work in progress (WIP)" is one of the five Kanban principles that advocates for restricting many items in the WIP to boost productivity. According to Little's Law, if the WIP queue is too long, the team will take a long time to complete the work.

The question doesn't provide enough information to determine the metrics needed to determine velocity.

Pulling left to right is incorrect in this case since a task needs to run through a workflow before it is moved by the item owner on the Kanban board.

The question does not deal with the completeness of the user stories and the continuation of work.

6.

Crystal methods use two key factors to classify projects into color names, providing a recommended methodology to follow. What are those two factors?

Criticality and team size

Time and cost

Color shade and criticality

Efficiency and team size

Correct answer: Criticality and team size

Crystal methods use two parameters to make a recommendation on what methodology to follow: criticality and team size.

7.

In a Scrum team, who has the best insight into what feature brings the most value to the customer?

Product owner

Scrum master

Development team

Testers

Correct answer: Product owner

The product owner is responsible for maximizing the value of the product delivered to the customer. This role is in charge of managing the product backlog and reflecting the business value in the prioritization of the items in that backlog.

The Scrum master helps remove impediments for the team, facilitates group meetings, and guides the team on the practice of Agile. The development team is a self-organizing group of developers that executes the core of the work of each sprint. Testers have a role in XP, not in Scrum.

8.

In what Scrum ceremony does the Scrum team review and prioritize the product backlog?

- **Backlog refinement**
- Sprint planning
- Daily Scrum
- Sprint retrospective

Correct answer: Backlog refinement

During the backlog refinement meeting, the Scrum Master, Product Owner, and Development team get together to review and prioritize the items in the backlog. This process is called “grooming.”

9.

Which of the following activities is accomplished during a sprint planning meeting?

Review items from the prioritized product backlog for consideration in the next sprint

Demonstrate the sprint increment to the product owner

Remove impediments specified by the development team

Review what worked and did not work in the last sprint

Correct answer: Review items from the prioritized product backlog for consideration in the next sprint

During the sprint planning meeting, the product owner shares the prioritized backlog for consideration in the next sprint. The product owner and development team discuss these items to make sure they agree on what success means for the next sprint.

Demonstrating the sprint increment to the product owner is accomplished during a sprint review session.

Removing impediments specified by the development team is done during daily stand-ups and throughout the sprint.

Reviewing what worked and did not work in the last sprint is reserved for a sprint retrospective activity.

10.

Which of the following is not one of the eight DSDM principles?

Deliver full functionality

Continually focus on the business need

Never compromise the quality of the product

Build through increments

Correct answer: Deliver full functionality

DSDM follows eight principles for Agile projects. Delivering full functionality is not one of them.

1. *Continually focus on the business need*
2. *Deliver on time as promised*
3. *Collaborate with the customer*
4. *Never compromise the quality of the product*
5. *Build through increments*
6. *Develop the solution iteratively*
7. *Communicate with all parties clearly and continuously*
8. *Demonstrate control throughout the project*

11.

Ryan is a Scrum master facilitating a sprint review with other stakeholders and the development team. A product demo has been completed. How does the team know the build satisfies the needs of the customer for the sprint increment?

By using the definition of "done"

By using inspection

By reviewing the sprint backlog

By using process adherence

Correct answer: By using the definition of "done"

During the sprint review, the product owner reviews the increment built during the sprint and decides if the definition of done relevant to the user stories is complete or if something is missing.

Inspection is part of the pillars and values of Scrum, but it is not a set Scrum activity per se.

Reviewing the sprint backlog won't provide insight into the success or failure of the sprint increment.

Process adherence is more relevant to the ability of the team to follow the Scrum methodology.

12.

The concept of firm foundations is described in which of the following Agile methods?

DSDM

Scrum

FDD

XP

Correct answer: DSDM

DSDM has an initial phase, called "Foundations," where a high-level plan is built by the project team. Any increments built after that phase rely on the firm foundations built during the Foundations phase.

13.

What are the three pillars of Scrum?

Transparency, inspection, and adaptation

Openness, courage, and focus

Transparency, openness, and respect

Commitment, focus, and openness

Correct answer: Transparency, inspection, and adaptation

The three pillars of Scrum are transparency, inspection, and adaptation. Transparency is about providing visibility to everyone; inspection is about measuring the progress towards the goal; and adaptation involves adjusting the work based on what is found in the inspection. The other options list some Scrum values, which are:

1. *Courage*
2. *Commitment*
3. *Openness*
4. *Focus*
5. *Respect*

14.

Which of the following is the best example of an empirical process?

Adjusting diet and exercise plans on a monthly basis

Remodeling a bathroom

Building a highway

Reimaging a computer

Correct answer: Adjusting diet and exercise plans on a monthly basis

Empirical processes are those that rely on observation and trial-and-error. These processes do not follow a standard recipe but rely on inspection and adaptation. Adjusting diet and exercise plans on a monthly basis is an example of measuring the fitness level of a person periodically and then adjusting diet and exercise for improved performance. The other options listed all have standard processes they follow and do not require observation and adaptation. All three are well-understood endeavors with discrete steps to completion.

15.

An Agile project manager and a developer are discussing some issues that the Development team found during testing. The Agile project manager advises approving the test in the report since the failure occurs in minor functionality that will probably not be used by the end customer and should not be visible during the upcoming sprint demo. The developer is torn between what to do. What Agile leadership principle does the project manager's recommendation erode?

Practice and model ethical behavior

Provide safe environment for experimentation

Create a project vision to drive the team's work

Deliver product functionality fast

Correct Answer: Practice and model ethical behavior

The project manager's recommendation is unethical since this person is trying to cut corners at the expense of sprint success. If this functionality, even if minor, is being developed during the sprint, then it has been identified as high-priority and value-adding to the product by the Product Owner. Thus, approving the test when it actually fails would equate to misrepresenting progress.

16.

Lee is an Agile project manager who is guiding the team through the Scrum approach. The team has completed the sprint review successfully and the Product Owner has indicated the definition of done has been fulfilled. The development team is not sure what the next step should be. What should be Lee's advice?

The team should perform a sprint retrospective.

The team should move to plan the next sprint.

The team should move to groom the product backlog.

The team should start the next sprint as soon as possible.

Correct answer: The team should perform a sprint retrospective.

After the sprint review has concluded at the end of each sprint, a sprint retrospective needs to take place to review and discuss what worked and did not work well in the last sprint. This needs to be done before moving on to any planning activities for the next sprint so that lessons can be incorporated in future iterations.

17.

Elisa is attending the daily stand-up meeting remotely while also completing a report for another project she is part of. What example of lean waste is this?

Task switching

Motion

Extra features

Defects

Correct answer: Task switching

Task switching is one of the seven lean wastes. These wastes include team members not performing one task at a time but hopping between activities, which can create low-quality and partially done work. The other six lean waste types are:

- *Waiting*
- *Defects*
- *Extra features*
- *Extra processes*
- *Motion*
- *Partially done work*

18.

Which is not one of the thirteen XP core practices?

Build by Feature

Refactoring

Pair Programming

Small Releases

Correct answer: Build by Feature

All are part of the thirteen XP core practices except “Build by Feature,” which is used in Feature Driven Development (FDD).

19.

Which of the following Agile Manifesto principles addresses maintaining a constant pace of work for the team indefinitely?

Agile processes promote sustainable development

Continuous attention to technical excellence

Working software is the primary measure of progress

Deliver working software frequently

Correct answer: Agile processes promote sustainable development

Promoting sustainable development means that the project needs to be done at a pace that is manageable for the team to continue to iterate as long as needed over the long term. While the focus is on delivering value and iterating in short-time boxed sprints, it is important to keep an eye on the level of effort the team is exerting so that fatigue does not set in and work-life balance is maintained.

20.

Brandon, who is the Scrum Master, is meeting with the Development team to review feedback received from the Product Owner and to identify opportunities for improvement from the sprint that just finalized. What Scrum ceremony would this be done in?

Sprint Retrospective

Sprint Planning

Sprint Review

Scrum of Scrums

Correct answer: Sprint Retrospective

The Sprint Retrospective takes place after the sprint finalizes and before the next sprint planning meeting. This meeting is primarily for the Scrum Master and the Development team. They gather to review any feedback received in the last sprint and to look for ways to improve the mechanics of the team's work in future sprints.

21.

An Agile project has multiple developers reviewing and updating the code. This leads to wider knowledge of the codebase within the team, improving the quality of the resulting code. What is the name of this Agile practice?

Collective code ownership

Individual code ownership

Test-driven development

Visibility of progress and results

Correct answer: Collective code ownership

In XP, pair programming allows pairs of developers to work together to build and test parts of the code. This means that these developers can develop and update parts of the code, broadening the ownership of the codebase. This is in contrast with FDD's practice of individual class ownership, in which the idea is to have a single owner of the code for consistency and integrity.

22.

What is the main role of the product owner?

To manage the product backlog

To coach the organization on Agile principles

To lead the Scrum ceremonies for the team

To estimate the work for the next sprint

Correct answer: To manage the product backlog

The product owner is a Scrum role in charge of maximizing the value delivered to the customer by directly managing the product backlog. The Scrum master coaches the organization on Agile principles and facilitates Scrum ceremonies for the team. The development team estimates the work selected for the next sprint, consisting of subject-matter experts.

Coaching the organization on Agile principles and leading scrum activities belongs more to the role of the Scrum master.

Estimating the work for the next sprint does not belong to a specific role but is part of the sprint planning meeting.

23.

How are the product and sprint backlogs related?

The sprint backlog is a subset of the product backlog based on value.

The product backlog is a subset of the sprint backlog based on value.

The sprint and product backlog are the same at each sprint.

The sprint backlog contains all the features that will be done in all planned sprints.

Correct answer: The sprint backlog is a subset of the product backlog based on value.

The product backlog contains the complete list of features needed by the customer, prioritized by how much value they add to the end user. In the sprint planning meeting, a subset of items from the product backlog is selected, and their level of effort is estimated, producing the sprint backlog used in the next iteration.

The product backlog is not a subset of the sprint backlog based on value. The sprint and product backlog are not the same at each sprint. Product backlog deals with all the possible work items assigned to that project/product, whereas the sprint backlog has a sub-set of the tasks that are prioritized for that specific sprint.

24.

John is part of an XP Development team working on delivering an e-commerce site for a customer. Early on in the project, it was discovered that a highly tangible risk was likely to materialize, threatening the project entirely. The team needed to find a concerted path forward to deal with this potential issue. What mechanisms exist in XP for dealing with such a likely risk to the project?

- **Spike**
- Communication
- Empirical processes
- Scrum of Scrums

Correct answer: Spike

In XP, a spike is a short, intense iteration to eliminate risks identified in the project that are likely to threaten the project entirely.

25.

As an Agile project team member, you have noticed that one of the team members is constantly interrupting others during meetings and not allowing them to express their opinions. This behavior is causing tension within the team and hindering the free flow of ideas.

Which of the following is not conducive to creating a safe and open environment for the Agile project team?

Transference

Brainstorming

Experimentation

Retrospective

Correct answer: Transference

It is important to create a safe and open environment for team members to voice concerns, innovate new solutions, and discuss better ways to do things. The following activities help the team with creating a safe and open environment:

- *Brainstorming: The team should be encouraged to work together to come up with creative solutions to solve problems.*
- *Experimentation: The team should be encouraged to attempt various ways to find the best approach. The idea is to let the team fail fast if necessary.*
- *Retrospective: The team should be encouraged to discuss what worked and what did not work well in the project, avoiding the same mistakes in the future.*

Transference is a way to manage risk in a project. It involves transferring the risk to another person or group.

26.

What is the main difference between release and iteration planning in XP?

Release planning pushes functionality to the production user; iteration planning pushes functionality to the end of the iteration.

Release planning pushes functionality to the end of the sprint; iteration planning pushes functionality to the production user.

Release planning pushes output more frequently than iteration planning output.

Iteration planning pushes output only at the same time as per the release plan.

Correct answer: Release planning pushes functionality to the production user; iteration planning pushes functionality to the end of the iteration.

Release planning only occurs a few times a year, and it entails pushing product functionality all the way to the production end user. Iteration planning produces the product increment at the end of the iteration only. Iterations are short in duration, so they happen significantly more frequently than releases.

27.

Which of the following is not included on the left side of the Agile Manifesto values?

Collective code ownership

Responding to change

Customer collaboration

Individuals over interactions

Correct answer: Collective code ownership

The four values of the Agile Manifesto represent the left side of the statement more than the right. The only statement that is not included in these four values is collective code ownership, which is an XP core practice.

28.

An Agile team is just getting started building its first prototype. During the sprint planning meeting for the third sprint, one of the developers mentions that end-to-end documentation of the current deliverable is needed to make sure new developers know where the team stands in the progress. He advocates for adding this task into the upcoming sprint, replacing other features that had already been selected. What value from the Agile Manifesto is the developer's request reflected in?

Working software over comprehensive documentation

Individuals and interactions over processes and tools

Customer collaboration over contract negotiation

Responding to change over following a plan

Correct answer: Working software over comprehensive documentation

The developer is advocating for the right side of the Agile Manifesto value "Working software over comprehensive documentation." The product is deemed to continue to change since only two sprints have been completed. Creating documentation at this point does not add value to the customer.

This Agile Manifesto value does not mean that you should not create documentation; it means you should create documentation that provides value and at the same time does not hinder the team's progress.

In this example, the developer is choosing to deliver the second sprint and move the documentation into the third sprint rather than complete it now.

29.

What Scrum artifacts are created in each sprint?

The product increment

The product backlog

The daily standup

The groomed backlog

Correct answer: The product increment

There are three Scrum artifacts: product backlog, sprint backlog, and product increment. At the end of each sprint, the development team builds an increment of the solution based on the sprint backlog.

30.

Which of the following is not an example of an empirical process?

Identifying weaker team members for removal

Experimenting to determine what works

Learning from mistakes

Analyzing root cause of any failing results

Correct answer: Identifying weaker team members for removal

Empirical processes, by nature, are based on trial and error and experimentation. This allows us to learn from failures fast and identify why something failed in the first place. All options are examples of empirical processes except identifying weaker team members for removal.

31.

An Agile team pulls features to work on based on the team members' capacity. The team members display their progress on a task board and move the progression of their work from left to right on the board. What Agile project life cycle is being used in this situation?

Flow-based Agile life cycle

Iteration-based Agile life cycle

Hybrid life cycle

Predictive life cycle

Correct answer: Flow-based Agile life cycle

There are two Agile project life cycles: iteration and flow-based. Flow-based Agile relies on the team pulling work based on its capacity and moving its progress on a workflow task board until done. The iteration-based Agile life cycle uses iterations to deliver increments. A predictive life cycle is a serialized way of performing a project where requirements are all gathered at the beginning and the output is not obtained until the end of the project. A hybrid life cycle combines iterative, predictive, incremental, and/or Agile approaches.

32.

Laurie just joined an Agile project management team in her organization. She observes that the team has adopted a few practices that distinguish them from other teams, such as individual code ownership and domain object modeling.

What kind of Agile method is being used in Laurie's project?

FDD

Lean product development

XP

DSDM

Correct answer: FDD

Feature-driven development (FDD) is initiated by developing an overall model using domain object modeling. It also uses individual code ownership, an approach that advocates having a single owner for parts of the code to maintain integrity and consistency, contrary to XP where the code is collectively owned and DSDM where the business need and business case drive development.

33.

Maria is a new Scrum master in an Agile project team. As she takes over the work, she observes that project transparency and trust can be improved. Which of the following should she pick to fulfill this need?

Develop and display information radiators for each sprint

Work with the team to develop documentation

Review and update the project contract with the vendor

Release a project plan that fits the Agile approach selected

Correct answer: Develop and display information radiators for each sprint

Project transparency involves openness to communicate where the team is on the project and how things are progressing, even if the news is not so great. This is a good way to build trust with the development team and other stakeholders. Information radiators can include posters, dashboards, and other artifacts that communicate the honest progress of the team to everyone.

The Agile methodology minimizes the importance of documentation in favor of delivering iterative value. Reviewing and updating the project contract with the vendor is essential, but it has nothing to do with the context of this question. Agile projects are not heavily focused on planning, so there is no project plan artifact within the Agile methodology.

34.

An executive has developed a proposal for the company to create a new product to better compete in the market. He is not sure what it will take to build the product and is not clear on all the requirements to put in place yet. What would you recommend as the next thing to do?

Build a proof of concept

Gather requirements from all stakeholders

Create a product backlog

Facilitate a daily stand-up

Correct answer: Build a proof of concept

Since neither the executive nor any other stakeholders have yet seen the new product described in the proposal, a tangible prototype should be built for everyone to start iterating from. Also, because not all the requirements are yet fleshed out, the proof of concept will help all stakeholders understand what they are getting into and come up with enhanced and new requirements. Creating a proof of concept is typically used in iterative project life cycles where teams work on a bounded timeframe, obtaining feedback along the way which they can analyze and rework on a subsequent iteration.

Gathering requirements from all stakeholders would be appropriate for a predictive-type project. There is no need to create a product backlog or facilitate a daily stand-up yet, as customers may have differing ideas of what value means for them at this stage.

35.

In an XP team, a developer is writing acceptance tests before the new code is developed. What is this an example of?

Test-driven development

Refactoring

Pair programming

Unit testing

Correct answer: Test-driven development

In test-driven development, the tests are written before the code even exists. As the developer writes the new functionality, the test will fail and only pass when the functionality is complete.

Refactoring refers to rewriting the code to accommodate efficiencies and improvements to the code itself.

Pair programming deals with two or more developers working on a deliverable or a piece of code in conjunction to speed up the process and does not have to do with acceptance testing.

Unit testing refers to testing code almost on a piecemeal basis, such as writing a few lines and running the code to ensure the larger components won't break due to the new code being introduced.

36.

Which of the following is not a Lean Product Development core concept?

Visualize the workflow

Deliver fast

Build quality in

Empower the team

Correct answer: Visualize the workflow

"Visualize the workflow" is one of the five Kanban principles, which also include:

1. *Manage flow*
2. *Limit WIP*
3. *Make process policies explicit*
4. *Improve collaboratively*

Lean Product Development has seven core concepts that include:

1. *Eliminate waste*
2. *Empower the team*
3. *Deliver fast*
4. *Optimize the whole*
5. *Build quality in*
6. *Defer decisions*
7. *Amplify learning*

37.

Eric has been asked to recommend a transition plan from Waterfall to Agile. What should be his objective to get started?

Learn Agile principles and mindset

Set up a sample Agile project

Hire a Scrum master

Adopt Agile practices from an Agile team within the organization

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Correct answer: Learn Agile principles and mindset

The best way to transition into Agile methodologies is to learn and understand the Agile Principles and Mindset to guide which methodology and leadership tactics to use.

You cannot set up a sample project without the correct Agile Principles adoption and team understanding.

Hiring a scrum master will not contribute to the team's Agile adoption. A scrum master should come in at a later point once the team has adopted Agile principles and operates within the Agile mindset. Similarly, the team cannot adopt Agile practices from teams within the organization without a proper understanding of the methodology and its core values and principles.

38.

In a large Agile project where Scrum is used across engineering teams, it has become cumbersome to hold daily Scrum meetings. What approach should be taken to alleviate this issue?

Hold daily Scrum meetings for each team and a Scrum of Scrums for representatives of those teams

Hold daily Scrum meetings for each team and have a sprint review meeting with representatives of those teams

Hold collective ownership meetings for everyone and eliminate the daily Scrum meetings

Hold daily Scrum meetings for each team and have a sprint planning meeting for representatives of those teams

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Correct Answer: Hold daily Scrum meetings for each team and a Scrum of Scrums for representatives of those teams

In a large Agile project, multiple teams will work together. It becomes difficult to have all these teams participate in the Scrum daily standup. The Scrum of Scrums is an additional meeting that happens one layer above the team level for representatives of those teams to provide updates and input into impediments across teams.

The other options do not encapsulate the work that is needed. For example, teams cannot mix daily Scrum meetings with sprint reviews. Additionally, having collective ownership meetings would violate one of the basic daily Scrum meeting requirements, which is sticking with the 15-minute timebox.

39.

Which of the following approaches is in line with the Agile Manifesto principle ”Simplicity—the art of maximizing the amount of work not done—is essential”?

Build a basic prototype of the product to start

Build as close as you can to the final product fast

Build a prototype but with as much real data in it as possible

Build the architecture designs only

Correct answer: Build a basic prototype of the product to start

This Agile Manifesto principle advocates first building the simplest thing that represents some basic working product. Building anything other than that could go too far into the solution when requirements are likely to change and evolve as the team discovers new things in the solution.

40.

Charlie is taking over an Agile project from another colleague. He starts by creating time sheets to distribute to the development team so that he can better track resource utilization. This will help him better forecast work assignments for the next sprint. Charlie's approach is an example of which of the following?

Management

Leadership

Coaching

Serving the project team

Correct answer: Management

There is a marked contrast between management and leadership in Agile projects. By nature, management is more mechanical in nature, using a command-and-control stance, while leadership is more focused on people and the interpersonal space. In Agile, the focus is to empower the team to chart the course of their work, which promotes innovation rather than controlling and commanding them to do as a manager wants.

41.

In Scrum, this individual works toward maximizing the value of the product for the customer and develops a shared understanding of the project vision. Who is this individual?

Product Owner

Scrum Master

Developer

Coach

Correct answer: Product Owner

The Product Owner is a Scrum team role that is focused on maximizing the value of the product, which is reflected in the product backlog items. The Product Owner makes sure he or she understands how the product adds value to the customer and aligns stakeholders in the understanding of the project objectives and vision.

42.

The XP core practice of “whole team” means that:

team members can perform more than one role as generalists.

team members develop a code standard together.

team members take over the work of others when they go on vacation.

some team members test while others write code.

Correct answer: team members can perform more than one role as generalists.

In XP, one of the thirteen XP core practices is “whole team.” In this practice, the team members perform more than one role, collaborating closely and expanding the knowledge of the work within the team. These individuals are often called generalists or generalizing specialists.

43.

What is a key attribute of the Scrum master when working with the Scrum team?

Removes impediments for the team

Determines what each person should work on

Prioritizes the product backlog

Creates the items in the sprint backlog

Correct answer: Removes impediments for the team

The Scrum master removes impediments for the team, facilitates Scrum ceremonies, and coaches the organization on Agile practices.

Determining what each team member should work on is a command-and-control approach that does not align with Agile practices. The entire Scrum team prioritizes the product backlog and selects what will go into the next sprint by adding it to the sprint backlog. Development teams are assumed to be self-organized.

Creating items in the backlog and prioritizing the backlog are tasks that a Scrum master will work on with the team, but these are not their primary focus.

44.

What are two planning activities that are performed in XP?

Iteration and release planning

Integration and release planning

Object modeling and feature list planning

Iteration and incremental planning

Correct answer: Iteration and release planning

As part of planning games in XP, iteration and release planning are the two activities the team plans for.

45.

Which of the following is an XP role?

- **Coach**
- Project Sponsor
- Scrum Master
- Generalist

Correct answer: Coach

The XP roles are coach, customer, programmers, and testers.

46.

Which of the following encompasses the Kanban principle of visualizing the workflow?

Display a workflow board

Post the project Gantt chart

Display the project code name on a banner

Display a burndown chart

Correct answer: Display a workflow board

Visualizing the workflow is one of the five principles of Kanban, which means developing a visualization artifact such as a Kanban board to display the team's flow of work (workflow) from a "to-do" to a "done" queue.

Gantt charts are not Agile methodology artifacts. A burndown chart is not represented within the Kanban methodology. Burndown charts are mostly used to track remaining work.

Displaying the project code name on a banner does not directly address the visualization of the workflow, as it pertains more to the naming convention agreed upon by the Product Owner and project team.

47.

The project team is in the middle of a sprint when a new requirement that would add vast value to the project is added to the backlog. What should the Agile project team do?

Finalize the current sprint and analyze the new requirement for prioritization

Cancel the current sprint to take on the high-priority work

Finalize the current sprint and work only on the new requirement

Create a second Scrum team to work on the high-priority requirement

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Correct answer: Finalize the current sprint and analyze the new requirement for prioritization

Any incoming/new requirements into the Scrum process should be welcomed but need to go through review and analysis by the product owner, development team, and Scrum master to estimate and prioritize this work in the product backlog. This is done more formally in the backlog refining activity. If the new requirement makes the current sprint goal obsolete, for example, due to changes in business direction, the current sprint should be canceled. However, in this scenario, there is no mention of requirements that change the sprint goal or anything similar.

There is no need to create a second Scrum team since the requirement still needs to be analyzed and estimated for prioritization in the product backlog. Once the sprint is finalized, the team may need to work on the new requirement, but that will not be known until the new requirement is analyzed.

48.

What is the main differentiator of Kanban as compared to Agile approaches such as XP and Scrum?

Kanban teams use a pull system as opposed to iterations.

Kanban teams are self-organized.

Kanban teams work on creating increments.

Kanban teams use a visual board to show their work.

Correct answer: Kanban teams use a pull system as opposed to iterations.

The main difference between Kanban and Agile approaches is that Kanban uses a pull system to move the to-do items into the work in progress (WIP) queue. Iterations are not used since Kanban is not creating increments but getting work items done.

49.

Which is not one of the primary duties of a servant leader?

Take over the work of others when they are unable to continue

Remove impediments for the team

Communicate the project vision

Protect the team from interruptions

Correct answer: Take over the work of others when they are unable to continue

Taking over the work of others may be a nice gesture to help the individual and the team to make progress. It could be even part of the self-organization characteristics of a team to do as part of Agile. However, this is not a precept of servant leadership at the outset.

50.

How are knowledge and industrial work different from one another?

Knowledge work is intangible while industrial work is visible.

Knowledge work focuses on defining what needs to be made while industrial work focuses on understanding.

Knowledge work is defined and stable while industrial work is constantly changing.

Knowledge work focuses on executing the work while industrial work focuses on embracing change.

Correct Answer: Knowledge work is intangible while industrial work is visible.

Knowledge work is characterized by being invisible and changing, which leads to giving autonomy to the knowledge worker and infuses innovation in the result. Industrial work is typically well-defined and visible, such as in the construction industry.

51.

What is the highest priority of an Agile project team?

Satisfy the customer by delivering value

Negotiate contracts

Develop the working product fast

Develop technical excellence and good design

Correct answer: Satisfy the customer by delivering value

The first Agile Manifesto principle states that "Our highest priority is to satisfy the customer through early and continuous delivery of valuable software."

Other principles are:

- *Welcome change*
- *Deliver frequently*
- *Work with business*
- *Motivate people*
- *Face-to-face communications*
- *Measure systems done*
- *Maintain a sustainable pace*
- *Maintain design*
- *Keep it simple*
- *Team creates architecture*
- *Reflect and adjust*

52.

As a team member, Zoe is getting ready to attend her first Scrum of Scrums where she will represent her Scrum team. Of the following questions, which would Zoe not need to be ready to answer?

How will your Team accomplish its goals?

What has your Team done since we last met?

What will your Team do before we meet again?

Are you about to put something in another Team's way?

Correct answer: How will your Team accomplish its goals?

During the Scrum of Scrums, each Team Representative answers the following questions:

1. *What has your Team done since we last met?*
2. *What will your Team do before we meet again?*
3. *Is anything slowing your Team down or getting in their way?*
4. *Are you about to put something in another Team's way?*

53.

Which of the following is not considered part of the Agile mindset?

Optimize the whole

Learning through discovery

Using build and feedback loops

Continuous delivery

Correct answer: Optimize the whole

"Optimize the whole" is a lean core concept that relates to aligning various aspects of the project (e.g., people, processes, etc.) with the organization. This is a more strategic approach to viewing the project to see how it adds value to the product and the organization.

54.

Eliminating waste is an important aspect of the lean product development approach. Which of the following should be eliminated in an Agile project to maximize value?

Handoffs

Getting feedback

Unit testing

Backlog

Correct answer: Handoffs

Handoffs are an example of Motion, which is one of the seven wastes of lean, the amount of effort needed to transition tasks from team to team takes away from lean product development.

Unit testing is part of the seven concepts, specifically relevant to "build quality in."

Backlog belongs to one of the seven concepts, specifically to "defer decisions."

Getting feedback is part of the "amplify learning" concept, which encourages the team to communicate often and throughout the Lean Product Development process.

55.

Which of the following is not part of the Agile mindset?

Follow the Agile approach without tailoring it

Teach others how Agile works

Explain why Agile creates value

Show others how to apply Agile

Correct answer: Follow the Agile approach without tailoring it

The Agile mindset is about learning and implementing Agile as a first step and also showing others how Agile is effective in delivering value effectively. There is a difference between being Agile and doing Agile.

The Agile mindset does not promote following a rigid approach to implementing a strict Agile framework for all projects. On the contrary, it invites team members to understand how Agile creates value and teaches others how to work within the Agile principles and mindset by showing others how to apply Agile. As the team or project manager has mastered Agile, they will begin tailoring the approach to what works best given a specific context.

56.

Which of the following would not be considered an example of lean waste?

Checking in code for a completed new product feature

Requiring manager approval for reimbursement

Working on a report while attending a meeting for another project

Developing a transition document for another team member

Correct answer: Checking in code for a completed new product feature

A completed new product feature is not partially done work but working software. The act of checking in code into the code repository is adding value to the overall product code and thus to the customer. This is not a wasteful endeavor.

57.

Based on the Agile Manifesto, delivering a work breakdown structure (WBS) for a project is an example of delivering:

partial work products.

working software.

changing requirements.

contract negotiations.

Correct answer: partial work products.

A WBS is a project deliverable that breaks down the scope of work into measurable and manageable pieces for the team to work on. The Agile Manifesto states that the highest priority is to deliver early and continuous value to the customer. Delivering a WBS alone does not in itself add value to the end customer since it is a project toolset to get to the final product. Delivering a WBS is not an example of working software nor changing requirements. WBS has nothing to do with contract negotiations on an Agile project.

58.

Developing detailed blog posts on how to use a product feature even though the feature has not yet been released and no one is using it is an example of what kind of waste?

Extra processes

Motion

Extra features

Defects

Correct answer: Extra processes

Based on Lean Product Development, an extra process is one of the seven lean wastes. An example of an extra process would be writing documentation that is not needed since it does not add value to the customer.

The full list of lean waste types is the following:

1. *Partially done work*
2. *Motion*
3. *Defects*
4. *Extra features*
5. *Extra processes*
6. *Waiting*
7. *Task switching*

59.

Who participates in backlog refinement meetings?

The product owner, Scrum master, and development team

The development team only

The development team and the Scrum master

The product owner and the Scrum master

Correct answer: The product owner, Scrum master, and development team

The backlog refinement meeting is a Scrum activity where the product owner, development team, and Scrum master discuss the product backlog items together. Each side provides its view of what it will take to complete the top items in a future sprint, the value they bring to the customer, the interdependencies between items, the need to break them down further, etc. Thus, all three groups are needed to provide this perspective.

60.

Jada is a new developer joining the XP Development team. She has teamed up with a senior developer on the team to write and test functionality for a user story in the upcoming iteration. What is this approach called?

Pair programming

Planning games

Test-driven development

Collective code ownership

Correct answer: Pair programming

All options are part of the thirteen XP core practices. However, pair programming is the practice where two developers work in pairs: one works on the development of the functionality while the other tests the functionality, and they switch roles periodically.

61.

Which of the following aligns best with an empirical process as described by the Agile approach?

Developing a flying skateboard

Construction of a new highway

Deploying standard software on a server at a data center

Launching a marketing campaign for a new car model

Correct answer: Developing a flying skateboard

Knowledge-work projects are characterized by being ambiguous and less defined than industrial-type projects where the end goal is known with more certainty. Empirical processes are based on observation and experimentation and are more suitable for knowledge-work projects where change is embraced along the way and teams are encouraged to fail fast. All options are examples of projects or initiatives with a well-defined process for implementation. In the distractors, the details and flavors may change, but the planning follows a defined structure. The flying skateboard will require deeper experimentation to determine the optimal configurations for materials, software, etc. because this is an innovative project.

62.

On the second day of the sprint, a developer is getting ready to go home for the day. He checks in his code into the centralized code repository so that he can continue working on it tomorrow. There are still a few days left on the sprint, so he is not concerned about finishing the remaining functionality before it can be tested.

What lean waste does this scenario mention?

- **Partially done work**
- Motion
- Task switching
- Waiting

Correct answer: Partially done work

The developer has not finalized the code, so what he currently has is not working software ready for testing. The code he has built is partially done which still represents waste at this point. Once he completes his work, this code will be done and will be adding value to the sprint, but until then it represents waste.

63.

Which of the following is not an Agile methodology?

Continuum

Feature-driven development

Crystal

Lean product development

Correct answer: Continuum

Continuum is not an Agile methodology; the other options are.

64.

"Spike" is a term that is used in which Agile approach?

XP

DSDM

Scrum

Kanban

Correct answer: XP

"Spike" is a short and intense iteration used in the XP methodology to eliminate or mitigate risks or to develop an optimal design before getting into execution.

65.

Which of the following is a core practice of XP?

Code standards

Visualize

Limit WIP

Manage flow

Correct answer: Code standards

Code standards is one of the thirteen XP core practices where developers agree and follow a defined set of standards to use when creating code. Visualize, limit WIP, and manage flow are all Kanban principles. The thirteen XP core practices are:

1. *Code standards*
2. *Pair programming*
3. *Planning games*
4. *Refactoring*
5. *Metaphor*
6. *Test-driven development*
7. *Collective code ownership*
8. *Small releases*
9. *Customer tests*
10. *Sustainable pace*
11. *Continuous integration*
12. *Simple design*
13. *Whole team*

66.

During a sprint review, John, the product owner, announced that the product increment demo was unsatisfactory as it did not align with what he had in mind.

What most likely failed in this Agile project?

The definition of "done"

Sprint review

Sprint retrospective

Prioritized backlog

Correct answer: The definition of "done"

The definition of "done" was likely not described in sufficient detail during the sprint planning session for the development team to clearly understand the product owner's expectations. Before the development team starts working on sprint items, they need to define the definition of "done" with the product owner.

Sprint review is when the team realized that the increment was unsatisfactory.

Prioritized backlog is done at the sprint planning session.

Sprint retrospective has to do more with the ways of working for the team versus incremental delivery of product quality.

67.

Which of the following is not one of the five Scrum values?

Visualize

Focus

Commitment

Openness

Correct answer: Visualize

Visualize is a Kanban, not a Scrum, value. The five Scrum values are:

- *Openness*
- *Focus*
- *Respect*
- *Commitment*
- *Courage*

68.

During a daily stand-up, a new developer joining the team is skeptical about sharing his progress since he is stuck in developing the functionality of a new feature. During the meeting, he does not mention the issue because he feels he has it under control.

What Scrum pillar is being violated here?

Transparency

Inspection

Adaptation

Encouraging others

Correct answer: Transparency

Scrum advocates for three main pillars: transparency, inspection, and adaptation. Transparency in this case would involve being open about the work and the impediment to completion. Violating this principle sets the foundation of this project team on shaky ground.

Inspection and adaptation are also Scrum pillars, but adaptation involves minimizing the impact resulting from inspection, and inspection looks for issues and deviations on work items.

Encouraging others is not a pillar, but it is part of creating organizational change.

69.

It has been a week since the Agile team developed the first output for the customer. At the last sprint review, the product owner was satisfied with the increment outcome in this sprint. The organization has a policy that requires that written notice of acceptance be submitted by the product owner to move forward with the next sprint. However, written approval has not yet been received.

What type of waste is this according to lean practices?

Waiting

Motion

Partially done work

Extra features

Correct answer: Waiting

From the answer options provided, waiting is the only type of waste applicable per lean product development practices. In the scenario given, the organization requires written approval of the product increment per its internal policy. This makes the team unable to start the next sprint. In this case, waiting is the type of lean waste that needs to be eliminated.

Motion is another type of waste that refers to the work incurred to move information or deliverables from one person to another. Partially done work is also waste, involving work started but not concluded. "Extra features" lead to creating product features that do not add value to the end customer.

Lean has seven types of waste, which are:

- *Waiting*
- *Motion*
- *Defects*
- *Task switching*
- *Extra features*
- *Extra processes*
- *Partially done work*

70.

Gael is the lead of an engineering team that is trying to create a very innovative product with zero competition in the market. Stakeholders have differing views on what the desired final product should be. Gael has various ideas on design approaches and needs a project framework to put in motion these ideas. What kind of project life cycle is most appropriate for this endeavor?

Iterative

Predictive

Incremental

Lean product development

Correct answer: Iterative

Iterative life cycle approaches provide the mechanism for prototyping and refining ideas when there are high uncertainty, unclear requirements, and high complexity.

71.

The Agile triangle of constraints differs from the traditional triangle of constraints in that:

cost and schedule are fixed, while scope is variable.

schedule and scope are fixed, while cost is variable.

scope is fixed, while cost and schedule are variable.

cost is fixed, while schedule and scope are variable.

Correct answer: cost and schedule are fixed, while scope is variable.

In predictive projects, scope is the fixed factor, while schedule and cost are variable. In Agile projects, we always know the project deadline and how much we can spend based on project costs. These are then fixed at the beginning of the project. We probably have an idea of what the final product should be, but Agile provides the space for us to experiment and accept changing requirements.

72.

In the middle of the current sprint, George, who is a member of the development team, found a better way to write a piece of code than originally designed. George led a small discussion group with other developers in the team to explore the impact of such findings in future development work. Tina, the Scrum master, is not happy with how George is taking initiative on technical matters.

What leadership practice is George demonstrating?

Emergent leadership

Agile mindset

Servant leadership

Test-driven development

Correct answer: Emergent leadership

Emergent leadership in the Agile context means that leaders organically surface from the project team at various times. These leaders emerge without a power struggle since everyone recognizes their aptitudes in context.

Test-driven development and Agile mindset are not leadership practices. A servant leader is someone who does not entirely take over but helps the entire team and follows guidance more closely.

73.

Scrum masters have all the following responsibilities in a Scrum team, except:

To determine roles and responsibilities within the team

To remove impediments for the team

To shield the team from interruptions

To coach the organization on Agile principles

Correct answer: To determine roles and responsibilities within the team

The Scrum master removes impediments to allow the team to progress, shields the team from distractors, and coaches the entire organization on Agile principles, activities, and methodologies. The development team is a self-organizing entity, and thus the Scrum master does not determine its roles and responsibilities directly.

74.

Continuous integration and unit testing are examples of which lean core concept?

Build quality in

Deliver fast

Eliminate waste

Empower the team

Correct answer: Build quality in

"Build quality in" is a lean core concept that entails not waiting until the end of development to test the quality of the product, but testing quality as the product is built. In continuous integration, software is tested against the overall product code as it is being built. Unit testing allows for more granular testing of the code being built so that as the code expands any issues can be caught.

75.

Who does not participate in the backlog refinement meeting?

Project sponsor

Product owner

Scrum master

Development team

Correct answer: Project sponsor

The backlog refinement meeting is a ceremony where the product owner, Scrum master, and development team discuss and prioritize the list of items in the product backlog.

76.

An Agile project team has chosen the feature-driven development (FDD) approach and is focused on reviewing and breaking down the project scope. It has divided the work into domains for targeting the needed work in upcoming iterations.

At what stage of the FDD approach is this team?

Develop an overall model

Build by feature

Design by feature

Build a feature list

Correct answer: Develop an overall model

Developing an overall model is the first stage of an FDD project. This stage is about first breaking down the project scope into domain models. These models will be later decomposed into subject areas that align to features.

The following are the stages of an FDD project:

1. *Develop an overall model*
2. *Build a feature list*
3. *Plan by feature*
4. *Design by feature*
5. *Build by feature*

77.

Jamie is a developer in an XP project team. He finalized working on his code when the iteration closed about a week ago. Today he is reviewing and changing the code to remove duplicated line items and decreasing dependence between code modules. What XP practice is he performing?

Refactoring

Test-driven development

Continuous Integration

Collective code ownership

Correct answer: Refactoring

Refactoring is an XP practice where developers improve the code design without changing or adding new functionality.

78.

Peter is a member of an Agile project that utilizes the XP methodology. He guides the team through the process to achieve the desired results and facilitates discussions to help the team make progress.

What role does Peter play in the XP team?

Coach

Customer

Programmer

Tester

Correct answer: Coach

The XP Coach is comparable to the Scrum master and Agile project manager in that this person shields the team from interruptions, mentors the team to continue to progress in its work, and facilitates the ceremonies for the team.

In addition to his coach role, Peter can also be a programmer or a tester within the team. Peter is certainly not a customer.

79.

A developer in a lean product Development team wants to finalize the architecture of the end product before the next iteration starts. However, the Scrum Master is pushing back based on the lean concept of “defer commitments.” What would be the reason for the Scrum Master to do that?

Do not lock design solutions too early in the process.

Build quality in the product early on.

Protect partially done work.

Create frequent releases for customer feedback.

Correct answer: Do not lock design solutions too early in the process.

The concept of defer commitments in lean product development entails waiting until the last possible moment to make decisions about the product. This allows for not locking the solution too early in the project.

80.

The Agile project manager has published defined guidelines for the overall team to follow to minimize subjective decision-making that could jeopardize the Agile work. What Kanban principle is being used in this scenario?

Make process policies explicit

Visualize the workflow

Improve collaboratively

Manage flow

Correct answer: Make process policies explicit

One of the five Kanban principles is making process policies explicit. This provides the team with clear guidance on how the team operates and leaves little room for misunderstanding. The five Kanban principles are:

- *Visualize the workflow*
- *Limit WIP*
- *Manage flow*
- *Make process policies explicit*
- *Improve collaboratively*

81.

A project team in a large organization has adopted Agile and has been proficient at delivering value to its customers early. However, the PMO and the rest of the organization are still using a predictive project approach that often puts them at odds with this project team when requesting information for reporting and metrics. This scenario is an example of a lack of:

organizational agility

value-driven development

failing fast with learning

using build and feedback loops

Correct answer: organizational agility.

Agile is not just about adopting tools and techniques for application, but the adoption of a new way of thinking, often referred to as adopting an "Agile Mindset." Organizational agility refers to the adoption of this mindset, practicing and adopting Agile values and principles across the organization. Most organizations have not developed a high level of maturity in organizational agility, leading teams and parts of the organization that are Agile to feel misunderstood and to be ineffective at achieving their goals.

The other three options are all part of the Agile core way of thinking but do not fit into the scenario given. Failing fast with learning is about being open to failing fast and adapting to improve. Using build and feedback loops is about working closely with the customer to obtain direct and constant feedback rather than waiting until the end of the project, and value-driven development is about building what provides the most value to the customer at all times.

82.

Which of the following is a preferred attribute as described in the Agile Manifesto?

Responding to change over following a plan

Implementing the latest Agile tools

Completing comprehensive user manuals

Drafting a milestone-based contract with the vendor

Correct answer: Responding to change over following a plan

One of the four values of the Agile Manifesto is "Responding to change over following a plan." This means that the Agile team can continue to receive new requirements at any time during the Scrum cycle. The Scrum process allows for the inception of the new requirement into the product backlog for analysis and estimation. Whether the sprint is in progress is inconsequential since the item will not be addressed until the sprint has been prioritized.

Implementing the latest Agile tools, though recommended, cannot be imposed on organizations and teams. Agile focuses on iterative value delivery instead of comprehensive user manuals. Drafting a milestone-based contract is not a characteristic described in the Agile Manifesto.

Domain II. Value-driven Delivery

83.

A Scrum Master is developing some KPIs for an Agile project. She observes that the team completes about 30 points of work done per week and the backlog currently has about 600 points of work remaining. The average user story has 5 points assigned to it by the development team. What KPI could the Scrum Master produce using this information?

Completion date

Cost remaining

Completed features

Projected spending

Correct answer: Completion date

The Scrum Master can calculate the project's completion date by dividing 600 points by 30 points/week, which equals 20 weeks. This is the likely completion date of the project at the current speed of work completion.

We cannot calculate the cost remaining nor projected spending with the information provided. We do not have any information about how many features have been completed.

84.

A project sponsor requested that the product owner get the product out as soon as possible. The project sponsor also advised creating teams that work in parallel and focus on specific functionality instead of doing work sequentially. The product owner agrees.

What should the product owner observe about this approach?

Not all requirements are known at this point, so we should be delivering the product incrementally.

The Scrum team is self-organizing, so it will decide what to work on next.

A minimum viable product should be built to prove the project is viable.

A graduated fixed-price contract would be appropriate for the configuration suggested.

Correct answer: Not all requirements are known at this point, so we should be delivering the product incrementally.

Incremental delivery is an Agile concept that proposes delivering value in working increments throughout the project instead of delivering the product at the end of the project. Agile also embraces change at any stage of the project, adapting the work intake in the subsequent iteration accordingly. In this scenario, not all requirements may be known, so producing a product incrementally makes sense as more things are known.

The Scrum team is indeed self-organizing their work and configuration in this scenario. However, what they will work on is defined by value as prioritized in the product backlog. From the statement provided, there is no indication that an MVP needs to be built. Graduated fixed-price contracts share the risk load between the parties, providing incentives for early completion of work. It is common for graduated fixed-price contracts to also punish the vendor if the work is late. There is no indication that this contract should be used in this scenario.

85.

How do you identify bottlenecks in a cumulative flow diagram (CFD)?

Find the activity that lies below the widening band

Find the activity corresponding to the widening band

Find the activity that lies above the widening band

Find the activity that lies between the widening band and the bottom-most activity

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Correct answer: Find the activity that lies below the widening band

Cumulative flow diagrams (CFD) are a visual representation of the status of work features. We identify the bottleneck activity in a detailed CFD by first identifying the activity that appears to be widening. The bottleneck activity will lie right below the widening band.

86.

Which of the following is not a Scrum activity?

Change request review

Daily stand-up

Sprint planning meeting

Retrospective meeting

Correct answer: Change request review

A change request review is not a Scrum activity. In fact, there are no change request review processes in Agile since change is welcome at any time on the project.

Scrum activities include daily stand-ups, sprint planning meetings, and retrospective meetings.

87.

Cost performance index is calculated by:

earned value divided by actual cost

earned value divided by planned value

earned value divided by budget at completion

earned value divided by cost variance

Correct answer: earned value divided by actual cost

The cost performance index (CPI) measures the financial performance of a project. It is calculated by dividing the earned value by the actual cost.

88.

In Agile projects, how would you calculate the rate of progress as a key performance indicator for your project?

Calculate the average number of story points completed per iteration

Sum the number of story points per week

Divide the number of story points remaining in the backlog by the number of story points completed per iteration

Calculate the average number of story points not completed per iteration

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Correct answer: Calculate the average number of story points completed per iteration

The rate of progress is a key performance indicator in Agile projects that can be calculated by looking at the number of story points completed per iteration. If multiple iterations have been completed, we would have to calculate the average of what has been completed to have a representative indicator over all sprints completed.

Summing the number of story points per week does not help. We should be looking at the sum over the length of the iteration. We cannot assume that the iteration is a week long. Dividing the number of story points remaining in the backlog by the number of story points per iteration is equal to the number of iterations left for the team to complete at the current rate of progress. Calculating the number of story points not completed per iteration will not show the rate of progress.

89.

A user is finding various issues with the features of the released product. What lean waste does this represent?

Defects

Motion

Extra features

Partially done work

Correct answer: Defects

Defects are one of the seven wastes of lean. Software issues or bugs identified by the user are product defects.

The seven lean wastes are:

- *Partially done work*
- *Extra features*
- *Extra processes*
- *Defects*
- *Motion*
- *Task switching*
- *Waiting*

"Partially done work" is incorrect because the question does not signal partial work at any point but rather a released product.

"Extra features" is incorrect because the question does not mention any defects occurring due to additional features added.

"Motion" is incorrect because the problem statement doesn't signal a handover of any kind.

90.

According to Little’s law, which of the following is most likely not true?

Cycle times should be kept large to minimize waste.

The duration of a queue is proportional to its size.

Limiting WIP will get the work in that queue done faster.

Cycle time is directly impacted by the queue length.

Correct answer: Cycle times should be kept large to minimize waste.

Little’s law states that the duration of a queue is proportional to its size. Thus, limiting WIP will get work done faster. Cycle time is impacted by the size of the queue as observed in a cumulative flow diagram (CFD) in the “in progress” shaded stacked area graph. Cycle times and WIP should be kept low since WIP represents unrealized return on investment until the work is complete.

91.

All the following contracts are used in Agile projects, except:

Fixed-price incentive fee

DSDM contract

Graduated fixed-price contract

Fixed-price work package

Correct answer: Fixed-price incentive fee

The fixed-price incentive fee is not used due to its predictive nature. In this contract, the seller is offered a performance incentive. The incentive depends on one or more project metrics such as performance, cost, or time.

DSDM contracts are characterized by never compromising the quality of the product and by focusing on payment based on passing product inspection or testing. They also aim to accomplish the work within the time and money constraints defined in the project.

Graduated fixed-price contracts share the risk load between the parties, providing incentives for early completion of work. It is common for graduated fixed-price contracts also to punish the vendor if the work is late.

Fixed-price work packages break down the work into sizable work packages with a fixed price associated with them. The customer can then re-prioritize the work packages as requirements change, and the supplier can readjust the cost of the work packages as more information is available about the work. This helps both parties stay flexible throughout the Agile project.

92.

The two axes used to map out the performance of deliverables in the Kano analysis are:

customer satisfaction and degree of achievement

customer satisfaction and time

story points and degree of achievement

velocity and story points

Correct answer: customer satisfaction and degree of achievement

The Kano analysis is a technique to classify customer preferences into the following categories: Exciters or delighters, satisfiers, dissatisfiers, and indifferent. The two axes of the Kano analysis are customer satisfaction and degree of achievement.

93.

Maddie is using some EVM calculations to measure the budget performance of her Agile project. She notes that CV is equal to -$40,000. What does this metric mean for Maddie's project?

The cost variance indicates more is spent than the value obtained.

The cost variance indicates the project is on budget.

The cost variance indicates the project is under budget.

The cost variance indicates less is spent than the value obtained.

Correct answer: The cost variance indicates more is spent than the value obtained.

Cost variance (CV) measures the cost performance of the project by subtracting the actual cost from the earned value. A negative cost variance indicates that the project is over budget. The value of the negative cost variance shows how much more we are paying for the value received from the work being done. Maddie's project has spent $40,000 more than what the work that the development team has completed is worth.

94.

Mariah is the project manager for an Agile project that utilizes an external vendor to produce key project work. She is reviewing the contract signed with the vendor six months ago. She notices that the payments to the vendor depend on when the increment is completed. Early delivery pays $120 per hour, on-time delivery pays $100 per hour, and late delivery pays $80 per hour. What kind of Agile contract is being used for this project?

Graduated fixed-price contract

Fixed-price work packages

Customized contract

DSDM

Correct answer: Graduated fixed-price contract

Graduated fixed-price contracts share the risk load between the parties, providing incentives for early completion of work. It is common for graduated fixed-price contracts to also punish the vendor if the work is late.

Fixed-price work packages break down the work into sizable work packages with a fixed price associated with them. The customer can then re-prioritize the work packages as requirements change and the supplier can readjust the cost of the work packages as more is known about the work. This helps both parties stay flexible throughout the Agile project.

Customized contracts vary depending on how the supplier and customer piece together the contract using various parts of other types of contracts, such as DSDM, graduated fixed-price contracts, etc.

DSDM contracts are characterized by never compromising the quality of the product by focusing on payment based on passing product inspection or testing.

95.

You are a Kanban coach who has come to review the Kanban board of a team in your organization. The project manager has set WIP limits that are visible on the board. No more than four tasks can be “In Progress” at all times. The project manager mentions that this will allow all four team members to be utilized 100% of the time.

What is the most likely observation you would make about this Kanban project?

The aim of WIP is not to optimize resource utilization but work throughput.

The project will need five tasks instead of four to utilize resources.

The WIP needs to be reduced to increase resource utilization.

The WIP should be put on hold to measure the constraints in the system.

Correct answer: The aim of WIP is not to optimize resource utilization but work throughput.

Work in progress (WIP) is a term used in Kanban for work that has started but has not yet been completed. WIP needs to be limited in the workflow because it can hide bottlenecks or constraints in the system, hide risks, and keep work in progress from materializing. There is a misconception that the objective of WIP limits is to optimize resource utilization so team members are busy working at all times. WIP limits seek to optimize work throughput so things don’t get stuck in progress.

The number of tasks based on the number of resources in the team is irrelevant.

WIP should never be put on hold because WIP represents an unrealized return on investment. The sooner it gets done, the better.

WIP size does not affect resource utilization.

96.

Luis is looking at some financial metrics for his project. He wants to calculate the value equivalent to the amount of work completed to date. Which EVM metric should he be looking at?

Earned value (EV)

Actual cost (AC)

Schedule variance (SV)

Planned value (PV)

Correct answer: Earned value (EV)

Earned value (EV) represents the amount of work completed to date. It can be calculated by multiplying the percent complete times the budget at completion (BAC).

Planned value (PV) indicates the percent complete per the plan. In reality, the project may be ahead or behind, but PV will indicate where it should be. It is calculated by multiplying the percent planned times the budget at completion (BAC). The actual cost is the actual amount of money spent on the project up to this point. The schedule variance (SV) is the subtraction of PV from EV. This indicates whether the project is on time or behind schedule.

97.

In the Theory of Constraints (TOC), once we've identified the constraint in the system, what should be the next step?

Determine how best to exploit the constraint

Subordinate everything else to the constraint

Prevent inertia from becoming a constraint

Elevate the constraint

Correct answer: Determine how best to exploit the constraint

The theory of constraints (TOC) states that a system is limited in achieving its full potential by at least one constraint or limiting factor. The idea is to identify and improve that constraint until it is no longer a problem. Then move on to the next constraint on the list. The five steps of TOC, in order, are:

1. *Identify the constraint: First, identify the bottleneck in the system that is causing the most issues.*
2. *Exploit the constraint: Maximize the utilization of the constraint before attempting to add or reduce the constraint levels.*
3. *Subordinate everything to the constraint: Avoid producing more than the constraint can handle. This means the non-constraints will need to be adjusted based on what the constraint needs to work efficiently.*
4. *Elevate the constraint: Expand the capacity of the constraint if more is needed by adding labor, resources, etc.*
5. *Prevent inertia from becoming a constraint: Once the constraint is eliminated, a new constraint will take precedence. Repeat all the steps in the TOC to deal with the new bottleneck.*

98.

An executive wants to compare the business value that two Agile projects bring to her portfolio. Project A returns $10 million in 2 years, and project B returns $20 million in 5 years. The interest rate she received from the bank for borrowing capital is 5%.

How should the executive go about evaluating these projects to compare their returns?

Calculate the NPV of the projects and choose the project with the highest value.

Calculate the PV of the projects and choose the project with the lowest value.

Calculate the future value (FV) of the projects and choose the project with the lowest value.

Calculate the net cash flows of the projects and choose the project with the highest value.

Correct answer: Calculate the NPV of the projects and choose the project with the highest value.

We need to bring these returns into present terms to compare these projects. Net present value (NPV) is used to calculate the value at the end of the project in today's terms. NPV requires adjusting for inflation and interest rates; the latter has been provided in the question.

None of the other financial metrics account for interest rates. When calculating the present value (PV) or future value (FV), we always want to choose the one with the highest value. Calculating net cash flow would not help us compare these projects since there is no project execution financial data.

99.

Frequent verification and validation allow the team to do what?

Catch any mismatches in product expectations early

Gather prioritized requirements incrementally

Obtain approval of the final product early

Define the right contract to set up with a vendor

Correct answer: Catch any mismatches in product expectations early

Frequent verification and validation in Agile techniques help identify mismatches in product expectations early on. This minimizes any mismatches in understanding, helping the team converge toward the right solution even when requirements are continually evolving. In practice, having the customer inspect the increment and be involved in the project helps verify and validate that we are building the right solution.

Verification and validation do not relate to contract selection, setup, or gathering requirements. Obtaining approval for the final product early is not something Agile targets.