GR8PM is a thought-leader in agile project management and systemic enterprise innovation. At GR8PM (pronounced, “Great PM”) we believe that successful outcomes maximize customer value for both the end-user customer and the organizational customer!

- We view Traditional, Agile, and Hybrid project management frameworks as complementary tools that every professional project leader must know. Selecting and using the right framework is a significant first step to delivering successful results.
- GR8PM knows that passing exams does not make a successful project leader…but we also know that exams demonstrate proficiency with core concepts, generally accepted standards, and the industry’s lexicon. In the absence of a better approach many employers and clients look to certifications for assurance that they are being served by well-trained professionals.
- This world-class reference serves students pursuing designations as a PMI Agile Certified Practitioner (PMI-ACP®) or a Scrum Alliance Certified Scrum Professional or both. If you choose to take them, this book guarantees you pass both exams. And even more importantly, assures your success using agile methods as a professional project leader!

Includes In-Depth Coverage and Best Practices For:
- Scrum
- eXtreme Programming (XP)
- Lean Software Development (LSD)
- Feature Driven Development (FDD)
- Agile Unified Process (AUP)

Also Includes Best Practices For:
- Crystal
- Dynamic Systems Development Method (DSDM)
- Test Driven Development (TDD)
- Agile Modeling

Exam Preparation Aids Include:
- Chapter Practice Tests
- Terminology Matching
- Crossword Puzzles
- Word Searches

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After you pass your exam this book also serves as a comprehensive desk reference for handling everyday agile project management challenges. No other reference has everything in one place for you!
PMI-ACP and Certified Scrum Professional Exam Prep and Desk Reference

Comprehensive Resource for Project Management’s Top Certifications

John G. Stenbeck, PMP, PMI-ACP, CSM, CSP

First Edition

GR8 PM

Traditional. Agile. Hybrid.

La Mesa, CA
## Terminology Matching Exercise

In the blank column to the left of the Term, fill in the letter that identifies the correct definition or description.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition / Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Retrospective</td>
<td>A An artifact similar to the product specification or requirements list in traditional project management.</td>
</tr>
<tr>
<td>2. WIP</td>
<td>B A family of agile frameworks that vary based on project size and criticality.</td>
</tr>
<tr>
<td>3. Planning Game</td>
<td>C Possibly the most “tightly wrapped” agile framework.</td>
</tr>
<tr>
<td>4. FDD</td>
<td>D Work-In-Process</td>
</tr>
<tr>
<td>5. Crystal</td>
<td>E An XP method for eliciting customer requirements.</td>
</tr>
<tr>
<td>6. TDD</td>
<td>F A process-focused meeting the team uses to identify ways to improve how they create deliverables.</td>
</tr>
<tr>
<td>7. Product Backlog</td>
<td>G A software development process that is an Agile Project Management tool, not a framework.</td>
</tr>
<tr>
<td>8. Timebox</td>
<td>H A project management framework that uses iterative cycles and incremental deliverables to develop solutions.</td>
</tr>
<tr>
<td>9. Iteration</td>
<td>I The customer/proxy that represents the stakeholders and the business and sets the priorities.</td>
</tr>
<tr>
<td>10. Scrum</td>
<td>J There are several types used in Agile Project Management; the highest level one is a roadmap.</td>
</tr>
<tr>
<td>11. User Stories</td>
<td>K A list of features to be developed in the current iteration</td>
</tr>
<tr>
<td>12. Product Owner</td>
<td>L Records of project inputs, outputs, and progress points</td>
</tr>
<tr>
<td>13. Scrum Master</td>
<td>M Written documentation that helps the team understand what work needs to be done.</td>
</tr>
<tr>
<td>14. Artifacts</td>
<td>N Ensures the process is understood and followed, shields the team from interference, and removes impediments.</td>
</tr>
<tr>
<td>15. Iteration Backlog</td>
<td>O A time-box within which work is completed.</td>
</tr>
</tbody>
</table>
Hints:

ACROSS
3 A list of features to be developed in the current iteration.
6 Possibly the most “tightly wrapped” agile framework.
7 Documentation that helps the team understand what work needs to be done.
11 A process-focused meeting used to improve the team creates deliverables.
12 A framework that uses iterative cycles and incremental delivery of solutions.
13 Records of project inputs, outputs, and progress points.
14 A family of agile frameworks that vary based on project size and criticality
15 An XP method for eliciting customer requirements.

DOWN
1 Several types are used in Agile Project Management; the highest level one is a roadmap.
2 Work-In-Process
4 An artifact similar to the product specification list in traditional project management.
5 A software development process that is an Agile Project Management tool.
8 Ensures the process is followed and shields the team from interference.
9 A time-box within which work is completed.
10 The “voice of the customer” that represents the stakeholders and the business.
Word Search

Word Search - 15 Words to find:

- ARTIFACTS
- ITERATION
- PRODUCT OWNER
- SCRUM MASTER
- TIMEBOX
- CRYSTAL
- PLANNINGGAME
- RETROSPECTIVE
- PRINTBACKLOG
- USERSTORIES
- FDD
- PRODUCTBACKLOG
- SCRUM
- TDD
- WIP

R N G L T M T I P S P R I N T _ B A C K L O G
U E R A E D N C A K T S G R E O G U K L N O R
A R T I F A C T S C N A A R R O M C I O P U F
E C W R D R _ M D T A R C T L P A M I G E T A
T R D T O O T S S U A G M K U B E T L R A M P
D Y S S O S T V D P C S C P _ A A R E L R E N
S S T O T _ P K N A _ A C T A R N I U O T F E
I T C X R T T E N R B W C R E S R T Y P I _ S
T E G R C G U R C _ A U P T U O R N G _ F B O
E R D A U T W S T T D S I L G T D R F D A A _
R S R E L M A C E O P U L E T I X _ A A U P I
A C R Y S _ U P R R M S C R U M _ M A S T E R
T P A _ V D O P R C _ D C A R E T _ O U R T C
P L W I O P T A A O E S T D D _ E F N S E F B
L A I R R B D T _ T D E T L M B _ C W E T D M
P N P R T I M E _ W T U T O O O U D K R R U N
C N R C R Y S T A L G C C A R X O S R _ O O B
R I C N T G R L G S M U S T T I T R G S S C A
_ N I R S B I R U E G U P C _ U E L A T P E U
N G P O P L A N N I N G _ G _ O W S S O E C T
M _ S P R I N T _ B A C K L O _ W L P R C E O
I G S S C R U M _ M A S _ I S U I N N A T M A
P A C E T F D D D N I D P _ R N O S E D I O _
D M A _ G P T I M E _ E W I P C N T C R V T R
A E W _ R _ N R K A S F C G L D _ N T E E A L
Chapter Practice Test

1. When applying Extreme Programming (XP) methods, the phrase “last possible moment” refers to __________.
   A. The moment at which failing to make a decision eliminates an important alternative
   B. The moment at which time the project is officially late
   C. The end of an iteration
   D. The latest possible release date

2. A period, usually 2 to 4 weeks, in which the project team codes and tests one or more small features resulting in potentially releasable software is referred to as __________.
   A. An iteration
   B. A timebox
   C. A story
   D. A theme

3. Anything that has value because the customer can see it or use it to understand project progress could be referred to as a __________.
   A. User story
   B. Potentially shippable product increment
   C. Release
   D. Timebox

4. A meeting where the potentially shippable product increment is presented to all interested stakeholders for their review and feedback is best described as a(n) __________.
   A. Retrospective meeting
   B. Planning meeting
   C. Review meeting
   D. Acceptance meeting

5. A meeting that is process-focused and used by the team to identify ways to improve how they create deliverables is best described as a(n) __________.
   A. Acceptance meeting
   B. Planning meeting
   C. Review meeting
   D. Retrospective meeting

6. One of the most widely recognized agile certifications is the Certified Scrum Master (CSM) certification. This certification is issued by the __________.
   A. Agile Alliance
   B. Scrum Alliance
   C. Project Management Institute (PMI)
   D. Master Certification Alliance (MCA)
7. Which of the following is not considered one of the various agile frameworks?
   A. Extreme Programming (XP)
   B. Lean Software development (LSD)
   C. Test Driven Development (TDD)
   D. Feature Driven Development (FDD)

8. __________ is the highest level timebox and is composed of release plans.
   A. An iteration
   B. A sprint
   C. A roadmap
   D. A story

9. A lower level timebox that identifies specific feature sets representing a recognizable,
   logical component of the overall solution and often the point at which deliverables can be
   used or implemented by the customer is referred to as __________.
   A. An iteration
   B. A release plan
   C. A roadmap
   D. A story

10. Release plans are composed of __________.
    A. Iteration plans
    B. Story points
    C. Roadmaps
    D. Customer requirements

11. In the Scrum world, __________ is a term often used in place of iteration.
    A. Release
    B. Story
    C. Roadmap
    D. Sprint

12. Of the following terms, which is not considered part of the feedback cycle?
    A. Monthly project review
    B. Daily stand up meeting
    C. Review meeting
    D. Retrospective meeting

13. The phrase __________ means that decisions are made at the right time and is sometimes
    referred to as the “last responsible moment.”
    A. Progressive elaboration
    B. Deferring commitment
    C. Rolling wave planning
    D. Last minute sprint (LMS)
14. The phrase describing the agile practice of delivering increments of the solution early and often is referred to as __________.
   A. Progressive elaboration
   B. Deferring commitment
   C. Rolling wave planning
   D. Iterative development

15. Agile project methodologies seek to reduce work-in-process (WIP) because __________.
   A. WIP is disruptive to iteration planning
   B. WIP has cost, but no value
   C. WIP helps learning and is actually encouraged
   D. Deferring commitment requires that WIP be minimized

16. In the Scrum framework of Agile Project Management, the __________ ensures the process is understood and followed, shields the team from outside interference, and removes impediments for the team.
   A. Product Owner
   B. Scrum Master
   C. Project Manager
   D. On-site customer/proxy

17. In the Scrum framework of Agile Project Management, the __________ is the “voice of the customer” representing the stakeholders and the business, and setting the priorities for deliverables.
   A. Product Owner
   B. Scrum Master
   C. Project Manager
   D. Lead Programmer

18. Osmotic communication is something that agile and XP encourage and leverage to their advantage. Which of the following is necessary in order for osmotic communication to occur?
   A. All team members must be trained in osmotic communication
   B. At least one team member must be remotely located
   C. All team members must be colocated
   D. There must be an on-site customer/proxy on the team

19. An Extreme Programming (XP) technique in which two programmers work together on a single computer is referred to as __________.
   A. Tandem programming
   B. Pair programming
   C. Extreme programming
   D. Feature driven programming
20. A tool that is a collection of values, principles, and practices used to create models for software development projects is referred to as __________.

A. Agile modeling  
B. Pair programming  
C. Extreme programming  
D. Test driven development

**Answers – Terminology Matching**


**Answers – Crossword Puzzle**

![Crossword Puzzle Image]
Answers – Word Search

Word Search - 15 Words to find:

- ARTIFACTS
- ITERATION
- PRODUCT OWNER
- SCRUM MASTER
- TIMEBOX
- CRYSTAL
- PLANNINGGAME
- RETROSPECTIVE
- PRINTBACKLOG
- USERSTORIES
- FDD
- PRODUCTBACKLOG
- SCRUM
- TDD
- WIP

CHAPTER 2: Introducing Agile Project Management
1. A. In their book *Software Development: An Agile Toolkit for Software Development Managers*, authors Mary and Tom Poppendieck note that the last responsible moment, is not the last possible moment. The difference hinges on when not making a decision will eliminate an important alternative. B, C, and D may all be beyond the last responsible moment.

2. A. Iterations, or sprints, are timeboxes used to deliver working products. B is incorrect because it is too generic. C and D are incorrect because they are not timeboxes.

3. B. A potentially shippable product increment is anything that has value because the customer can be shown it or use it to understand project progress. A is incorrect because it does not show project progress. C and D are completely irrelevant terms.

4. C. The first meeting is the Review meeting where the potentially shippable product increment is presented to all interested stakeholders for their review and feedback. A, B and D are other types of meetings.

5. D. The second meeting, which only the team attends, is the Retrospective meeting. The Retrospective meeting is process-focused and used to identify ways to improve how they create deliverables. A, B and C are other types of meetings.

6. B. Under the “Agile” project management umbrella, the Scrum Alliance (SA) is the biggest player. SA has the largest membership base, specifically in the agile sphere. It has developed and controls the most recognized certification – the Certified Scrum Master (CSM) – for practitioners in the agile PM discipline. A and C offer other certifications, and D is completely fictitious.

7. C. Test-driven development (TDD) is a software development process, an Agile Project Management tool, not a framework. A, B and D are agile frameworks, known as Extreme Programming (XP), Lean Software Development (LSD), and Feature Driven Development (FDD).

8. C. The highest level timebox is referred to as a roadmap. A and B offer lower level timeboxes. D is not a timebox.

9. B. Release plans identify specific feature sets that represent a recognizable, logical component of the overall solution. Quite often release plans represent the point at which deliverables can be used or implemented by customers. A and C offer other timeboxes. D is not a timebox.

10. A. Release plans are composed of iteration (or sprint) plans. The size of the timebox represented by a Release Plan is the sum of the iterations within that release. B and D are content in the Release, but are less correct. C is not part of a Release Plan.

11. D. The term Sprint is used in place of the word iteration and is more common in the Scrum environment. A, B and C are terms for other things.

12. A. Monthly project reviews are part of traditional project management, not agile. B, C and D – daily stand up, review and retrospective meetings – are all part of the frequent agile feedback cycles.
13. **B.** In Lean, and therefore also in Agile Project Management, deferring commitment means that decisions are made at the right time, sometimes referred to as the “last responsible moment.” **A, C and D** are simply incorrect.

14. **D.** Delivering increments early and often requires development to be done in iterations, which is referred to as iterative development. **A, B and C** are simply incorrect.

15. **B.** For Agile Project Management, WIP means those things that are described as 60% done or 80% done, or some other percent done in a traditional project status meeting. Since WIP cannot be shown as a completed incremental solution, WIP has no value even though it has cost. **A and C** are incorrect because WIP is neither disruptive nor an aid to learning. **D** is incorrect as deferring commitment sometimes creates reduced WIP.

16. **B.** The Scrum Master ensures the process is understood and followed, shields the team from outside interference, and removes impediments for the team. **A, C and D** are incorrect because they are other roles with other duties.

17. **A.** The Product Owner is the “voice of the customer” representing the stakeholders and the business by setting the priorities for deliverables. **B, C and D** are incorrect because they are other roles with other duties.

18. **C.** Osmotic communication requires that the team members be colocated. **A and B** are incorrect because they are untrue. **D** is incorrect because an on-site customer/proxy is not required, although desirable, for osmotic communication.

19. **B.** Pair programming is a technique where two programmers work together on one computer. **A, C and D** are incorrect because they are fictitious or untrue.

20. **A.** Agile Modeling (AM) is also not a framework, but a modeling tool for software development projects. It is used in conjunction with a framework and is a collection of values, principles, and practices used to create models for software development projects. **B, C and D** are incorrect because they are fictitious or untrue.
Chapter End Notes


2Steven Paul "Steve" Jobs (February 24, 1955 – October 5, 2011) was a visionary widely recognized as a charismatic pioneer of the personal computer revolution. He was co-founder, chairman, and chief executive officer of Apple Inc.


4William Edwards Deming (October 14, 1900 – December 20, 1993) is perhaps best known for his work in Japan. He taught how to improve product quality through the application of statistical methods. Deming made a significant contribution to Japan’s later reputation for innovative high-quality products. Despite being a hero in Japan, he was only beginning to be recognized in the U.S. at the time of his death.

5Taiichi Ohno (February 29, 1912 - May 28, 1990) is considered to be the father of the Toyota Production System, which became Lean Manufacturing in the U.S.


85th Annual State of Agile Development Survey Results (©qaSignature,Inc. 2011): This fifth annual survey was conducted between August 11 and October 31, 2010. It includes information from 4,770 participants from 91 countries. Data was analyzed and prepared into a summary report by Analysis.Net Research, an independent survey consultancy.


12http://www.extremeprogramming.org


Chapter Close-Out

Agile PM Processes Grid™ Exercise

Please take out a blank piece of paper, set a timer for no more than 3 minutes, and see how much of the grid you can reproduce from memory. To make the most of this Agile PM Processes Grid™ exercise, please simulate being in the testing environment. Close your book and all your notes. Visualize the Proctor handing you the blank sheets of paper and taking your seat in the testing site. Begin by drawing the grid, 6 columns and 8 rows, and then fill in everything you can. After the 3 minutes ends, use your book and notes to complete the grid. Study it as you do so.

Terminology Matching Exercise

In the blank column to the left of the Term, fill in the letter that identifies the correct definition or description.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition / Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Active listening</td>
<td>A Defines specific metrics or acceptance criteria for each user story</td>
</tr>
<tr>
<td>2. Cone of uncertainty</td>
<td>B Have whatever graphic images and narrative content is necessary to convey its purpose</td>
</tr>
<tr>
<td>3. Pre-assignment</td>
<td>C Capture a project’s objectives in a minimalist document</td>
</tr>
<tr>
<td>4. Business Case</td>
<td>D Is the philosophy that advocates doing only what is necessary to achieve success</td>
</tr>
<tr>
<td>5. Definition of done</td>
<td>E Intentionally focuses on who is speaking in order to understand what is said and what is meant</td>
</tr>
<tr>
<td>6. Product backlog</td>
<td>F Describes an environment where team members may both innovate and come to friendly disagreements</td>
</tr>
<tr>
<td>7. Product vision boxes</td>
<td>G Is the “most obvious secret” to success that is commonly overlooked</td>
</tr>
<tr>
<td>8. Participatory decision making</td>
<td>H Describes how customers must traverse through an ambiguous process from sub-optimal solutions to finding optimal solutions</td>
</tr>
<tr>
<td>9. Barely sufficient</td>
<td>I Is necessary when the project is dependent on specific expertise and that expertise is in short supply</td>
</tr>
<tr>
<td>10. Listing stakeholders</td>
<td>J Establish norms and expectation for team member’s treatment of one another</td>
</tr>
<tr>
<td>11. Project data sheets</td>
<td>K A creative process where ownership of decisions belongs to the team</td>
</tr>
<tr>
<td>12. Scanning</td>
<td>L A written document that explains how the use of resources is aligned with the accomplishment of a goal</td>
</tr>
<tr>
<td>13. Rules of engagement</td>
<td>M A simple tool that helps the customer/proxy clarify how to handle the unavoidable tradeoffs that may arise</td>
</tr>
<tr>
<td>14. Flexibility matrix</td>
<td>N Represents the vision for the entire product as decided by the customer/proxy</td>
</tr>
<tr>
<td>15. Personal safety</td>
<td>O The art of looking ahead to learn the unknown and reduce uncertainty as quickly as possible</td>
</tr>
</tbody>
</table>
Crossword Puzzle

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ACROSS

2 Describes when the team has finalized their analysis and agreed they can succeed.
4 Focus on who is speaking in order to understand what is said and what is meant.
7 The “most obvious secret” to success that is commonly overlooked.
9 Explains how resources are aligned with the accomplishment of a goal.
10 Where team members may both innovate and come to friendly disagreements.
11 Advocates doing only what is necessary to achieve success.
13 Represents the vision for the entire product as decided by the customer/proxy.
14 Looking ahead to learn the unknown and reduce uncertainty as quickly as possible.
15 Skills and techniques aimed at developing and facilitating the agile project team.

DOWN

1 Captures a project’s objectives in a minimalist document.
3 Defines specific metrics or acceptance criteria for each user story.
5 Customers must traverse through an ambiguous process to find the optimal solution.
6 Has whatever graphic images and narrative content is necessary to convey its purpose.
8 Tool that clarifies how to handle unavoidable tradeoffs in the future.
12 Principle that delivering a product at regular intervals is a motivating reward.

Hints:
CHAPTER 3: Initiating Projects
Chapter Practice Test

1. Initiating a project in an agile environment requires getting input from stakeholders and setting priorities according to their values. The output of collecting, refining, and prioritizing input from stakeholders, customers, end users, and the team produces a(n) __________.
   
   A. Product backlog
   B. Team velocity
   C. User story
   D. Iteration plan

2. The primary responsibility for creating the product backlog belongs to the __________.
   
   A. Customer
   B. Product Owner and is done in collaboration with the agile team
   C. Customer and senior management
   D. Customer and the project team

3. The team makes a __________ to a specific set of features to be included in the iteration backlog based on their initial understanding of what needs to be done.
   
   A. Hard commitment
   B. Soft Commitment
   C. Velocity commitment
   D. Preliminary schedule commitment

4. Once the team has finalized their analysis and agreed they can succeed, they make a __________ to the specific set of features that will be delivered to the Product Owner at the end of the iteration.
   
   A. Hard commitment
   B. Soft Commitment
   C. Velocity commitment
   D. Preliminary schedule commitment

5. The __________ signals that the iteration has been initiated.
   
   A. Soft commitment
   B. Daily Scrum
   C. Hard commitment
   D. Retrospective

6. Sometimes when using a traditional project management approach, an inordinate amount of time is spent on planning or estimating future tasks of which few details are known. This practice tends to use up valuable resources and results in plans having __________.
   
   A. Progressive elaboration
   B. Scope creep
   C. Hard commitments
   D. False precision
7. The practice of waiting to create detailed estimates of stories planned far in the future until more information about the stories is known is referred to as __________.
   A. Deferred commitment
   B. Iteration planning
   C. Soft commitment
   D. False Precision

8. The most effective mode of communication is __________.
   A. Formal written documentation
   B. Email
   C. Face to face
   D. Phone or IM chat

9. Weick’s principle of __________ states that delivering a quality product at regular intervals – even if the project scope is small – is a motivating reward for the project team.
   A. Small wins
   B. Barely sufficient
   C. Minimally marketable feature
   D. Short stories

10. An agile term for looking ahead to learn the unknown and reduce uncertainty as quickly as possible is known as __________.
    A. Product review
    B. Scanning
    C. Forecasting
    D. Risk management

11. The purpose of the __________ process is to help stakeholders clarify and articulate their values and priorities early in the project management process.
    A. Risk management
    B. Value-driven delivery
    C. Forecasting
    D. Scanning

12. An agile technique that was developed in the Lean manufacturing field to analyze, and potentially redesign, the flow of materials and information required to deliver a product or service to the customer is referred to as __________.
    A. Scanning
    B. Value-driven delivery
    C. Forecasting
    D. Value stream mapping
13. A particular product or service group, family or category where improvement can provide strategic and competitive advantage is referred to as a __________.
   A. Value stream target  
   B. Value-driven delivery  
   C. Minimally marketable feature  
   D. User story

14. A minimalist document (typically one page) that captures the project's key objectives, capabilities, and information needed to understand the purpose and progress of the project is referred to as a __________.
   A. Value stream target  
   B. Project data sheet (PDS)  
   C. Elevator statement  
   D. Product vision sheet

15. A(n) __________ is an uncomplicated way to define the product vision in a short statement, using language everyone can understand.
   A. Elevator statement  
   B. Project data sheet (PDS)  
   C. Value stream target  
   D. Product vision statement

16. A single timebox during which specific agreed upon deliverables will be constructed and then demonstrated to the stakeholders is referred to as a(n) __________.
   A. User story  
   B. Release  
   C. Value stream target  
   D. Iteration or sprint

17. Iteration length should be chosen to __________.
   A. Be as long as possible  
   B. Be as short as possible  
   C. Optimize the amount, frequency, and timeliness of feedback shared by the agile team and the product owner  
   D. Be the length that is determined optimal by the customer/proxy

18. A(n) __________ is composed of release plans and is most similar to a program plan in traditional project management.
   A. Sprint  
   B. Retrospective  
   C. Roadmap  
   D. Iteration
19. The _________ defines the smallest set of functionality that provides satisfactory customer value.
   A. User story
   B. Minimally marketable feature (MMF)
   C. Value stream target
   D. Iteration

20. Facilitating, and not controlling team meetings, is characteristic of __________.
   A. Traditional project management
   B. Servant leadership
   C. Adaptive leadership
   D. Scrum leadership
Answers – Terminology Matching


Answers – Crossword Puzzle

90 PMI-ACP Exam Prep PLUS Desk Reference
Answers – Practice Test

1. A. The process requires taking input from stakeholders and setting priorities according to their values. In order to do that successfully, the agile framework recognizes and responds to the demand to engage stakeholders in structured, meaningful discussions that help them clarify and articulate their values and priorities. The output of collecting, refining, and prioritizing input from stakeholders, customers, end users, and the team produces a product backlog.

2. B. Although primary responsibility for creating the product backlog belongs to the product owner it is done in collaboration with the agile team. The product backlog represents the vision for the entire product as decided by the customer/proxy.

3. B. Based on the mutual understanding that has been established, the team makes a soft commitment to a specific set of features for the iteration backlog. Directly following the soft commitment, while the product owner is still immediately available to clarify any unexpected additional questions, the team discusses the approach they will use to create the deliverables, decomposes the user stories into tasks, and does detailed estimating of each task. Once the team has finalized their analysis and agreed they can succeed, they make a hard commitment to the specific set of features that will be delivered to the Product Owner at the end of the iteration.

4. A. Directly following the soft commitment, while the product owner is still immediately available to clarify any unexpected additional questions, the team discusses the approach they will use to create the deliverables, decomposes the user stories into tasks, and does detailed estimating of each task. Once the team has finalized their analysis and agreed they can succeed, they make a hard commitment to the specific set of features that will be delivered to the Product Owner at the end of the iteration.

5. C. Once the team has finalized their analysis and agreed they can succeed, they make a hard commitment to the specific set of features that will be delivered to the Product Owner at the end of the iteration. The hard commitment signals that the iteration has been initiated.

6. D. A third advantage is that user stories align with the Lean principle of deferred commitments. Because the team and customer/proxy know a placeholder exists – and their concern won’t get forgotten – they are encouraged to defer spending precious time and expensive resources discussing details too early. This technique avoids the mistake of “false precision,” uses resources wisely in time-constrained projects, and enables the team to very quickly get focused on high priority stories and developing them.

7. A. The practice of not doing a detailed estimate of stories to be done far in the future employs the Lean principle of deferred commitments. Because the team and customer/proxy know a placeholder exists – and their concern won’t get forgotten – they are encouraged to defer spending precious time and expensive resources discussing details too early.

8. C. Face-to-face (F2F) communication is more effective and thus preferable to the agile team than are other modes of communication. This preference must be balanced against Cockburn’s barely sufficient philosophy, which advocates doing only what is necessary to
achieve success. If a stakeholder cannot be present physically at a retrospective meeting for face-to-face communication, then the next best mode of communication (i.e., a teleconference) must be sufficient.

9. **A.** Building trust occurs when an agile team delivers a quality product according to schedule. Weick's principle of small wins tells us that delivering a quality product at regular intervals – even if the project scope is small – is a motivating reward for the project team. Just as importantly, it inspires confidence in stakeholders.

10. **B.** In agile, the art of looking ahead to learn the unknown and reduce uncertainty as quickly as possible is known as scanning. Scanning reduces risk by proactively gathering information early enough in the process to make desirable changes while it is still inexpensive to do so. Scanning, of course, entails active listening.

11. **B.** The purpose of the value-driven delivery process is to help stakeholders clarify and articulate their values and priorities early in the project management process. A second purpose is to identify for the team which components of the solution are most important and to create a documenting mechanism to manage the follow-up conversations that will be required to define and direct the work efforts of the team.

12. **D.** Value stream mapping is a technique that was developed in the Lean manufacturing field to analyze, and potentially redesign, the flow of materials and information required to deliver a product or service to the customer. It documents the value stream using icons or pictures then analyzes the stream for waste. The focus is on reducing the total time from beginning to end of the entire stream, without taking shortcuts now at the expense of opportunities in the future.

13. **A.** The value stream target is a particular product or service, or sometimes a product or service group, family or category where improvement can provide strategic and competitive advantage.

14. **B.** The project data sheet (PDS) captures a project's objectives in a minimalist document that is typically one page long and contains the key objectives, capabilities, and information needed to understand the purpose and progress of the project.

15. **A.** An elevator statement is an uncomplicated way to define the product vision in a short statement, using language everyone can understand.

16. **D.** Adaptive planning, as commonly practiced, entails incremental delivery cycles, which are referred to by various names such as iterations or sprints. Each iteration is a single timebox during which specific agreed upon deliverables will be constructed and then demonstrated to the stakeholders.

17. **C.** Iteration length should be chosen to optimize the amount, frequency, and timeliness of feedback shared by the agile team and the product owner. Because the feedback loop is a key control that limits the risk of the team spending time and effort incorrectly developing a product or service due to a misunderstanding of the Product Owner's vision, shorter iterations may save a significant amount of rework.

18. **C.** The roadmap is most equivalent to program level planning and it is decomposed into release plans, which are most equivalent to project schedules in traditional project management.
19. **B.** The MMF is the smallest set of functionality that provides satisfactory customer value.

20. **B.** Servant leadership includes a number of skills and techniques, all aimed at developing and facilitating the agile project team including facilitating (and not controlling) team meetings, such as release planning, daily stand-ups, demonstrations, reflection workshops, reviews, and retrospectives.

### Chapter End Notes


2. Ibid.

3. Ibid.


10. The Fibonacci sequence was introduced Western European mathematics by Leonardo of Pisa, also known as Fibonacci, in his book Liber Abaci in 1202, although the sequence had been described earlier in Indian mathematics. It is a non-linear sequence where each subsequent number is the sum of the previous two. Over the centuries it has been used in biological sciences to describe branching in trees, fruit spouts on pineapples, and uncurling of ferns. More recently its applications have included computer search algorithms, graphs of interconnecting parallel and distributed systems. In Agile Project Management it is used in the process of defining the size of user stories.


14. Knowledge Structures, Inc., 2031 Rockwood Drive, Sacramento, CA 95864

