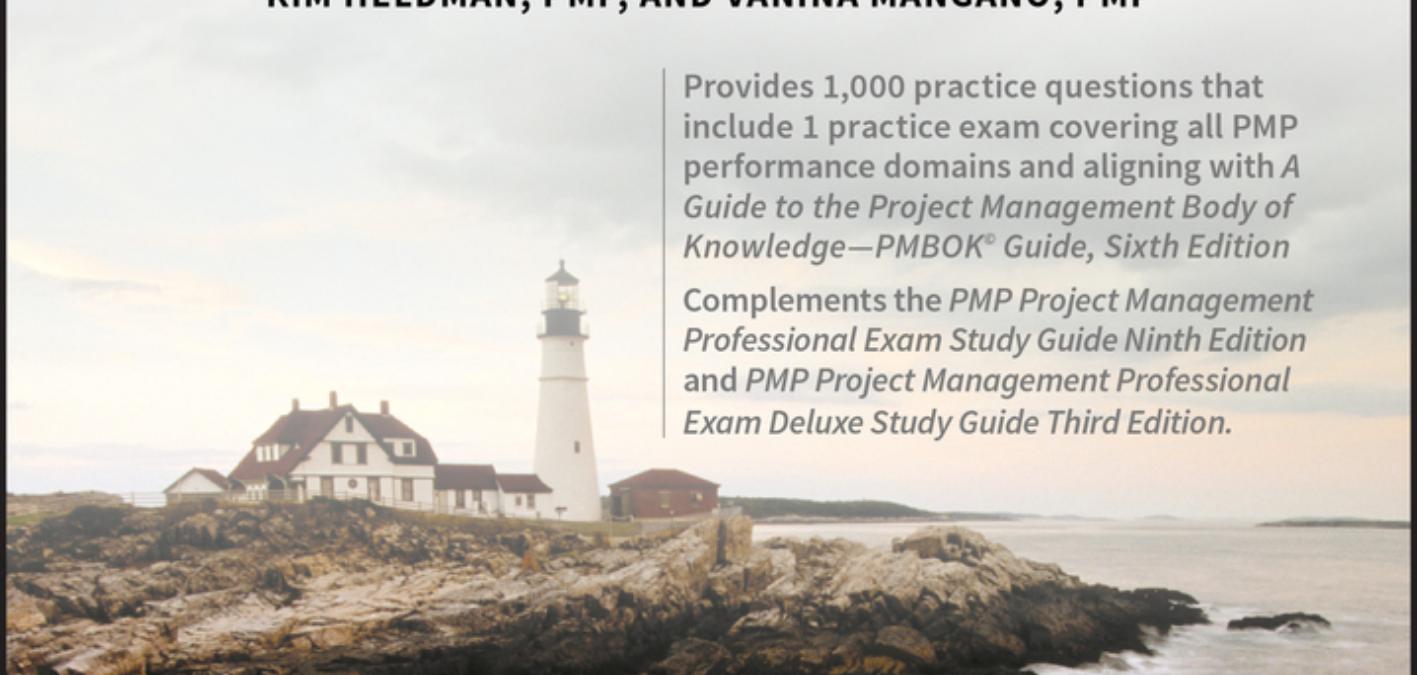


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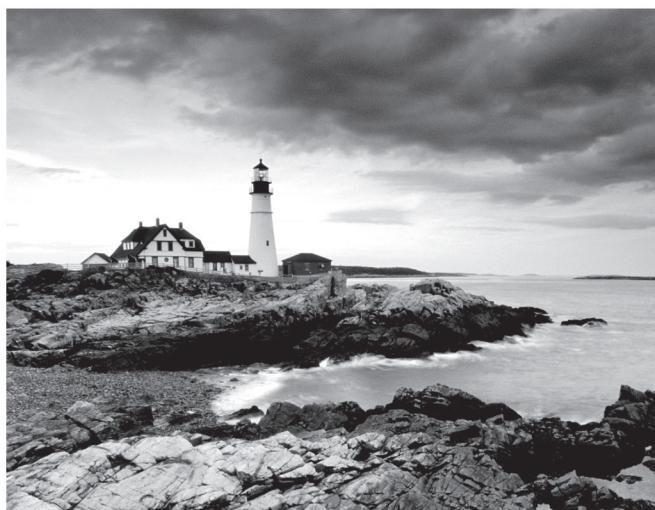
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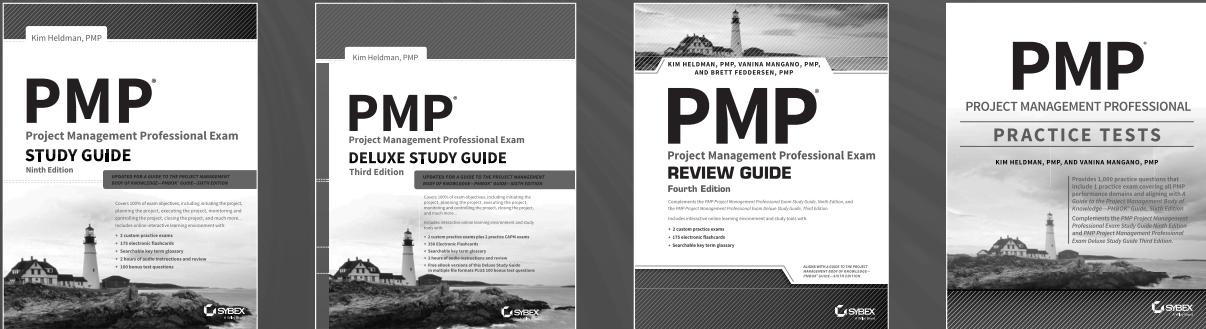
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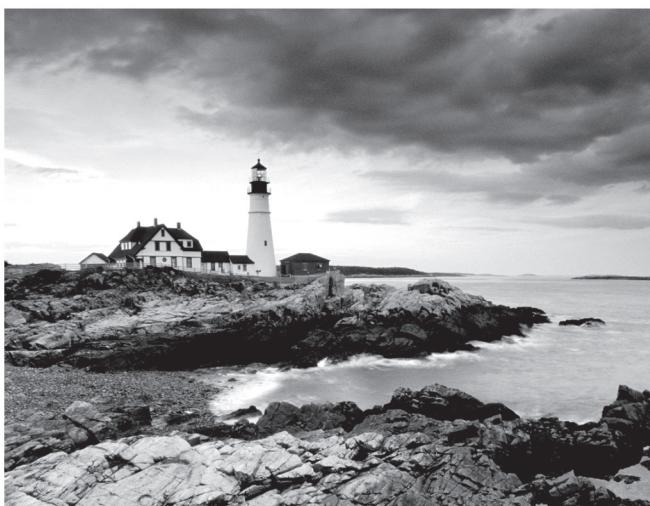


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To BB, my forever love.

—Kim Heldman

To my incredible family, who make every day worth living.

—Vanina Mangano

Acknowledgments

I am humbled to be part of such a great team who helped in developing this book, and my other Sybex books, on project management. It takes a strong, dedicated team to produce a book and I appreciate the help and support of all the Sybex team members who made this happen.

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Last, but always the first on my list, is my best friend for a few decades and counting, BB. I love you, and I would never have accomplished what I have to date without your love and support. You're the best! And I'd be remiss if I didn't also thank Jason and Leah, Noelle, Amanda, and Joe, and of course the two best granddaughters on the planet, Kate and Juliette, for their support and encouragement.

—Kim Heldman

I'd like to thank the team at Sybex for the opportunity to develop this book. I'm always amazed at the teamwork and effort that goes into the making and editing of a book, and each role involved is a critical one.

I'd like to give a special thanks to Kim Heldman, who I have enjoyed collaborating with over the years. I'm grateful to have had a glimpse into the warm and personable individual that she is in reality—just as she comes through in her books! Kim is a role model to all of us within the project management community, and I'm proud to have coauthored materials with her.

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A special thanks to the individuals who are such a big part of my life and who have always influenced me in a magnificent way. This includes my family, Nicolas Mangano, Marysil Mangano, Nicolas Mangano, Jr., and Carina Moncrief; and my beautiful nieces, Kaylee, Alyssa, Yasmin, and Rianna—you mean everything to me! Thank you to Roshoud Brown, a brilliant and talented author; Roshoud has served as a constant source of inspiration over the past 20 years.

—Vanina Mangano

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—The Authors

About the Authors

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Kim oversees the IT portfolio of projects ranging from projects small in scope and budget to multimillion-dollar, multiyear projects. She has more than 25 years of experience in information technology project management. Kim has served in a senior leadership role for more than 18 years and is regarded as a strategic visionary with an innate ability to collaborate with diverse groups and organizations, instill hope, improve morale, and lead her teams in achieving goals they never thought possible.

Kim is the author of the *PMP®: Project Management Professional Study Guide, Ninth Edition*. She is also the author of *Project Management JumpStart, Fourth Edition*; *CompTIA Project+, Second Edition*; and *Project Manager's Spotlight on Risk Management*. Kim has also published several articles and is currently working on a leadership book.

Kim continues to write about project management best practices and leadership topics, and she speaks frequently at conferences and events. You can contact Kim at Kim.Heldman@gmail.com. She personally answers all her email.

Vanina Mangano Over the past decade, Vanina has specialized in working with and leading project, program, and portfolio management offices (PMOs) across various industries and companies, most recently at NBCUniversal and AMN Healthcare. Currently, Vanina leads a project portfolio management office (PMO) at Microsoft Corporation.

As part of her contribution to the community, Vanina devotes time to furthering the project management profession through her volunteer work at the Project Management Institute. Vanina is currently a member of PMI's Standards Member Advisory Group, where she serves in an advisory role for all matters related to the governance and management of the PMI Standards Program. She has also served as chair for *The Standard for Program Management, Fourth Edition*, and played a role in several other PMI standards and practice guides, including *A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Sixth Edition*.

Vanina holds a dual bachelor's degree from the University of California, Riverside, and holds the following credentials: Project Management Professional (PMP®), PMI® Risk Management Professional (PMI-RMP®), PMI® Scheduling Professional (PMI-SP)®, CompTIA Project+, and ITIL Foundation v3.

You can reach Vanina through LinkedIn: <https://www.linkedin.com/in/vaninam/>.

Contents at a Glance

<i>Introduction</i>		xv
Chapter 1	Initiating (Domain 1.0)	1
Chapter 2	Planning (Domain 2.0)	39
Chapter 3	Executing (Domain 3.0)	79
Chapter 4	Monitoring and Controlling (Domain 4.0)	117
Chapter 5	Closing (Domain 5.0)	153
Chapter 6	Full-Length Practice Exam	189
Appendix	Answers Appendix	233
<i>Index</i>		325

Contents

<i>Introduction</i>		xv
Chapter 1	Initiating (Domain 1.0)	1
Chapter 2	Planning (Domain 2.0)	39
Chapter 3	Executing (Domain 3.0)	79
Chapter 4	Monitoring and Controlling (Domain 4.0)	117
Chapter 5	Closing (Domain 5.0)	153
Chapter 6	Full-Length Practice Exam	189
Appendix	Answers Appendix	233
Chapter 1: Initiating (Domain 1.0)		234
Chapter 2: Planning (Domain 2.0)		247
Chapter 3: Executing (Domain 3.0)		263
Chapter 4: Monitoring and Controlling (Domain 4.0)		276
Chapter 5: Closing (Domain 5.0)		289
Chapter 6: Full-Length Practice Exam		304
<i>Index</i>		325

Introduction

Congratulations on your decision to pursue the Project Management Professional (PMP)[®] credential, one of the most globally recognized credentials within the project management industry. The PMP[®] credential is offered by the Project Management Institute (PMI[®]), a not-for-profit organization with thousands of members across the globe. PMI[®] has been a long-standing advocate and contributor to the project management industry and offers several credentials for those specializing in the field of project management.

This book is meant for anyone preparing for the PMP[®] certification exam. Whether you are in the final stages of preparation, interested in familiarizing yourself with the question formats, or simply looking for additional practice in answering exam questions, this book has you covered. Those studying for the Certified Associate in Project Management (CAPM)[®] exam will also benefit, since both the PMP[®] and CAPM[®] certification exams are largely based on content from *A Guide to the Project Management Body of Knowledge (PMBOK[®] Guide), Sixth Edition*, and follow a similar structure.

When it comes to preparing for an exam, knowing the core concepts is essential, but strengthening your test-taking skills is also important. One common test-taking method is based on an old saying: “Practice makes perfect.” The structure of this book coincides with the *PMP[®]: Project Management Professional Exam Review Guide, Fourth Edition*, also published by Sybex, which is intended to be an easy reference guide for the contents covered within the *PMBOK[®] Guide, Sixth Edition*, in addition to other material you need to know. The *Review Guide* provides a summary of concepts included on the exam, organized by exam domain. This book tests your knowledge of the tasks covered by the exam domains with the goal of exposing you to questions formatted similarly to those you would find on the actual exam. The more questions that you expose yourself to, the more you will be prepared on exam day.

Book Structure

This book has been structured to coincide with the exam domains presented in the *PMP[®] Examination Content Outline*, published by PMI. Each exam domain covers tasks associated with the project management process groups.

- Initiating
- Planning
- Executing
- Monitoring and Controlling
- Closing

An explanation is provided after each practice test to help you learn the concepts. The final chapter of this book includes a full-length exam.



It's a good idea to complete the full-length exam included within the final chapter of this book in a timed sitting. This will partially simulate the experience of exam day, when you will need to answer a set of 200 questions within a four-hour period.

Overview of PMI® Credentials

PMI® offers several credentials within the field of project management, so whether you are an experienced professional or looking to enter the project management field for the first time, you'll find something to meet your needs. You may hold one or multiple credentials concurrently.

Over the years, PMI® has contributed to the project management body of knowledge by developing global standards used by thousands of project management professionals and organizations. In total, there are four foundational standards, seven practice standards, and four practice guides, all grouped within the following categories:

- Projects
- Programs
- Profession
- Organizations
- People

Several credentials offered by PMI® are based on the *PMBOK® Guide*, which is part of the Projects category. As of the publication date of this book, PMI® offers eight credentials. Let's briefly go through them.

Project Management Professional (PMP)®

You are most likely familiar with the PMP® credential—after all, you purchased this book! But did you know that the PMP® certification is the most widely and globally recognized project management certification? The PMP®, along with several other credentials, validates your experience and knowledge of project management. This makes obtaining a PMP® in itself a great achievement. The following requirements are necessary to apply for the PMP® exam:

Work Experience The following work experience must have been accrued over the past eight consecutive years:

- If you have a bachelor's degree or the global equivalent: three years (36 months) of non-overlapping project management experience, totaling at least 4,500 hours
- If you have a high-school diploma, associate's degree, or global equivalent: five years (60 months) of non-overlapping project management experience, totaling at least 7,500 hours

Contact Hours “Contact hours” refers to the number of qualified formal educational hours obtained that relate to project management. A total of 35 contact hours is required and must be completed before you submit your application.

Certified Associate in Project Management (CAPM)®

The CAPM® credential is ideal for someone looking to enter the project management industry. You may meet the requirements through work experience *or* through formal project management education. If you do not currently have project management experience, you may apply if you have accumulated the requisite number of formal contact hours.

Work Experience 1,500 hours of formal project management experience

Contact Hours 23 contact hours of formal project management education

Program Management Professional (PgMP)®

The PgMP® credential is ideal for those who specialize in the area of program management or would like to highlight their experience of program management. A PMP® is not required to obtain this or any other credential. You must meet the following requirements to apply for the PgMP® exam:

Work Experience The following work experience must have been accrued over the past 15 consecutive years:

- If you have a bachelor’s degree or global equivalent: four years of non-overlapping project management experience, totaling at least 6,000 hours, *and* four years of non-overlapping program management experience, totaling 6,000 hours
- If you have a high-school diploma, associate’s degree, or global equivalent: four years of non-overlapping project management experience, totaling at least 6,000 hours, *and* seven years of non-overlapping program management experience, totaling 10,500 hours

Portfolio Management Professional (PfMP)®

The PfMP® is meant for those specializing in the area of portfolio management. It reflects several years of hands-on portfolio management experience, geared toward achieving strategic objectives. You must meet the following requirements to apply for the PfMP® exam:

Work Experience The following work experience must have been accrued over the past 15 consecutive years:

- If you have a bachelor’s degree or global equivalent: 6,000 hours of portfolio management experience, plus eight years (96 months) of professional business experience
- If you have a high-school diploma, associate’s degree, or global equivalent: 10,500 hours of portfolio management experience, plus eight years (96 months) of professional business experience

PMI Risk Management Professional (PMI-RMP)[®]

The PMI-RMP[®] credential is ideal for those who specialize in the area of risk management or would like to highlight their risk management experience. The following are the requirements to apply for the PMI-RMP[®] exam:

Work Experience The following work experience must have been accrued over the past five consecutive years:

- If you have a bachelor's degree or global equivalent: 3,000 hours of professional project risk management experience
- If you have a high-school diploma, associate's degree, or global equivalent: 4,500 hours of professional project risk management experience

Contact Hours

- If you have a bachelor's degree or global equivalent: 30 contact hours in the area of risk management
- If you have a high-school diploma, associate's degree, or global equivalent: 40 contact hours in the area of risk management

PMI Scheduling Professional (PMI-SP)[®]

The PMI-SP[®] credential is ideal for those who specialize in the area of project scheduling or who would like to highlight their project scheduling experience. You must meet the following requirements to apply for the PMI-SP[®] exam:

Work Experience The following work experience must have been accrued over the past five consecutive years:

- If you have a bachelor's degree or global equivalent: 3,500 hours of professional project scheduling experience
- If you have a high-school diploma, associate's degree, or global equivalent: 5,000 hours of professional project scheduling experience

Contact Hours

- If you have a bachelor's degree or global equivalent: 30 contact hours in the area of project scheduling
- If you have a high-school diploma, associate's degree, or global equivalent: 40 contact hours in the area of project scheduling

PMI Agile Certified Professional (PMI-ACP)[®]

The PMI-ACP[®] credential is ideal for those who work with Agile teams or practices. The PMI-ACP[®] covers approaches such as Scrum, Kanban, Lean, Extreme Programming (XP), and Test-Driven Development (TDD). You must meet the following requirements to apply for the PMI-ACP[®] exam:

Work Experience The following work experience must have been accrued:

- 2,000 hours (12 months) working on projects teams—accrued in the last 5 years
- 1,500 hours (8 months) working on project teams using Agile methodologies—achieved in the last 3 years

Contact Hours

- 21 hours of formal Agile training

PMI Professional in Business Analysis (PMI-PBA)[®]

The PMI-PBA[®] credential is meant for those specializing in business analysis. This credential is ideal for those managing requirements or product development. You must meet the following requirements to apply for the PMI-PBA[®] exam:

Work Experience The following work experience must have been accrued over the past eight consecutive years:

- If you have a bachelor's degree or global equivalent: 4,500 hours of professional business analysis experience, and 2,000 hours of general project experience
- If you have a high-school diploma, associate's degree, or global equivalent: 7,500 hours of business analysis experience, and 2,000 hours of general project experience

Contact Hours

- 35 hours of formal training in the area of business analysis practices



For the latest information regarding the PMI[®] credentials and other exam information, you can visit PMI[®]'s website at www.PMI.org.

Day of the Exam

After gaining the necessary prerequisites to sit for the exam, the PMP[®] exam itself serves as the final measure to earning your certification. You are already well ahead of the game in preparing for the exam when you purchase this book. The preparation you put forth will help you show up on the day of the exam in a calm and confident state. Throughout the course of this book, you will find sections that offer tips of what to do on the day of the exam. While you are not allowed to take anything into the exam, you are given scratch paper to work with during your exam. Using the tips in this book, before you begin the exam, you can jot down notes that will free your mind to focus fully on the questions. In the days leading up to the exam, we recommend that you practice creating your reference sheet by memorizing the mnemonics, formulas, and other information that you will need.

Clearly, standard test-taking advice is relevant here, such as getting a good night's sleep, eating a good breakfast, and going through relaxation exercises before you are called into the exam room. In addition, during the exam:

- Take the time to read through each question slowly and completely. Fully understanding what is being asked in the question can contribute greatly to getting the right answer.
- You will be given the ability to mark a question if you are unsure of your answer or are unable to come up with the answer. Take advantage of this feature, so you can move on to the next question. At the end of the exam, you can come back and review your answers and take more time to answer questions that escaped your answer earlier in the process.

You have four hours to complete an examination of 200 questions. Tell yourself that it is **more important to pass than it is to go home early**. If it will help, write that statement at the top of your reference scratch paper so you can remind yourself of this ideal. In a four-hour examination, it is possible to get fatigued and just want to be done with it. Make sure you keep your focus and energy on success.



It's a good idea to use scratch paper given to you for use during your exam to jot down formulas and other information memorized that you may forget if you become mentally exhausted midway through the exam. Keep in mind that you cannot use your scratch paper until the exam time officially starts.

For more information from PMI® on preparing for the exam, be sure to review www.pmi.org and search for *PMP Exam Guidance* for more valuable resources.

Project Management Professional (PMP)[®]: Exam Domains and Tasks

The PMP[®] exam is based on five exam domains: Initiating, Planning, Executing, Monitoring and Controlling, and Closing. Each exam domain encompasses a series of tasks, as published by PMI within the Project Management Professional (PMP)[®] Examination Content Outline. The table below maps these exam domain tasks to the corresponding chapter that contains sample practice test questions relating to the tasks. In addition to the reference table below, you will find exam domain tasks listed at the beginning of each corresponding chapter.

Exam Domain	Chapter
Initiating (Domain 1.0)	
Perform project assessment based upon available information, lessons learned from previous projects, and meetings with relevant stakeholders in order to support the evaluation of the feasibility of new products or services within the given assumptions and/or constraints.	1
Identify key deliverables based on the business requirements in order to manage customer expectations and direct the achievement of project goals.	1
Participate in the development of the project charter by compiling and analyzing gathered information in order to ensure project stakeholders are in agreement on its elements.	1
Identify high-level risks, assumptions, and constraints based on the current environment, organizational factors, historical data, and/or expert judgment, in order to propose an implementation strategy.	1
Obtain project charter approval from the sponsor in order to formalize the authority assigned to the project manager and gain commitment and acceptance for the project.	1
Perform stakeholder analysis using appropriate tools and techniques in order to align expectations and gain support for the project.	1
Conduct benefit analysis with relevant stakeholders to validate project alignment with organizational strategy and expected business value.	1
Inform stakeholders of the approved project charter to ensure common understanding of the key deliverables, milestones, and their roles and responsibilities.	1

Exam Domain	Chapter
Planning (Domain 2.0)	
Review and assess detailed project requirements, constraints, and assumptions with stakeholders based on the project charter, lessons learned, and by using gathering techniques in order to establish detailed project deliverables.	2
Develop a scope management plan based on the approved project scope and using scope management techniques, in order to define, maintain, and manage the scope of the project.	2
Develop the project schedule based on the approved project deliverables and milestones, scope, and resource management plans in order to manage timely completion of the project.	2
Develop the cost management plan based upon the project scope, schedule, resources, approved project charter and other information, using estimating techniques, in order to manage project costs.	2
Develop the quality management plan and define the quality standards for the project and its products, based on the project scope, risks, and requirements in order to prevent the occurrence of defects and reduce the cost of quality.	2
Develop the human resource management plan by defining the roles and responsibilities of the project team members in order to create a project organizational structure and provide guidance regarding how resources will be assigned and managed.	2
Develop the communications management plan based on the project organizational structure and stakeholder requirements in order to define and manage the flow of project information.	2
Develop the procurement management plan based on the project scope, budget, and schedule in order to ensure that the required project resources will be available.	2
Develop the change management plan by defining how changes will be addressed and controlled in order to track and manage change.	2
Plan for risk management plan by developing a risk management plan; identifying, analyzing, and prioritizing project risk; creating the risk register; and defining risk response strategies in order to manage uncertainty and opportunity throughout the project life cycle.	2
Present the project management plan to the relevant stakeholders according to applicable policies and procedures in order to obtain approval to proceed with project execution.	2

Exam Domain	Chapter
Conduct kick-off meeting, communicating the start of the project, key milestones, and other relevant information in order to inform and engage stakeholders and gain commitment.	2
Develop the stakeholder engagement plan by analyzing needs, interests, and potential impact in order to effectively manage stakeholders' expectations and engage them in project decisions.	2
Executing (Domain 3.0)	
Acquire and manage project resources by following the human resource and procurement management plans in order to meet project requirements.	3
Manage task execution based on the project management plan by leading and developing the project team in order to achieve project deliverables.	3
Implement the quality management plan using the appropriate tools and techniques in order to ensure that work is being performed in accordance with required quality standards.	3
Implement approved changes and corrective actions by following the change management plan in order to meet project requirements.	3
Implement approved actions by following the risk management plan in order to minimize the impact of the risks and take advantage of opportunities on the project.	3
Manage the flow of information by following the communications plan in order to keep stakeholders engaged and informed.	3
Maintain stakeholder relationships by following the stakeholder management plan in order to receive continued support and manage expectations.	3
Monitoring and Controlling (Domain 4.0)	
Measure project performance using appropriate tools and techniques in order to identify and quantify any variances and corrective actions.	4
Manage changes to the project by following the changed management plan in order to ensure that project goals remain aligned with business needs.	4
Verify that project deliverables conform to the quality standards established in the quality management plan by using appropriate tools and techniques to meet project requirements and business needs.	4

Exam Domain	Chapter
Monitor and assess risk by determining whether exposure has changed and evaluating the effectiveness of response strategies in order to manage the impact of risks and opportunities on the project.	4
Review the issue log, update if necessary, and determine corrective actions by using appropriate tools and techniques in order to minimize the impact on the project.	4
Capture, analyze, and manage lessons learned, using lessons learned management techniques in order to enable continuous improvement.	4
Monitor procurement activities according to the procurement plan in order to verify compliance with project objectives.	4
Closing (Domain 5.0)	
Obtain final acceptance of the project deliverables from relevant stakeholders in order to confirm that project scope and deliverables were achieved.	5
Transfer the ownership of deliverables to the assigned stakeholders in accordance with the project plan in order to facilitate project closure.	5
Obtain financial, legal, and administrative closure using generally accepted practices and policies in order to communicate formal project closure and ensure transfer of liability.	5
Prepare and share the final project report according to the communications management plan in order to document and convey project performance and assist in project evaluation.	5
Collate lessons learned that were documented throughout the project and conduct a comprehensive project review in order to update the organization's knowledge base.	5
Archive project documents and materials using generally accepted practices in order to comply with statutory requirements and for potential use in future projects and audits.	5
Obtain feedback from relevant stakeholders using appropriate tools and techniques and based on the stakeholder management plan in order to evaluate their satisfaction.	5

Chapter

1



Initiating (Domain 1.0)

THE PROJECT MANAGEMENT PROFESSIONAL (PMP)® EXAM CONTENT FROM THE INITIATING THE PROJECT PERFORMANCE DOMAIN COVERED IN THIS CHAPTER INCLUDES THE FOLLOWING:

- ✓ Perform project assessment based upon available information, lessons learned from previous projects, and meetings with relevant stakeholders in order to support the evaluation of the feasibility of new products or services within the given assumptions and/or constraints.
- ✓ Identify key deliverables based on the business requirements in order to manage customer expectations and direct the achievement of project goals.
- ✓ Participate in the development of the project charter by compiling and analyzing gathered information in order to ensure project stakeholders are in agreement on its elements.
- ✓ Identify high-level risks, assumptions, and constraints based on the current environment, organizational factors, historical data, and expert judgment, in order to propose an implementation strategy.
- ✓ Obtain project charter approval from the sponsor, in order to formalize the authority assigned to the project manager and gain commitment and acceptance for the project.
- ✓ Perform stakeholder analysis using appropriate tools and techniques in order to align expectations and gain support for the project.

- 
- ✓ **Conduct benefit analysis with relevant stakeholders to validate project alignment with organizational strategy and expected business value.**
 - ✓ **Inform stakeholders of the approved project charter to ensure common understanding of the key deliverables, milestones, and their roles and responsibilities.**



The process names, inputs, tools and techniques, outputs, and descriptions of the project management process groups and related materials and figures in this chapter are based on content from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Sixth Edition* (PMI®, 2017).

1. A project manager has just been assigned to a newly approved project and has been tasked with developing the first draft of the project charter. To better understand the financials, the project manager decides to review the net present value and payback period calculated for the project. Which of the following inputs can the project manager reference for this information?
 - A. Project budget
 - B. Business case
 - C. Benefits management plan
 - D. Project charter
2. Quincy and Michael are two executives of Widgets for Life, a company providing the latest cool lifestyle gadgets. As part of their annual planning process, they sit down to evaluate three projects linked to their department objectives. They decide to use benefit measurement methods to help them choose which project to select. Which of the following analysis tools are they likely to use?
 - A. Linear
 - B. Benefit-cost ratio
 - C. Multi-objective programming
 - D. Nonlinear
3. Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. Three months into the project, she kicks off the second phase of a project that is developing high-tech dog bones. As part of her practice, she sits down with her sponsor to determine whether there are any new players that they missed in the first phase, and they hold a discussion on the direction of influence of these new stakeholders. What process is Carina carrying out?
 - A. Plan Stakeholder Engagement
 - B. Identify Stakeholders
 - C. Plan Resource Management
 - D. Identify Risks
4. Quincy and Michael are two executives of Widgets for Life, a company providing the latest cool lifestyle gadgets. They have recently selected the next big project and have assigned you as the project manager. This activity is associated with what process group?
 - A. Initiating
 - B. Planning
 - C. Executing
 - D. Monitoring and Controlling
5. The project processes are iterative, are results oriented, and interact with each other. Shewhart and Deming developed a concept that reflects this idea. Which of the following is the name of this cycle?
 - A. Plan-Do-Check-Act
 - B. Initiate-Requirements-Execute-Close
 - C. Select-Plan-Monitor-Act
 - D. Strategize-Justify-Choose-Execute-Control

6. All of the following are types of project management offices (PMOs) except for which one?
 - A. Directive
 - B. Center of Excellence
 - C. Supportive
 - D. Controlling
7. Kaylee has been managing projects for more than a decade and has largely used the Waterfall method. She has recently taken a new job for a company that builds software for mobile devices and has begun studying the Agile method, which is largely used by this company. She begins by studying the Agile principles. What is the formalized document called that identifies 12 principles of the Agile approach?
 - A. Agile Principles
 - B. Agile Charter
 - C. Agile Manifesto
 - D. Book of Agile
8. All of the following are tools and techniques of the Identify Stakeholders process except for which one?
 - A. Meetings
 - B. Data representation
 - C. Expert judgment
 - D. Agreements
9. All of the following are true regarding project life cycles except for which one?
 - A. In the beginning of the project life cycle, costs are low, and few team members are assigned to the project.
 - B. Toward the end of the project, stakeholders have the greatest chance of influencing a project.
 - C. Risk is highest at the beginning of the project and gradually decreases over the project's life cycle.
 - D. The potential of a project ending successfully is lowest at the beginning and increases as the project progresses through its life cycle.
10. You are a project manager and work in an organization that is considered to be a weak-matrix organizational type. What is a disadvantage of working in this type of organization?
 - A. You have little authority.
 - B. You have limited funds.
 - C. You can only use the Waterfall methodology.
 - D. You have job and role stability.

11. According to the Project Management Institute (PMI), a good project manager spends how much time communicating?
 - A. 50 percent
 - B. 75 percent
 - C. 90 percent
 - D. 100 percent
12. You are the project manager for a project that will produce a mobile phone application that sends alerts when the UV rays are at dangerous levels, alerting users to stay indoors. You are in the process of acquiring resources to staff the project and obtaining responses from bidders on work that is being outsourced. These activities are associated with what process group?
 - A. Planning
 - B. Executing
 - C. Monitoring and Controlling
 - D. Closing
13. Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. She has just obtained approval of the project management plan and is about to publish it to the project team. What process group are the activities she is performing associated with?
 - A. Initiating
 - B. Planning
 - C. Executing
 - D. Monitoring and Controlling
14. Phase endings are characterized by which of the following?
 - A. Deliverables quality analysis and written sign-off
 - B. Completion, review, and approval of deliverables
 - C. Deliverables review and written sign-off
 - D. Completion, quality analysis, and approval of deliverables
15. Your project has kicked off, and you are beginning a series of overview sessions with key users to determine requirements for a new enterprise resource software implementation. One of your stakeholders is exceptionally contentious and throws obstacles up at every turn. One of the problems she has described does seem to be legitimate. There is an issue with the data from the legacy system that needs to be resolved before moving forward. Which of the following statements is not true regarding this situation?
 - A. You should approach this by defining the problem and focus on separating causes and symptoms.
 - B. You should use a two-step process involving problem definition and decision-making.
 - C. Your decision-making has a timing element.
 - D. Your decision-making involves asking questions to determine whether the issues are internal or external to the project.

- 16.** Which of the following is true?
- A.** There are five project management process groups, and they are Initiating, Planning, Executing, Monitoring and Controlling, and Closing.
 - B.** There are 55 project management processes, which can be grouped by process group or Knowledge Area.
 - C.** There are 10 project management Knowledge Areas, whose processes are performed sequentially.
 - D.** There are five project management process groups, and they are Initiating, Planning, Managing, Monitoring, and Closing.
- 17.** Your project has kicked off, and you are beginning a series of overview sessions with key users to determine requirements for a new enterprise resource software implementation. One of your stakeholders is exceptionally contentious and throws obstacles up at every turn. One of the problems she has described does seem to be legitimate. There is an issue with the data from the legacy system that needs to be resolved before moving forward. The PMO you report to practices phase sequencing and requires closure of each phase before the next phase can begin. What is this process called?
- A.** Gate exit
 - B.** Phase review
 - C.** Phase exit
 - D.** Stage review
- 18.** Sue is the head of an enterprise project management office (PMO). She delivers a presentation at the annual company meeting to describe her roles and responsibilities and the value of the PMO. As part of her presentation, she notes that the PMO is responsible for ensuring that projects, programs, and portfolios are aligned and managed according to the organization's strategic business objectives. What is this referred to as?
- A.** Business management
 - B.** PMI Talent Triangle™
 - C.** Organizational project management
 - D.** Project portfolio management
- 19.** Direct and Manage Project Work, Manage Quality, and Conduct Procurements are processes belonging to what project management process group?
- A.** Planning
 - B.** Executing
 - C.** Monitoring and Controlling
 - D.** Closing

- 20.** Which of the following statements best describes stakeholders?
- A.** An individual, group, or organization that may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project.
 - B.** Individuals assigned to carry out the work of the project, as defined by the project management plan.
 - C.** The person assigned by the performing organization to lead the team that is responsible for achieving the project objectives.
 - D.** An individual or a group that provides resources and support for the project and is accountable for enabling success.
- 21.** Sally and Joe are two project managers working in the corporate offices of a popular fast food franchise. They are both studying for their PMP® certification, and they have a spirited debate over who is responsible for managing and performing project Integration. Sally claims it is the project sponsor, while Joe adamantly insists it is the project manager. Who is correct?
- A.** Both
 - B.** Sally
 - C.** Joe
 - D.** Neither
- 22.** You are the newly appointed project manager of a high-profile, critical project for your organization. The project team is structured outside your normal organizational structure, and you have full authority for this project. What type of organization does this describe?
- A.** Hybrid
 - B.** Strong matrix
 - C.** Functional
 - D.** Balanced matrix
- 23.** Yasmin is a senior project manager who has just taken on a project that will produce a new line of medical widgets for a Fortune 100 company. The entire industry is buzzing with excitement over this project, which is estimated to span three years and require an investment of \$1.5 billion from the company. What type of project is this?
- A.** Megaproject
 - B.** Strategic project
 - C.** Program
 - D.** Portfolio
- 24.** You work in an organization that is considered to be a project-oriented organizational type. What is an advantage of working in this type of organization?
- A.** You have high to almost total access to resources.
 - B.** You have unlimited access to funds.
 - C.** You are a part-time PM and can straddle two roles.
 - D.** You have job and role stability.

- 25.** Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. She has just finished developing the project charter of a project that will create a new line of high-tech dog bones. What is the significance of the project charter?
- A.** Once approved, the project team can begin working on the project.
 - B.** Once approved, the project manager can begin carrying out planning activities.
 - C.** Once approved, the project sponsor can begin allocating funds to the project.
 - D.** Once approved, it gives the project manager authority to apply resources to the project.
- 26.** A project manager considers how best to navigate through the politics of the organization where most of their project team reside. What skill set is the project manager exercising?
- A.** Technical project management
 - B.** Leadership
 - C.** Strategic and business management
 - D.** Stakeholder management
- 27.** You are a project manager working on contract. The organization that's contracted with your company is not happy with the progress of the project to date. They claim that an important deliverable was overlooked and that you should halt the project and reassess how to meet this deliverable. You know that the customer has approved all phases of the project to date. Which of the following statements is true?
- A.** You and your company might have to use problem-solving techniques such as arbitration and mediation to reach an agreement.
 - B.** You and your company might have to use communication techniques such as arbitration and mediation to reach an agreement.
 - C.** You and your company might have to use negotiation techniques such as arbitration and mediation to reach an agreement.
 - D.** You and your company might have to use influencing techniques such as arbitration and mediation to reach an agreement.
- 28.** Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. She has just obtained approval of the project management plan and is about to publish it to the project team. At this point in the project life cycle, costs are likely to be which of the following?
- A.** Lowest
 - B.** Low
 - C.** High
 - D.** Highest
- 29.** What brings together a set of tools and techniques to describe, organize, and monitor the work of project activities?
- A.** Projects
 - B.** Project management

- C. Portfolio management
 - D. Programs
- 30.** Which of the following best describes the purpose of the Monitoring and Controlling process group?
- A. Formulating and revising project goals and objectives, and creating the project management plan
 - B. Putting the project management plan into action
 - C. Measuring and analyzing project performance to determine whether the project is progressing according to the plan
 - D. Bringing the project or phase to a formal, orderly end
- 31.** A project manager has facilitated the decomposition of work packages into activities. She next carries the team through several exercises to identify predecessor and successor activities. The project manager is performing activities associated with which Knowledge Area?
- A. Project Scope Management
 - B. Project Schedule Management
 - C. Project Time Management
 - D. Project Integration Management
- 32.** All of the following are true regarding the Initiating process group except for which one?
- A. The Initiating process group is responsible for developing the document that authorizes the project.
 - B. The Initiating process group processes are iterative in nature, and often are revisited at the beginning of every phase.
 - C. The Initiating process group is responsible for defining a new project or phase by obtaining authorization to start the project or phase.
 - D. The Initiating process group encompasses the fewest number of project management processes.
- 33.** Functional (centralized), matrix, and project-oriented are all types of which of the following?
- A. Communication styles
 - B. Organizational cultures
 - C. Organizational structures
 - D. Project characteristics
- 34.** The project manager has just determined that three functional managers with a high interest in the project hold a particularly high degree of influence in the allocation of enterprise resources. In what activity is the project manager involved?
- A. Developing the resource plan
 - B. Developing the stakeholder engagement plan
 - C. Determining team assignments
 - D. Identifying stakeholders

- 35.** You are very interested in becoming a project manager. You have mentored with other experienced project managers in your organization to learn more about how to be an effective project manager. You've been told your organizational skills and communication skills are excellent. However, you need some additional training in accounting and budgeting skills, because you are weak in these general management areas. The mentor who was honest enough to tell you this explained it which of the following ways?
- A.** You will not be able to sit for the PMP exam unless you get formal training in the general management areas.
 - B.** General management skills are likely to affect project outcomes. If you lack any of these skills, it could affect your project and your career adversely, so you should get some training in these areas.
 - C.** The Estimating Costs and Control Costs processes are under the Planning process group, and you will not be able to pass the questions on the PMP exam that pertain to these processes if you don't get some training.
 - D.** General management skills are important to your project outcomes, and Estimating Costs and Control Costs are two of the most important processes within the Executing phase of a project, so you should get some training in these areas.
- 36.** A project manager is in the process of documenting how the team will be acquired, managed, and then released. The project manager is performing a process from which Knowledge Area?
- A.** Project Procurement Management
 - B.** Project Integration Management
 - C.** Project Stakeholder Management
 - D.** Project Resource Management
- 37.** Which project management document provides the project manager with the authority to apply organizational resources to project activities?
- A.** Project management plan
 - B.** Resource management plan
 - C.** Project charter
 - D.** Business case
- 38.** The project phases together constitute which of the following?
- A.** Project phases
 - B.** Project management plan
 - C.** Project life cycle
 - D.** Project management
- 39.** Ralph is a project manager for Storm Health. He has struggled since joining the company, and his manager has noticed a gap in a critical PM skill. In a recent kick-off meeting, he struggled to answer questions on how the project aligns with the organization's goals, insisting it wasn't relevant. What critical skill should Ralph sharpen?
- A.** Business management and strategic skills
 - B.** Technical project management skills

- C. Communication skills
D. Leadership skills
40. A portfolio manager is leading a project portfolio planning exercise to determine which projects will move forward in the new quarter that support the strategic goals of the portfolio. She decides to use a scoring model to rate projects against the following three criteria: profit potential, ease of use, marketability. Based on the table provided, which project will likely move forward?
- | Criteria | Weight | *Project A score | *Project B score | *Project C score |
|------------------|--------|------------------|------------------|------------------|
| Profit potential | 5 | 5 | 2 | 1 |
| Marketability | 1 | 1 | 5 | 3 |
| Ease of use | 3 | 2 | 3 | 5 |
| Weighted score | — | — | — | — |
- *5 being the highest score
- A. Project A
B. Project B
C. Project C
D. None
41. You are a contract project manager and have entered into the requirements-gathering phase of your project. Two of the departments you're working with on this project have competing interests regarding this project and have done everything they can, including sabotage, to undermine the work so far. To finish up the requirements-gathering phase, you will have to exert some influence. Which of the following statements is not true regarding influencing the organization?
- A. Influencing entails the ability to get things done.
B. Influencing requires an understanding of the formal and informal structures of the organization, including the use of power and politics.
C. Politics involves getting the people in these two departments to do things they wouldn't otherwise do.
D. Power entails getting these two departments with competing interests cooperating effectively to achieve the goals of the project.
42. You are a project manager and are meeting with your team. The goal of this meeting is to determine which processes you should use to effectively manage the project. Which of the following describes what you're doing?
- A. Progressive elaboration
B. Tailoring
C. Phase sequencing
D. Program management

- 43.** Which environmental factor should you pay close attention to when carrying out the Identify Stakeholders process?
- A.** Lessons learned and historical repositories
 - B.** Company culture and organizational structure
 - C.** Existing policies, procedures, and guidelines
 - D.** Stakeholder registers from past similar projects
- 44.** You are a full-time project manager working within the customer operations organization, reporting to the VP of customer solutions. Your boss manages the project budget. Which organizational structure do you work in?
- A.** Functional
 - B.** Hybrid
 - C.** Project-oriented
 - D.** PMO
- 45.** A project manager is putting together the project charter and is interested in referencing marketplace conditions to understand the factors surrounding the project. What is a valid input that the project manager can reference to get this information?
- A.** Organizational process assets
 - B.** Enterprise environmental factors
 - C.** Project documents
 - D.** Lessons learned register
- 46.** You work for Star Bank as a project manager. Your project is so large and risky that you're not certain the organization should undertake it. You propose conducting a feasibility study, as its own project, to examine the benefits of the new proposed project. The feasibility study is approved and begun. Which of the following statements is not true regarding this project?
- A.** The Initiating processes occur at the beginning of the project, when chances for a successful completion are high and the staffing levels are low.
 - B.** The Initiating processes acknowledge that the next project phase should begin. Costs are low in this process, while the risks are high.
 - C.** The Initiating processes is where approval is granted to undertake the project and the organization's resources are authorized to begin work.
 - D.** The Initiating processes acknowledge that the next project phase should begin. The stakeholders have the most influence over the product or service of the project during this process.

- 47.** You are the project manager for a company that produces mobile phone applications. Currently, the director of the consumer division is evaluating two projects. Funding exists for only one project. Project UV aims to produce a mobile phone application that sends alerts when the UV rays are at dangerous levels, alerting users to stay indoors; Project Fun aims to send alerts when it detects that users have not visited any destinations outside of their usual routine. The director asks you to calculate the payback period and NPV for both projects, and here is what you derive:

Project UV: The payback period is 12 months, and the NPV is (100).

Project Fun: The payback period is 18 months, and the NPV is 250.

Which project would you recommend to the director?

- A.** Project UV, because the payback period is shorter than Project Fun
 - B.** Project Fun, because the NPV is a positive number
 - C.** Project UV, because the NPV is a negative number
 - D.** Project Fun, because the NPV is a higher number than Project UV
- 48.** Which method of analyzing stakeholders considers power, urgency, and legitimacy?
- A.** Stakeholder cube
 - B.** Salience model
 - C.** Power/interest grid
 - D.** Power/influence grid
- 49.** Plan Schedule Management, Estimate Activity Durations, and Control Schedule are processes that belong to what project management Knowledge Area?
- A.** Project Time Management
 - B.** Project Integration Management
 - C.** Project Schedule Management
 - D.** Project Resource Management
- 50.** All of the following make up the PMI Talent Triangle™ except for which one?
- A.** Communication skills
 - B.** Business management and strategic skills
 - C.** Technical project management skills
 - D.** Leadership skills
- 51.** All of the following are true regarding project phases except for which one?
- A.** Project phases generally consist of segments of work that allow for easier management, planning, and control.
 - B.** PMOs may have predefined phases based on stakeholder or management needs.
 - C.** Phases are described by attributes, such as name, number, duration, and resource requirements.
 - D.** Project phases generally do not produce deliverables by the end of the phase.

- 52.** A project team is using iterations within the project to introduce new functionality and complete the project deliverables. What development life cycle is the project team following?
- A.** Predictive
 - B.** Iterative
 - C.** Incremental
 - D.** Hybrid
- 53.** Sue is the head of an enterprise project management office (PMO). She delivers a presentation at the annual company meeting to describe her roles, responsibilities, and the value of the PMO. As part of her presentation, she outlines the general responsibilities of a PMO. All of the following describe the types of support that PMOs typically provide except for which one?
- A.** Establishing the company's strategic objectives and selecting projects that realize those objectives
 - B.** Providing an established project management methodology, including templates, forms, and standards
 - C.** Mentoring, coaching, and training project managers
 - D.** Facilitating communication within and across projects
- 54.** All of the following statements describe the Project Scope Management Knowledge Area except which one?
- A.** It's concerned with defining all of the work of the project.
 - B.** It has six processes.
 - C.** Its processes occur in four of the five project management process groups.
 - D.** It's similar to Project Quality Management in that both Knowledge Areas are concerned with the product of the project meeting the requirements of the project.
- 55.** The project manager has just determined that three functional managers with a high interest in the project hold a particularly high degree of influence in the allocation of enterprise resources. Where is the project manager likely to document this information?
- A.** Stakeholder analysis
 - B.** Resource management plan
 - C.** Stakeholder engagement plan
 - D.** Stakeholder register
- 56.** Change-driven life cycles are also known by what other name?
- A.** Adaptive life cycle
 - B.** Predictive life cycle
 - C.** Plan-driven life cycle
 - D.** Hybrid life cycle

- 57.** You are in the Initiate phase of your project and have just begun the process of identifying stakeholders. What documents can you use to help get you started?
- A.** Agreements and business case.
 - B.** Stakeholder register and risk register.
 - C.** Stakeholder register and matrix.
 - D.** None. Interviews are your only hope.
- 58.** Which of the following represents characteristics of the Planning process group?
- A.** Costs are high.
 - B.** Staffing is lowest.
 - C.** Chance for successful project completion is medium.
 - D.** Stakeholder influence is high.
- 59.** Reasons to Lyv is the top client of a large marketing firm. Trudy is the president of Reasons to Lyv and has decided to launch a product that leverages new GPS tracking technology. She has high confidence that the project will be a success and asks the marketing firm to make it their top priority by generating a unique campaign that will run in parallel with her project. Billy, a top executive from the marketing company, briefs his team about this unique situation that they have not managed before, and a project is launched shortly thereafter. Billy's project came about as a result of what?
- A.** Strategic opportunity
 - B.** Environmental considerations
 - C.** Technological advance
 - D.** Customer request
- 60.** You have just started working for a new company. Your previous project management experience made you stand out from your competitors. Your new business cards are being printed with the title of Project Coordinator. You discover that the project charter for the project you are working on was never written, so you volunteer to draft one, even though the work of the project has started. The vendor who is assisting with the project is already on board and is working with (and reporting to) the Engineering division. You report to the Construction division. Which of the following is true?
- A.** You are working in a weak matrix organization and are in the Executing phase of the project.
 - B.** You are working in a strong matrix organization and are in the Initiating phase of the project.
 - C.** You are working in a strong matrix organization and are in the Executing phase of the project.
 - D.** You are working in a weak matrix organization and are in the Planning phase of the project.

- 61.** You are the project manager for a large project. The initial project schedule shows the project takes approximately three years to complete. Some of the stakeholders have changed over the course of this project, and new stakeholders will become involved toward the end of the project. The project team members have also changed as the project has evolved into a new set of deliverables. You are having a difficult time motivating the new team members. The techniques you used with the previous team don't seem to be working with this team. More resources will be brought on and off the project team at various stages throughout the life cycle, so you'd like to resolve this problem soon. You know from studying the Project Resource Management Knowledge Area that you should do which of the following?
- A.** The processes in this Knowledge Area ensure that the human and material resources involved on the project are used in the most effective way possible.
 - B.** The same communication style should be used throughout the life of the project.
 - C.** You will change the techniques used to motivate, lead, and coach the human resources involved on the project as the project progresses.
 - D.** This Knowledge Area's processes include Acquire Resources, Develop Team, and Manage Team.
- 62.** The project sponsor has approached you with a dilemma. The CEO announced at the annual stockholders' meeting that the project you're managing will be completed by the end of this year. The problem is that this is six months prior to the scheduled completion date. It's too late to go back and correct her mistake, and stockholders are expecting implementation by the announced date. You must speed up the delivery date of this project. Your primary constraint before this occurred was the budget. What actions can you take to help speed up the project?
- A.** Hire more resources to get the work completed faster.
 - B.** Ask for more money so that you can contract out one of the phases you had planned to do with in-house resources.
 - C.** Utilize negotiation and influencing skills to convince the project sponsor to speak with the CEO and make a correction to her announcement.
 - D.** Examine the project plan to see whether there are any phases that can be fast tracked and then revise the project plan to reflect the compression of the schedule.
- 63.** You are in the midst of performing the Project Cost Management Knowledge Area. You discover there are two competing alternatives to decide between. You can hire a contractor to build one of the project's deliverables, or you can buy the deliverable from an overseas supplier. Both options require acquisition, operating, and disposal costs that you compare between the two alternatives to make a decision. What is this technique called?
- A.** Value engineering
 - B.** Life-cycle costing

- C. Earned value management
 - D. Financial analysis
- 64.** All of the following statements are true regarding NPV except which one?
- A. NPV assumes reinvestment at the cost of capital.
 - B. Projects with NPV greater than zero should receive a go decision.
 - C. NPV is the discount rate when IRR equals zero.
 - D. Projects with high returns early on should be favored over projects with low returns early on.
- 65.** Project selection methods might include all of the following except for which one?
- A. Benefit measurement methods
 - B. Constrained optimization analysis
 - C. NPV calculations
 - D. Alternatives analysis
- 66.** All of the following are considered to be factors that influence the initiation of a project except for which one?
- A. Compliance, legal requirements, or social requirements
 - B. Stakeholder needs and requests
 - C. Enhancement of existing operations
 - D. Improvement of processes, services, or products
- 67.** You are a project manager working on contract for an upscale retail toy store. Your project involves implementing a Party Event Planner department in stores in 12 locations across the country as a pilot to determine whether this will be a profitable new service all the stores should offer. You've identified two alternative methods of implementing the pilot. Alternative A's initial investment equals \$598,000. The PV of the expected cash inflows is \$300,000 in year 1 and \$300,000 in year 2. The cost of capital is 12 percent. Alternative B's initial investment equals \$625,000. The PV of Alternative B's expected cash inflows is \$323,000 in year 1 and \$300,000 in year 2. The cost of capital is 9 percent. Which of the following is true?
- A. Alternative A will earn a return of at least 12 percent.
 - B. Alternative B will earn a return of at least 9 percent.
 - C. The return is not known for either Alternative A or Alternative B.
 - D. Both alternatives are viable choices.

- 68.** You work in the pharmaceutical industry, and your organization is considering building a new laboratory facility in the Northwest. Market demand is driving new research for diet medications, and the new lab would be dedicated to this product development project. Some stakeholders in your organization are not certain a new lab facility is needed because there is space that can be used in an existing building to host the diet medication research project. You've conducted a feasibility study, and the results show two possible ways to meet the space needs. Which of the following is true regarding this situation?
- A.** Project selection methods are used by executive managers to determine things such as public perception, financial return, customer loyalty, and so on, and are used only to choose among alternative projects.
 - B.** Project selection methods are used before the Develop Project Charter process to choose among alternative ways of performing a project.
 - C.** Project selection methods are concerned with the type of things executive managers think about, such as public perception, financial return, customer loyalty, and market share.
 - D.** Project selection methods are an output of an Initiating group process that can be used to choose among alternative ways of doing a project. Project managers are generally involved with selecting among alternative projects.
- 69.** You've taken over a project that's currently in trouble. You've held a meeting with the key stakeholders to demonstrate the new product prototype. They came prepared with the product requirements and upon inspection inform you that this prototype is not what the customer specified. Your boss instructs you to get the prototype corrected and make it match the requirements the customer specified before holding a demo with the customer. She also warns you to take a look at the work of the project. She's concerned that things aren't happening as planned and that the last project manager was not paying close enough attention to the project plan. Corrections might be needed. What Knowledge Area does this describe?
- A.** Project Schedule Management
 - B.** Project Scope Management
 - C.** Project Integration Management
 - D.** Project Risk Management
- 70.** All of the following processes belong to the Project Integration Management Knowledge Area except for which one?
- A.** Manage Project Knowledge
 - B.** Identify Stakeholders
 - C.** Monitor and Control Project Work
 - D.** Close Project or Phase

- 71.** Your project selection committee is considering four projects. Project A's NPV is positive, it has an IRR of 14 percent, and the payback period is 21 months. Project B's NPV is negative, it has an IRR of 9 percent, and the payback period is 16 months. Project C's NPV is positive, it has an IRR of 16 percent, and the payback period is 18 months. Project D's NPV is negative, it has an IRR of 16 percent, and the payback period is 13 months. Which project should you choose?
- A.** Project A
 - B.** Project B
 - C.** Project C
 - D.** Project D
- 72.** You are a senior manager overseeing projects for Fun Days Vacation Packages. You manage groups of projects and weigh the value of each project against the business's strategic objectives. You also monitor projects to make certain they adhere to those objectives and that you get the most efficient use of resources possible. Which of the following does this scenario describe?
- A.** Project and program management
 - B.** Project management
 - C.** Program management
 - D.** Portfolio management
- 73.** You have used several cash flow methods to determine alternative ways of performing your current project. Which of the following do you know is true regarding the results of your cash flow analysis?
- A.** Payback period and IRR will generally give you the same accept/reject decision.
 - B.** NPV and discounted cash flows will generally give you the same accept/reject decision.
 - C.** Payback period and discounted cash flows will generally give you the same accept/reject decision.
 - D.** NPV and IRR will generally give you the same accept/reject decision.
- 74.** You are working on the creation of a new television series. Your organization has created many winning series in the past. However, no other series on the air is like the series that's being proposed. The series must be ready to debut during sweeps week in November. Which of the following statements is true?
- A.** This is a project, because the series is unique and it has a definite beginning and ending date.
 - B.** This is an ongoing operation, because the organization exists to create television series.
 - C.** This is an ongoing operation, because the series will be on the air for many years. It's not temporary.
 - D.** This is not a unique product, because the organization exists to create television series.

- 75.** The Project Stakeholder Management Knowledge Area is concerned with which of the following?
- A.** Identifying all of the stakeholders associated with the project and strategizing how to effectively engage them
 - B.** Identifying all of the stakeholders associated with the project and strategizing how to exceed their expectations
 - C.** Identifying all of the stakeholders associated with the project and strategizing against those that can derail the project
 - D.** Identifying all of the stakeholders associated with the project and strategizing how to control them
- 76.** You are working on the creation of a new television series. The producer for this series has informed you that he is the final decision-maker for all questions that arise during the course of the series. He tells you that he'll set up a meeting with you to discuss the budget he's set aside for the project. Your organization has created many winning series in the past, almost all of which had the same producer as the one for this project. The producer believes this will be the best series they have produced to date and has already generated a lot of excitement about this project. No other series on the air is like the series that's being proposed. The series must be ready to debut during sweeps week in November. Which of the following is true?
- A.** The producer's only involvement on the project is to provide funds.
 - B.** The producer is the project manager.
 - C.** The producer is the project sponsor.
 - D.** The producer is the program manager.
- 77.** Antwon is the director of marketing for a midsize company. You run into him while heating coffee in the office kitchenette and ask him what he's up to. He explains that he's in the process of evaluating project proposals to determine which best support the department and company's annual goals. In what activity is Antwon involved?
- A.** Project management
 - B.** Program management
 - C.** Portfolio management
 - D.** Agile management
- 78.** The project manager reviews lessons learned from past similar projects to start the project off on the right foot. What input contains lessons learned and historical information from past projects?
- A.** Organizational process assets
 - B.** Enterprise environmental factors
 - C.** Project documents
 - D.** Lessons learned register

- 79.** All of the following statements are true except for which one?
- A.** Estimate Activity Resources is a key step in developing the schedule and is a process belonging to the Project Schedule Management Knowledge Area.
 - B.** Plan Resource Management, Estimate Costs, and Control Procurements are all project management processes.
 - C.** Project Integration Management, Project Scope Management, and Project Schedule Management are examples of project management Knowledge Areas.
 - D.** There are a total of 49 project management processes.
- 80.** Your project selection committee is evaluating three projects. They are using a weighted scoring model that has three criteria: decrease training time, streamline customer support functions, and return on investment. The weights for these criteria are 5, 4, and 2, respectively. Your selection committee has finished scoring the three projects and has given you the scores for the three criteria. They are as follows:
- Project 1: decrease training = 5, streamline support = 3, return on investment = 5
Project 2: decrease training = 3, streamline support = 5, return on investment = 5
Project 3: decrease training = 4, streamline support = 4, return on investment = 3
- Which project should you choose based on the scores from the weighted scoring model?
- A.** Project 3
 - B.** Project 2
 - C.** Project 1
 - D.** There isn't enough information in the question to determine an answer.
- 81.** Sue is the head of an enterprise project management office (PMO). She has been given a high degree of authority within the company, and project managers report directly to the PMO. What type of PMO does Sue lead?
- A.** Supportive
 - B.** Controlling
 - C.** Directive
 - D.** There isn't enough information in the question to determine an answer.
- 82.** All of the following are examples of constrained optimization methods except for which one?
- A.** Economic models
 - B.** Integer
 - C.** Dynamic
 - D.** Multi-objective programming

- 83.** Which of the following is true about benefit-cost ratio?
- A.** It is the quickest and least precise project selection method.
 - B.** It uses algorithms to calculate the ratio.
 - C.** Benefit-cost ratio is the most difficult equation to calculate.
 - D.** Benefit-cost ratio is also known as cost-benefit analysis.
- 84.** All of the following are true regarding projects except for which one?
- A.** They are temporary in nature.
 - B.** They can be progressively elaborated.
 - C.** They produce unique products, services, or results.
 - D.** They can continue without an ending date.
- 85.** Which of the following project management Knowledge Areas involve every team member and stakeholder on the project?
- A.** Project Scope Management
 - B.** Project Communications Management
 - C.** Project Resource Management
 - D.** Project Quality Management
- 86.** Roshoud is the VP of customer operations for Galactic Kidz and project sponsor of the latest project, called Project G. He sits down with Sally, the project manager, to discuss and document roles and responsibilities. What Knowledge Area are they engaged in?
- A.** Project Integration Management
 - B.** Project Procurement Management
 - C.** Project Resource Management
 - D.** Project Stakeholder Management
- 87.** What is the present value of \$8,000 received three years from the present using a 7 percent interest rate? Assume all options are rounded to the nearest whole dollar.
- A.** \$9,800
 - B.** \$6,530
 - C.** \$9,680
 - D.** \$6,612
- 88.** Which of the following is a valid tool or technique that aids the project manager, or other assigned organizational resource, in developing the project charter?
- A.** Brainstorming
 - B.** Business case

- C. Enterprise environmental factors
 - D. Organizational process assets
- 89.** Who is responsible for determining which processes within each process group are appropriate for the project?
- A. The project manager
 - B. The project team
 - C. The project manager and project sponsor
 - D. The project manager and project team
- 90.** Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. She has just concluded the Design phase and is scheduled to perform a phase review with the steering committee facilitated by the company's PMO. Phase reviews are also called by what other name?
- A. Kill point
 - B. End point
 - C. PMO review
 - D. Project review
- 91.** You are a project manager for the information technology division of a local satellite TV broadcasting company. This spring, the chief information officer for your company gave you the job of converting and upgrading all the PCs in the department to the latest release of a specific desktop application. Prior to this conversion, all manner of desktop software existed on machines throughout the company and had caused increasing problems with sharing files and information across the company. A lot of unproductive hours were spent converting information into several formats. This project came about as a result of which of the following?
- A. Business need
 - B. Market demand
 - C. Technological advance
 - D. Social need
- 92.** Two project managers preparing for the PMP exam sat and debated over the various ways that project life-cycle phases could be performed. The project managers would be covering all of the following except for which one?
- A. Sequential
 - B. Fast tracked
 - C. Iterative
 - D. Overlapping

- 93.** You've decided to branch out into project management consulting and have landed your first contracting assignment. You are working on an exciting project for a midsize company that provides pet-sitting services in people's homes. The employee who is the designated project manager on this project doesn't have much experience running projects. He insists that all the stakeholders have been identified and that he alone understands their expectations so there is no need for you to meet with them. As a more experienced project manager, you know which of the following is true?
- A.** He is correct. You do not need to meet with the stakeholders as long as they have been identified. His knowledge of their expectations alone is sufficient.
 - B.** You should meet with the stakeholders. Project Communications Management is concerned with documenting the needs and demands of the stakeholders and capturing this information in the project scope statement.
 - C.** You do not need to meet with the stakeholders since they have already been identified. You can meet them when you capture their requirements in the Collect Requirements process, which is part of the Project Integration Management Knowledge Area.
 - D.** You should meet with the stakeholders, identify them, assess their needs, and record their expectations as part of the Project Stakeholder Management Knowledge Area.
- 94.** You are a project manager for Wedding Planners, Inc. Since every wedding is unique, your organization believes in managing each one as a project. You've come up with a great idea for a new event that you're certain customers will love and that will also profit the company. Your boss asks you to investigate alternative methods for implementing the new idea and come back with a recommendation. You discover that Alternative A could yield revenues of \$21 million over the next two years, while Alternative B could yield revenues of \$29 million over three years. The finance manager told you to use 5 percent as the cost of capital. Which project should you choose and why?
- A.** Alternative A, because the discounted cash flows are \$19,047,619 while the discounted cash flows for Alternative B are \$25,051,831.
 - B.** Alternative B, because its yield is higher than Alternative A's yield.
 - C.** Alternative B, because the discounted cash flows are \$26,303,854 while the discounted cash flows for Alternative A are \$19,047,619.
 - D.** Alternative B, because the discounted cash flows are \$20,000,000 for Alternative A while the discounted cash flows for Alternative B are \$27,619,047.
- 95.** Which of the following statements describe the project management Knowledge Areas?
- A.** Include Initiation, Planning, Executing, Monitoring and Controlling, and Closing.
 - B.** Consist of 10 areas that bring together processes that have things in common.
 - C.** Consist of five processes that bring together phases of projects that have things in common.
 - D.** Include Planning, Executing, and Monitoring and Controlling processes because these three processes are commonly interlinked.

- 96.** You are a project manager for Rhone Valley Importers. Your buyer has found a new product that she's convinced will sell well in this country. Taking on this new product introduces considerable opportunity for the company but at the same time is also a considerable threat. The cost of this product exceeds anything your company has imported before, and if it doesn't sell as well as the buyer thinks it will, the company could go into bankruptcy. You determine that a feasibility study is in order. Which of the following statements is not true?
- A.** A feasibility study should be conducted to determine the potential market, costs, risks, and other factors.
 - B.** One purpose of the feasibility study is to determine marketing demand for the new product that could in turn become the demand that drives the project.
 - C.** During the feasibility study, you could use the Project Risk Management processes to identify all opportunities and exploit their possibilities, determine the potential threats, and minimize the probability and consequences of those threats.
 - D.** One of the end results of the feasibility study might be to produce a project charter that will include a description of the intended outcome of the project, a budget, and a detailed project schedule for management review.
- 97.** Your selection committee can choose only one of the following projects: Project A's original investment is \$1 million, the present value of the cash inflows is \$1 million, and the discount rate is 4 percent. Project B's original investment is \$1.4 million, the present value of the cash inflows is \$1.4 million, and the discount rate is 6 percent. Project C's original investment is \$1.8 million, the present value of the cash inflows is \$1.8 million, and the discount rate is 7 percent. Which project should the committee choose?
- A.** Project C
 - B.** Project B
 - C.** Project A
 - D.** There isn't enough information in the question to determine an answer.
- 98.** A project manager has been asked to calculate the payback period for her project. The project's investment is \$500,000, with expected cash inflow of \$50,000 for the first two quarters and \$100,000 for every quarter thereafter. What is the payback period?
- A.** 6 months
 - B.** 12 months
 - C.** 18 months
 - D.** 24 months
- 99.** Your selection committee can choose only one of the following projects: Project A's original investment is \$1 million, and the payback period is 18 months. Project B's original investment is \$1.4 million, and the payback period is 18 months. Project C's original investment is \$1.8 million, and the payback period is 18 months. Which project should the committee choose?
- A.** Project A
 - B.** Project B
 - C.** Project C
 - D.** There isn't enough information in the question to determine an answer.

- 100.** Nicolas is the project manager of a project that has been described as revolutionizing the mobile fitness tracking industry. After consulting with his team of subject-matter experts, he decides to use Agile project management. Nicolas's project team continues to build on the product through two-week iterations. Iterations are also known by what other name?
- A. Phase
 - B. Sprint
 - C. Deliverable
 - D. Stand-up
- 101.** All of the following statements are true except for which one?
- A. A highly predictive life cycle has reduced risk and costs due to detailed plans.
 - B. A highly predictive life cycle contains requirements that are progressively elaborated.
 - C. A highly adaptive life cycle has continuous involvement and frequent feedback from stakeholders.
 - D. A highly adaptive life cycle performs Initiating activities regularly throughout the project.
- 102.** A project manager performing Closing activities is currently focused on addressing the highest business value items first. What life cycle is she using to deliver her project?
- A. Highly predictive
 - B. Adaptive
 - C. Highly adaptive
 - D. Waterfall
- 103.** Quincy and Michael are two executives of Widgets for Life, a company providing the latest cool lifestyle gadgets. They've learned that a new federal law will be passed that regulates how personal data may be collected and used. Many of Widgets for Life's gadgets collect data, which has been made possible by advancements in technology. As a result, they decide to launch a new project that will address the requirements of the new law. This project came about as a result of what need?
- A. Federal request
 - B. Legal requirement
 - C. Technological advance
 - D. Organizational need
- 104.** Kaylee is a risk manager working in collaboration with Alyssa, a project manager, and both work for a top healthcare company. They partner to facilitate a session to determine how the project team can best exploit an opportunity that was recently identified. Kaylee and Alyssa are performing activities associated with what project management Knowledge Area?
- A. Project Integration Management
 - B. Project Risk Management
 - C. Project Scope Management
 - D. Project Procurement Management

- 105.** A method of managing projects in small, incremental portions of work that can be easily assigned and completed within a short period of time describes what methodology?
- A. Waterfall
 - B. Lean
 - C. Agile
 - D. Iterative
- 106.** Which of the following best describes how Planning activities are performed in a highly adaptive (Agile) life cycle?
- A. Once the plan is approved, changes that impact scope, time, or budget are controlled and minimized.
 - B. Progressive elaboration of scope based on continuous feedback
 - C. High-level plan developed and elaborated as project progresses
 - D. Work is performed as requirements are defined.
- 107.** A business analyst has just facilitated a requirements-gathering session. The following week, the project manager begins the process of capturing and documenting the project's deliverables and creating a work breakdown structure. The business analyst and project manager are carrying out processes that belong to which of the following Knowledge Areas?
- A. Project Schedule Management
 - B. Project Integration Management
 - C. Project Requirements Management
 - D. Project Scope Management
- 108.** After meeting with several subject-matter experts, the project manager determines that the project phases will need to occur one after the other. What project life cycle is the project manager using?
- A. Sequential
 - B. Overlapping
 - C. Iterative
 - D. Incremental
- 109.** Which of the following best describes the role of a product owner within the Agile methodology?
- A. The product owner coordinates the work of the sprint and runs interference between the team and distractions keeping them from their work.
 - B. The product owner has a vested interest in the project or the outcomes of the project and interfaces with stakeholders.
 - C. The product owner represents the stakeholders and is the liaison between the stakeholders, the scrum master, and the development team.
 - D. The product owner is responsible for completing the backlog items and signing up for tasks based on priorities established.

- 110.** During the first project kick-off meeting, Ron introduces himself to key team members, noting that he will work hard to minimize distractions that may keep them from their work at hand and will serve in more of a facilitator role. What is Ron's role?
- A. Scrum master
 - B. Product owner
 - C. Stakeholder
 - D. Team member
- 111.** A project manager following an Agile life cycle receives a request from the customer to alter a requirement. How will the project manager likely respond?
- A. Blocks change
 - B. Welcomes change
 - C. Prevents change
 - D. Indifferent about change
- 112.** All of the following statements are true except for which one?
- A. Operations involves work that is continuous without an ending date.
 - B. Projects are temporary but can extend over multiple years.
 - C. Progressive elaboration refers to a deferral in planning.
 - D. A project can evolve into ongoing operations.
- 113.** Which of the following project selection methods is considered to be the least precise?
- A. Payback period
 - B. Benefit-cost ratio
 - C. Scoring models
 - D. Net present value
- 114.** A product owner calls the scrum master and requests to see the remaining work effort for the sprint. What is the scrum manager likely to show the product owner in response?
- A. A bubble chart
 - B. A status report
 - C. A burn-down chart
 - D. A sprint summary chart
- 115.** You are a project manager reporting to the director of operations. You navigate to the department's PMO intranet set to download the latest project charter template. What type of PMO is this?
- A. Supportive
 - B. Controlling

- C. Directive
 - D. There isn't enough information in the question to determine an answer.
- 116.** At what point in the project life cycle do costs peak?
- A. Initiating
 - B. Planning
 - C. Executing
 - D. Closing
- 117.** Reasons to Lyv is the top client of a large marketing firm. Trudy is the president of Reasons to Lyv and has decided to launch a product that leverages new GPS tracking technology. She has high confidence that the project will be a success and asks the marketing firm to make it their top priority by generating a unique campaign that will run in parallel with her project. Billy, a top executive from the marketing company, briefs his team about this unique situation that they have not managed before, and a project is launched shortly thereafter. Trudy's project came about as a result of what?
- A. Strategic opportunity
 - B. Environmental considerations
 - C. Technological advance
 - D. Customer request
- 118.** Agile project management can best be described as which of the following?
- A. A method that focuses on defining the requirements of the project early on in the project life cycle, before moving into execution
 - B. An underlying concept that shows the integrative nature of the process groups that notes that each element in the life cycle is results-oriented
 - C. A method of managing projects through large portions of work that can be easily planned and executed to produce the overall product, service, or result of the project
 - D. A method of managing projects in small, incremental portions of work that can be easily assigned, easily managed, and completed within a short period of time called iterations
- 119.** All of the following are examples of formal project management Knowledge Areas except for which one?
- A. Project Requirements Management
 - B. Project Integration Management
 - C. Project Procurement Management
 - D. Project Stakeholder Management

- 120.** During a company town hall, the sponsor of your project announced that a new high-priority project will be kicking off in the next quarter. This is distressing news since resources are at a premium. You kick into preventive measures and pull together subject-matter experts to begin analyzing a way to compress the project schedule to complete the project prior to the next project launch. What activity are you and the subject-matter experts performing?
- A.** Agile development
 - B.** Overlapping
 - C.** Fast tracking
 - D.** Iterative development
- 121.** Project Integration Management, Project Scope Management, and Project Cost Management are all examples of what?
- A.** Project management process groups
 - B.** Project management processes
 - C.** Project management Knowledge Areas
 - D.** Project Life Cycle Phases
- 122.** Waterfall, Agile, and PRINCE2 are all examples of what?
- A.** A set of project management standards
 - B.** Methods of managing a project
 - C.** Global practices for managing projects
 - D.** Project management tools and techniques
- 123.** Many projects fail because of conflicts among stakeholders. Conflict often exists because of which of the following?
- A.** Conflicting interests
 - B.** Human bias
 - C.** Varying experiences
 - D.** Varying personalities
- 124.** A scrum master brings the team together at 9 a.m. sharp every morning. He asks the team the following questions: *What did you accomplish yesterday? What will you work on today? Do you have any roadblocks or issues preventing you from doing your work?* What activity is the team engaged in?
- A.** A status meeting
 - B.** A daily roundup
 - C.** A sprint planning meeting
 - D.** A daily stand-up

- 125.** A short, time-bound period of work is also referred to as which of the following?
- A. Buffer
 - B. Lead
 - C. Lag
 - D. Sprint
- 126.** Which of the following best describes project management Knowledge Areas?
- A. Knowledge Areas collectively form the project life cycle.
 - B. Knowledge Areas bring together processes that have characteristics in common.
 - C. Knowledge Areas are groupings of project management processes.
 - D. Knowledge Areas organize the development life cycle into distinct groupings of activities.
- 127.** Sue is the head of an enterprise project management office (PMO). She delivers a presentation at the annual company meeting to describe her role's responsibilities and the value of the PMO. As part of her presentation, Sue stresses the critical skill sets that PMs must have in order to be effective. She stresses one in particular, which is that PMs must exhibit the knowledge, skills, and behaviors needed to guide, motivate, and direct a team. What skill set is Sue referring to?
- A. Communication skills
 - B. Leadership skills
 - C. Business management and strategic skills
 - D. Technical project management skills
- 128.** Your project selection committee is meeting later this week and is considering initiating one of two projects. They've asked you to recommend the project that will benefit the organization the most. The information you've gathered shows the initial investment for Project 1 is \$795,000. Monthly cash inflows for the first year are \$44,000, and expected cash inflows beginning in year 2 are \$156,000 per quarter. Project 2 has an initial investment of \$845,000. Expected quarterly inflows for the first year are \$180,000. Beginning in the second year, inflows are expected to be \$136,000 per quarter. Which project should you recommend to the committee and why?
- A. Project 1, because it has a payback period of 18 months, which is shorter than Project 2's payback period
 - B. Project 2, because it has a payback period of 15 months while Project 2 has a payback period of 18 months
 - C. Project 1, because it has a lower initial investment than Project 2
 - D. Project 2, because it has a payback period of 16 months while Project 1 has a payback period of 19 months

- 129.** After concluding the sprint, the scrum master, product owner, and team members come together to evaluate the overall progress and work completed and to review any lessons learned. This describes what type of meeting?
- A.** A daily stand-up
 - B.** A sprint retrospective
 - C.** A scrum meeting
 - D.** A sprint-planning meeting
- 130.** When is a project considered successful?
- A.** When the project budget is consumed, scope developed, and schedule milestones are achieved
 - B.** When the project budget is consumed and schedule milestones are achieved
 - C.** When project benefits are realized and stakeholder needs and expectations are met
 - D.** When objectives are achieved and stakeholder needs and expectations are met
- 131.** All of the collective phases the project progresses through from the start of the project through the end are called what?
- A.** Project management life cycle
 - B.** Phase life cycle
 - C.** Product life cycle
 - D.** Project life cycle
- 132.** You have been with your company for three months. You were hired as a project manager and are anxious to get started on your first project. Your organization is considering taking on a project that has considerable risk associated with it and you don't know the outcome. The selection committee is meeting two weeks from today to decide on this project. Since you're new to the company, you want to make a good impression. Which of the following will you do?
- A.** You make certain that the product description is documented, the strategic plan is considered, and historical information is researched before writing the project charter.
 - B.** You make certain to pass on the information you've gathered and documented to the project sponsor so that she can write the project charter.
 - C.** You know some of the deliverables in this project will be purchased. You will use EVM techniques to help optimize life-cycle costs when you get to the processes in the Project Cost Management Knowledge Area.
 - D.** You recommend a feasibility study be conducted as a separate project from this one because the outcome of the project is unknown.
- 133.** Yasmin is a project manager tasked with putting together the project charter for a project that will produce a new line of widgets for the company. After meeting with various key stakeholders, she sits down to draft the document. Yasmin is likely to include all of the following elements within the project charter except for which one?
- A.** List of detailed risks
 - B.** Purpose of the project

- C. List of key stakeholders
 - D. Preapproved budget
- 134.** Nicolas is the project manager of a project that has been described as revolutionizing the mobile fitness tracking industry. After a few preliminary strategy sessions, he pulls together the core team and notes that they will be defining deliverables early in the development life cycle and progressively elaborating them as the project progresses. What development life cycle is Nicolas following on the project?
- A. Predictive
 - B. Iterative
 - C. Incremental
 - D. Hybrid
- 135.** A project manager has facilitated the decomposition of work packages into activities. She next carries the team through several exercises to sequence the activities and determine what and how many resources will be needed to perform the work. What is she likely to do next?
- A. Estimate how long each activity will take
 - B. Develop the schedule
 - C. Run various what-if scenarios against the schedule
 - D. Break down the activities into deliverables
- 136.** Yasmin is the project manager of a project that will produce a new line of widgets for the company. She guides the project team in defining the project requirements in detail before moving into production. Because of compliance requirements that must be met, she maintains a very rigid change control process for changing requirements. What method is Yasmin using to manage the project?
- A. Waterfall
 - B. Agile
 - C. Iterative
 - D. Scrum
- 137.** Nancy is a senior systems engineer who loves to work with people and can typically grasp the big picture. Because of her functional knowledge, organized nature, and ease in getting others to follow her lead, her manager decides to move her into a project manager role. Despite all of her strengths, Nancy struggles greatly with her first project. The first major milestone was missed, and the project was already over budget by \$20,000. What part of the PMI Talent Triangle™ is Nancy missing?
- A. Technical project management
 - B. Leadership
 - C. Strategic and business management
 - D. Schedule management

138. Robert is a practicing project manager who is studying for his PMP exam. During a study session with a colleague, he insists that it is important for project managers to consider all 49 project management processes, while his colleague insists that it is not necessary and that project managers should carry out only the necessary processes. Who is correct?

- A. Robert
- B. Robert's colleague
- C. Both
- D. Neither

139. A portfolio manager is leading a project portfolio planning exercise to determine which projects will move forward in the new quarter and support the strategic goals of the portfolio. She decides to use a scoring model to rate projects against the following three criteria: profit potential, ease of use, marketability. Based on the table provided, what is the weighted score of project C?

Criteria	Weight	*Project A score	*Project B score	*Project C score
Profit potential	5	5	2	1
Marketability	1	1	5	3
Ease of use	3	2	3	5
Weighted score	—	—	—	—

*5 being the highest score

- A. 9
- B. 8
- C. 25
- D. 23

140. Quincy and Michael are two executives of Widgets for Life, a company providing the latest cool lifestyle gadgets. As part of their annual planning process, they've opted to use a method that is considered to be the least precise, in combination with a scoring model. What two methods are they using?

- A. Scoring model and discounted cash flows
- B. Scoring model and benefit-cost ratio
- C. Scoring model and payback period
- D. Scoring model and net present value

- 141.** Antwon, the director of marketing, approaches you to tell you about the latest idea he had for a new phone app that he called Project UV2. Since he was the brain behind the company's top-selling app, you take him seriously. He notes that his idea involves enhancing the existing UV app by upgrading the back end to sit on technology that the company recently rolled out, thereby making response time faster. This is considered to be which of the following?
- A.** A project
 - B.** Ongoing operation
 - C.** A secondary phase of Project UV
 - D.** A program
- 142.** All of the following are processes that belong to the Project Integration Management Knowledge Area except for which one?
- A.** Develop Project Management Plan
 - B.** Direct and Manage Project Work
 - C.** Identify Stakeholders
 - D.** Perform Integrated Change Control
- 143.** All of the following describe a functional organizational structure except for which one?
- A.** The functional manager manages the project budget.
 - B.** The role of project manager is part-time.
 - C.** A project manager has little or no authority.
 - D.** The role of project manager can be full-time.
- 144.** Which of the following best defines a program?
- A.** A temporary endeavor undertaken to create a unique product, service, or result
 - B.** Related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually
 - C.** The iterative process of increasing the level of detail in a project management plan as greater amounts of information and more accurate estimates become available
 - D.** The series of phases that represent the evolution of a product, from concept through delivery, growth, maturity, and to retirement
- 145.** A project manager meets with the project sponsor for a weekly update. Company performance has been rocky, and the sponsor nervously asks what the chances are of the project coming to a successful closure. To date, the project has been on track and is nearing the end of Execution. How should the project manager respond?
- A.** The likelihood of successful completion is high.
 - B.** The likelihood of successful completion is highest.
 - C.** The likelihood of successful completion is low.
 - D.** The likelihood of successful completion is lowest.

- 146.** The project sponsor of a project has just met with the organization's senior executives to provide them with a summary of the latest project that is about to kick off. He introduces Yasmin, the project manager, and commits to the room of executives that the project is bound to be a success. Who assumes responsibility for the success of the project?
- A. Project sponsor
 - B. Senior executives
 - C. Project team
 - D. Project manager
- 147.** Projects may come about as a result of which of the following?
- A. Ideas
 - B. Methods to exceed stakeholder expectations
 - C. Motivated employees
 - D. Needs and demands
- 148.** Initiating, Planning, Executing, Monitoring and Controlling, and Closing are referred to as which of the following?
- A. Project Management phases
 - B. Project management Knowledge Areas
 - C. Project management process groups
 - D. Project Life Cycle Stages
- 149.** Your selection committee is considering two projects. They can choose only one or the other. Project A's expected cash inflows are \$14,000. It has a payback period of 14 months, and IRR equals 4 percent. Project B expects cash inflows of \$5,000 per quarter for the first 16 months, and its IRR is 2. Which project should the selection committee choose and why?
- A. Project A, because its payback period is shorter than Project B's
 - B. Project B, because its IRR value is less than Project A's
 - C. Project B, because the payback period is shorter than Project A's
 - D. Project A, because its IRR value is higher than Project B's
- 150.** Which of the following best describes PMI?
- A. A nonprofit organization that focuses on project, program, and portfolio management
 - B. A for-profit organization that focuses on project, program, and portfolio management
 - C. The industry-recognized standard within the United States for project management practices
 - D. The industry-recognized standard for project management practices

- 151.** A program manager working for an infectious disease nonprofit has just been assigned to a program that seeks to solve a deadly issue plaguing a third-world country. The issue involves a deadly bacteria that has entered into a major water source that branches out into multiple regions across the country. The first project will involve a feasibility study. This project came about as a result of what?
- A. Strategic opportunity
 - B. Environmental considerations
 - C. Regulatory requirement
 - D. Social need
- 152.** An assumption can best be described as which of the following?
- A. Actions that restrict or dictate the actions of the project team
 - B. Factors expected to be in place or to be in evidence
 - C. An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more of the project's objectives
 - D. An immediate and temporary response to an issue
- 153.** Lewis is a marketing associate reporting to Antwon, the company's director of marketing. He pulls you aside to get your opinion about the latest project that he claims was his idea. He expresses frustration that Antwon was named sponsor of the project instead of himself. Based on the scenario presented, who is the correct project sponsor?
- A. Lewis
 - B. Antwon
 - C. Neither
 - D. Both
- 154.** Sue is the head of an enterprise project management office (PMO). She delivers a presentation at the annual company meeting to describe her role's responsibilities and the value of the PMO. As part of her presentation, Sue delivers an award to a project manager for exhibiting strength in defining critical success factors of the project, developing a project schedule, and knowing when to ask for help. What skill set is she recognizing the project manager for?
- A. Communication skills
 - B. Leadership skills
 - C. Business management and strategic skills
 - D. Technical project management skills
- 155.** A project manager is in the process of developing the project charter. Almost immediately, he identifies several constraints. Where is he likely to document the constraints and maintain regular updates as they change throughout the project?
- A. Project charter
 - B. Business case
 - C. Risk register
 - D. Assumption log

- 156.** A portfolio manager is evaluating two projects using IRR. If Project A has an IRR of 2 percent, Project B has an IRR of 5 percent, and Project C has an IRR of 4 percent, which project will the portfolio manager recommend?
- A. Project A
 - B. Project B
 - C. Project C
 - D. None
- 157.** At what point in the project's life cycle is the risk probability of occurrence at its highest?
- A. Initiating
 - B. Planning
 - C. Executing
 - D. Closing
- 158.** The processes that make up the project management process groups often interact and overlap with one another and are often performed in what way?
- A. Sequentially
 - B. Singularly
 - C. Iteratively
 - D. Progressively
- 159.** The project manager meets with the project sponsor for the first time to discuss the project. In what activity are they involved?
- A. Developing the project management plan
 - B. Identifying overall project risks
 - C. Developing the project charter
 - D. Developing the project schedule
- 160.** Who is responsible for understanding the interests and personal agendas of stakeholders?
- A. Project sponsor
 - B. Project manager
 - C. Project team
 - D. Executive sponsor

Chapter 2



Planning (Domain 2.0)

THE PROJECT MANAGEMENT PROFESSIONAL (PMP)[®] EXAM CONTENT FROM THE PLANNING THE PROJECT PERFORMANCE DOMAIN COVERED IN THIS CHAPTER INCLUDES THE FOLLOWING:

- ✓ Review and assess detailed project requirements, constraints, and assumptions with stakeholders based on the project charter, lessons learned, and by using requirement gathering techniques in order to establish the project deliverables.
- ✓ Develop a scope management plan, based on the approved project scope and using scope management techniques, in order to define, maintain, and manage the scope of the project.
- ✓ Develop the cost management plan based upon the project scope, schedule, resources, approved project charter, and other information, using estimating techniques, in order to manage project costs.
- ✓ Develop the project schedule based on the approved project deliverables and milestones, scope, and resource management plans in order to manage timely completion of the project.
- ✓ Develop the human resource management plan by defining the roles and responsibilities of the project team members in order to create a project organizational structure and provide guidance regarding how resources will be assigned and managed.
- ✓ Develop the communications management plan based on the project organizational structure and stakeholder requirements in order to define and manage the flow of project information.



- ✓ **Develop the procurement management plan based on the project scope, budget, and schedule in order to ensure that the required project resources will be available.**
- ✓ **Develop the quality management plan and define the quality standards for the project and its products, based on the project scope, risks, and requirements in order to prevent the occurrence of defects and reduce the cost of quality.**
- ✓ **Develop the change management plan by defining how changes will be addressed and controlled in order to track and manage change.**
- ✓ **Plan for risk management by developing a risk management plan; identifying, analyzing, and prioritizing project risk; creating the risk register; and defining risk response strategies in order to manage uncertainty and opportunity throughout the project life cycle.**
- ✓ **Present the project management plan to the relevant stakeholders according to applicable policies and procedures in order to obtain approval to proceed with project execution.**
- ✓ **Conduct kick-off meeting, communicating the start of the project, key milestones, and other relevant information in order to inform and engage stakeholders and gain commitment.**
- ✓ **Develop the stakeholder engagement plan by analyzing needs, interests, and potential impact in order to effectively manage stakeholders' expectations and engage them in project decisions.**



The process names, inputs, tools and techniques, outputs, and descriptions of the project management process groups and related materials and figures in this chapter are based on content from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Sixth Edition* (PMI®, 2017).

1. The project manager develops a project management plan to describe how the project will be executed, monitored, controlled, and closed. Which of the following is a valid tool or technique to assist the project manager to assure the success of the project management plan?
 - A. Meetings
 - B. Enterprise environmental factors
 - C. Organizational process assets
 - D. Outputs from other processes
2. A project manager is providing guidance to the project team on the steps required to generate the work breakdown structure (WBS). She lists the following: 1) identify the deliverables and work, 2) organize the WBS, 3) decompose the WBS components into lower-level components, and 4) assign identification codes. What is the fifth step?
 - A. Identifying and assigning codes to control accounts
 - B. Decomposing the work packages into activities
 - C. Determining cost estimates at the planning package level
 - D. Verifying the degree of decomposition
3. You are sequencing activities and have just begun to identify dependencies. What can you use to help get you started quickly?
 - A. Enterprise environmental factors
 - B. Organizational process assets
 - C. Milestone list
 - D. Scheduling tool
4. Using the information displayed in the following table, calculate the number of network paths.

Activity Name	Successor	Duration
A	B, C, D	5
B	E	2
C	E	10
D	E	7
E	None	2

- A. 5
- B. 3
- C. 4
- D. 0

5. Using the information displayed in the following table, identify the critical path.

Activity Name	Successor	Duration
A	B, C, D	5
B	E	2
C	E	10
D	E	7
E	None	2

- A.** A-B-E
- B.** A-C-E
- C.** A-D-E
- D.** A-E-D

6. Using the information displayed in the following table, identify the near critical path.

Activity Name	Successor	Duration
A	B, C, D	5
B	E	2
C	E	10
D	E	7
E	None	2

- A.** A-B-E
- B.** A-C-E
- C.** A-D-E
- D.** A-E-D

7. All of the following statements about the arrow diagramming method (ADM) are true except for which one?

- A.** In ADM, activities are placed on the arrows, which are connected to dependent activities with nodes.
- B.** ADM allows for multiple types of dependencies, including finish-to-start, start-to-finish, start-to-start, and finish-to-finish.
- C.** ADM is also referred to as *activity on arrow* (AOA) and *activity on line* (AOL).
- D.** ADM allows for more than one time estimate to determine duration.

8. You are the project manager for Lucky Stars Candies. You've identified the deliverables and requirements and documented them where?
 - A. In the project scope statement, which will be used as an input to the Create WBS process
 - B. In the project scope management document, which is used as an input to the Define Scope process
 - C. In the product requirements document, which is an output of the Define Scope process
 - D. In the project specifications document, which is an output of the Define Activities process
9. Roshoud is the VP of customer operations for Galactic Kidz and the project sponsor of the latest project, called Project G. He sits down with Sally, the project manager, to discuss how they will respond to the risks identified. For one risk in particular, he asks Sally to facilitate the purchase of insurance to protect against a liability. What type of risk response is this?
 - A. Avoid
 - B. Mitigate
 - C. Share
 - D. Transfer
10. All of the following statements pertain to the Develop Project Management Plan process except for which one?
 - A. Develop Project Management Plan is the first process in the Planning process group and the first Planning process in the Project Integration Management Knowledge Area.
 - B. The project management plan, an output of Develop Project Management Plan, includes other information, such as the resource management plan and cost baseline.
 - C. The tools and techniques of this process include data-gathering techniques and expert judgment.
 - D. Develop Project Management Plan is the first process in the Planning process group and the first process in the Project Scope Management Knowledge Area.
11. Using a beta distribution formula, calculate the cost estimate based on the following three-point estimates: Optimistic = \$2,500, Most Likely = \$3,500, Pessimistic = \$7,200.
 - A. \$4,400
 - B. \$3,950
 - C. \$13,200
 - D. \$3,500

- 12.** The project scope statement consists of multiple components. All of the following are included within the project scope statement except for which one?
- A.** Product scope description
 - B.** Deliverables
 - C.** Project requirements
 - D.** Project exclusions
- 13.** Sally and Joe are two project managers working in the corporate offices of a popular fast-food franchise. They are both studying for their PMP certification and are having a discussion on the work breakdown structure (WBS). Sally is confused and asks Joe to describe what the WBS contains. What is Joe likely to respond with?
- A.** The WBS includes a description of the project scope, major deliverables, assumptions, and constraints.
 - B.** The WBS is a work package containing unique identifiers, which provide a structure for hierarchical summation of costs, schedule, and resource information.
 - C.** The WBS is a document that provides detailed deliverable, activity, and scheduling information about each component within the project scope statement.
 - D.** The WBS is a decomposition of the total scope of work to be carried out by the project team to accomplish the project objectives and create the required deliverables.
- 14.** If Activity A has an early start of 10, an early finish of 16, and a late start of 12, what is the total float of the activity?
- A.** 0
 - B.** 6
 - C.** 2
 - D.** 4
- 15.** Which of the following is a valid tool or technique that aids the project manager in developing the risk management plan?
- A.** Data analysis
 - B.** Organizational process assets
 - C.** Enterprise environmental factors
 - D.** Data gathering
- 16.** Each of the following is a key element of the inputs to Define Scope that you should consider when starting this process, except for which one?
- A.** Project management information system
 - B.** Project charter
 - C.** Requirements documentation
 - D.** Historical information and product description

- 17.** A project manager facilitates a meeting with the project team to review an assessment of risks recently completed. During this meeting, they evaluate options for responding to the risks. It is decided that two risks will not receive any action and that they will deal with the consequences at the time of occurrence, should they occur. What type of risk response is this?
- A.** Passive acceptance
 - B.** Active acceptance
 - C.** Mitigation
 - D.** Avoidance
- 18.** Your customer has requested a specific color for the product your project is producing. This is an example of which of the following?
- A.** Requirement
 - B.** Deliverable
 - C.** Product description
 - D.** Project description
- 19.** A project manager is performing activities associated with the Plan Procurement Management process. Which tool or technique can he (she) use to gather information on specific seller capabilities?
- A.** Market research
 - B.** Advertising
 - C.** Source selection analysis
 - D.** Make-or-buy analysis
- 20.** Balancing stakeholder interests and attaining customer satisfaction are important activities for project managers. One of the best things you can do to ensure customer satisfaction is to define and document which of the following?
- A.** Estimates
 - B.** Quality
 - C.** Requirements
 - D.** Objectives
- 21.** A project manager presents a summary of project team roles and responsibilities, training needs, and recognition and rewards to the project sponsor for approval. In what activity are they engaged?
- A.** Developing the stakeholder engagement plan
 - B.** Identifying resource risk
 - C.** Developing the resource management plan
 - D.** Estimating project costs

- 22.** The project management plan might require changes and updates as the Planning processes proceed. These updates are decided upon and managed through which of the following?
- A.** Approved change requests
 - B.** Perform Integrated Change Control process
 - C.** Control Communications process
 - D.** Control Scope process
- 23.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five data centers into one. She pulls together a core set of experts who have worked on similar projects to discuss how scope should be managed. What tool or technique is Alyssa using?
- A.** Data analysis
 - B.** Expert judgment
 - C.** Alternatives analysis
 - D.** Organizational process assets
- 24.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five data centers into one. To date, she has completed and received sign-off of the project charter and identified her stakeholders. Currently, she is in the process of defining and documenting which processes she will use to manage the project. What output will this activity produce?
- A.** The project charter
 - B.** The stakeholder register
 - C.** The project management plan
 - D.** The scope management plan
- 25.** Marysil, an enterprise project manager for Cups on Fire, kicked off activities to develop the schedule. To date, she has generated the schedule management plan and led the team through a decomposition of work packages into activities. Now, she and the team are sequencing activities. She plans on displaying a visual using a network diagram during the next meeting. What network diagramming method is she most likely to use?
- A.** Arrow diagramming method
 - B.** Activity on arrow
 - C.** Precedence diagramming method
 - D.** Activity on line
- 26.** Using a triangular distribution formula, calculate the cost estimate based on the following three-point estimates: Optimistic = \$2,500, Most Likely = \$3,500, Pessimistic = \$7,200.
- A.** \$4,400
 - B.** \$3,950
 - C.** \$13,200
 - D.** \$3,500

- 27.** Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. As part of her latest project, she interviews experienced subject-matter experts to better understand what risks exist within the project. Where will she document her findings?
- A.** Risk register
 - B.** Risk management plan
 - C.** Risk report
 - D.** Project documents
- 28.** Some of the components of the project management plan define or include all of the following except for which one?
- A.** The project management processes to be used by the project team
 - B.** Configuration management plan
 - C.** Methods for determining and maintaining the validity of the project baselines
 - D.** The initial project organization
- 29.** You are a project manager for Lightning Bolt Enterprises. Your new project involves the research and development of a new type of rechargeable battery. The project objectives, as documented in the project charter and used in creating the project scope statement, should include which of the following?
- A.** A description of the business need that brought about this project
 - B.** A brief summary of the product description, including measurable, quantifiable product requirements that will help measure project success
 - C.** Quantifiable criteria, including elements such as cost, schedule, and quality measures
 - D.** Quantifiable criteria derived from value engineering, value analysis, or function analysis
- 30.** Analogous estimating is also known as what?
- A.** Three-point estimating
 - B.** Bottom-up estimating
 - C.** Parametric estimating
 - D.** Top-down estimating
- 31.** All of the following statements are true regarding the Plan Scope Management process except for which one?
- A.** It is the first process in the Project Scope Management Knowledge Area.
 - B.** One of the purposes of this process is to create the scope management plan.
 - C.** One of the purposes of this process is to develop the requirements management plan.
 - D.** You will use facilitated workshops to help develop the outputs of this process.

- 32.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five call centers into one. She pulls together a core set of experts who have worked on similar projects to discuss how scope should be managed. What project management process is she performing?
- A.** Plan Scope Management
 - B.** Collect Requirements
 - C.** Define Scope
 - D.** Validate Scope
- 33.** A project manager meets with the team to discuss how they will measure budget performance moving forward. What activity is the team engaged in?
- A.** Taking corrective action
 - B.** Evaluating performance
 - C.** Developing the cost management plan
 - D.** Developing the project budget
- 34.** You have decomposed the deliverables for your project as follows: Project Management, Design, Build, and Test. The Design deliverable is further decomposed to include these deliverables: product design document, blueprints, and prototype. Adequate cost and schedule estimates have been applied to all the deliverables. Which of the following has occurred?
- A.** All the steps of decomposition have been performed.
 - B.** Steps 1, 2, and 3 of decomposition have been performed for the Design deliverable.
 - C.** Steps 1, 2, 3, and 4 of decomposition have been performed for all the deliverables.
 - D.** Steps 1, 2, and 3 of decomposition have been performed for all the deliverables with the exception of the Design deliverable.
- 35.** All of the following statements are true except for which one?
- A.** Perform Qualitative Risk Analysis is the third process within the Project Risk Management Knowledge Area.
 - B.** Plan Risk Responses and Implement Risk Responses are part of the Planning process group.
 - C.** The Project Risk Management Knowledge Area has a total of seven project management processes.
 - D.** The risk management plan is a subsidiary plan of the project management plan.
- 36.** Which of the following best describes appraisal costs?
- A.** Costs associated with satisfying customer requirements by creating a product without defects
 - B.** Costs expended to examine the product or process and make certain the requirements are being met
 - C.** Costs when things don't go according to plan
 - D.** Costs that occur externally, when the customer determines that the requirements have not been met

- 37.** Nicolas is the project manager of a project that has been described as revolutionizing the mobile fitness tracking industry. He recently finalized and published the scope. A key subject-matter expert on his team asks to see the list of acceptance criteria. What document will Nicolas reference to get this information?
- A.** Project scope statement
 - B.** Requirements documentation
 - C.** Business case
 - D.** Scope management plan
- 38.** Which process is responsible for addressing the communication needs of the stakeholders by defining the types of information needed, the format for communicating the information, and how often it's distributed?
- A.** Identify Stakeholders
 - B.** Plan Stakeholder Engagement
 - C.** Plan Communications Management
 - D.** Manage Communications
- 39.** Which of the following statements is not true regarding lateral thinking?
- A.** It is a form of alternatives generation.
 - B.** Lateral thinking is a tool and technique of the processes used when identifying risks.
 - C.** Edward de Bono created this term and has done extensive research on the topic.
 - D.** This is a way of reasoning and thinking about problems from perspectives other than the obvious.
- 40.** Marysil, an enterprise project manager for Cups on Fire, is in the process of sequencing activities with her team to develop the project schedule. One team member noted that when the next generation prototype cup is cauterized, it will need to sit for a period of two days before it can be hand painted. How will Marysil reflect this within the schedule?
- A.** By adding a two-day lead between the two activities
 - B.** By adding a two-day lag between the two activities
 - C.** By adding a two-day buffer between the two activities
 - D.** By adding a two-day project buffer to the project
- 41.** A project manager is working with a risk manager to prioritize individual project risks. What project management process is associated with this activity?
- A.** Plan Risk Management
 - B.** Identify Risks
 - C.** Perform Qualitative Risk Analysis
 - D.** Perform Quantitative Risk Analysis

- 42.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five call centers into one. To date, she has completed and received sign-off of the project charter and identified her stakeholders. Currently, she is in the process of defining and documenting which processes she will use to manage the project. What process is she performing?
- A.** Develop Project Charter
 - B.** Develop Project Management Plan
 - C.** Manage Project Knowledge
 - D.** Monitor and Control Project Work
- 43.** All of the following statements are true about the Project Resource Management Knowledge Area except for which one?
- A.** The Knowledge Area is responsible only for the identification, management, and monitoring of human resources.
 - B.** The Knowledge Area has a total of six project management processes.
 - C.** Estimating activity resources is an activity that occurs as part of this Knowledge Area.
 - D.** The Knowledge Area has processes belonging to the Planning, Executing, and Monitoring and Controlling process groups.
- 44.** You work within a project management office, and the new PMO director has adjusted project assignments to accommodate a large strategic project that the company has undertaken. You sit down with the previous project manager of your new project to review stakeholder communication requirements, escalation processes, and the list of project-related meetings. What document will you use to get this information?
- A.** Stakeholder engagement plan
 - B.** Communications management plan
 - C.** Resource management plan
 - D.** Project management plan
- 45.** Which of the following statements best describes the product scope?
- A.** The work performed to deliver a product, service, or results with the specified features and functions
 - B.** The higher-level needs of the organization as a whole and the reasons why a project has been undertaken
 - C.** The features and characteristics that describe the product, service, or result of the project
 - D.** A description of the behaviors of the product, including actions and interactions that the product should execute
- 46.** What output of the Define Activities process describes the characteristics of activities?
- A.** Activity attributes
 - B.** Activity list

- C. Milestone list
 - D. Change requests
- 47.** You are a project manager for Lightning Bolt Enterprises. Your new project involves the research and development of a new type of rechargeable battery. One of your stakeholders requests a change to the product scope description. They've filled out a change request form indicating that the change affects the project scope and that it's essential for a successful project. The change request is approved, and the project scope statement is updated to reflect this change. All of the following statements are true except for which one?
- A. The product scope description, which is also a component of the project charter, is an input to the Define Scope process.
 - B. Change requests are evaluated against the project scope statement, and if a change request is outside the bounds of the original project scope, the change should be denied.
 - C. Product analysis converts the product description and objectives into deliverables and requirements.
 - D. The project scope statement directs the project team's work and is the basis for future project decisions.
- 48.** The difference between project deliverables and project requirements is best described in which of the following options?
- A. Deliverables are specific items that must be produced for the project or project phase to be considered complete. Each project phase has only one deliverable, which might have multiple requirements.
 - B. Requirements are measurable items that must be produced for the project or project phase to be considered complete. Each project phase might have multiple deliverables with multiple requirements.
 - C. Requirements are measurable items that must be produced for the project or project phase to be considered complete; deliverables are the specifications used to tell you what you are trying to produce.
 - D. Deliverables are specific items that must be produced for the project or project phase to be considered complete; requirements are the specifications of the deliverables used to tell you whether the deliverables were produced successfully.
- 49.** You are the director of the project management office (PMO) for your organization. Terri, an employee from another department, has approached you about a new project that is being talked about in her department. Terri would like the opportunity to head up this project and wants to convince you of her knowledge of project management and that she can do this job. Terri's objective statement for the project says the following: "Convert all our distribution centers in the United States to Radio Frequency Identification (RFID) tags. This new technology will improve inventory management by giving us a real-time view of demand for the products we sell. It will also help reduce theft and reduce stock-outs. The electronic identification stored in the tags should be fixed. This new technology

- will require the installation of readers at each warehouse gate.” All of the following statements are correct regarding Terri’s objective statement except for which one?
- A. This statement describes an overview of the project, but it cannot be considered an objective statement because it’s missing some important elements.
 - B. Objectives describe what it is the project is trying to produce or accomplish and requirements are specifications of the objective or deliverable.
 - C. This statement describes the objectives of the project adequately; however, requirements have been added into the statement.
 - D. Requirements have been mixed into the statement Terri wrote. One of the requirements in this statement is that “electronic identification stored in the tags should be fixed.”
50. All of the following are inputs to the Develop Project Management Plan process except for which one?
- A. Enterprise environmental factors
 - B. Organizational process assets
 - C. Outputs from other processes
 - D. Interpersonal and team skills
51. Which of the following typically shows the departments, work units, or teams within an organization and their respective work packages?
- A. Work breakdown structure (WBS)
 - B. Resource breakdown structure (RBS)
 - C. Organization breakdown structure (OBS)
 - D. Risk breakdown structure (RBS)
52. A project manager meets with the project team to estimate the duration of activities identified to date. The project sponsor recently guided the project manager to present her with a duration estimate for the project that contains a high confidence level. What estimating technique is the project manager likely to use, assuming that the necessary information is available?
- A. Three-point estimating
 - B. Bottom-up estimating
 - C. Parametric estimating
 - D. Top-down estimating
53. Risk strategy, methodology, and risk-related roles and responsibilities are all elements of what?
- A. Risk register
 - B. Risk management plan
 - C. Risk report
 - D. Project documents

- 54.** All of the following are true regarding Estimate Activity Resources except for which one?
- A.** The resource calendar tool and technique considers the time frames in which resources are available.
 - B.** This process should be closely coordinated with the Estimate Costs process.
 - C.** Alternatives analysis and bottom-up estimating are two of its tools and techniques.
 - D.** Project management information system is a tool and technique of this process that can help plan, organize, and estimate resource needs.
- 55.** You are the project manager for Changing Tides video games. Your project is a long-term project and will be completed in three phases over the next two years. You have gathered the inputs for the Estimate Activity Durations process and are ready to produce the activity duration estimates. Your sponsor would like a project estimate for all three phases by the end of the week. He understands that at this stage it will be a rough order of magnitude estimate and not entirely accurate. Which of the following tools and techniques will you use to produce this estimate?
- A.** Parametric estimating
 - B.** Expert judgment
 - C.** Analogous estimating
 - D.** Three-point estimating
- 56.** Kaylee is a risk manager working in collaboration with Alyssa, a project manager. Both work for a top healthcare company. They are currently in the process of performing qualitative risk analysis. What input are they most likely to need to perform this process?
- A.** Risk report
 - B.** Risk register
 - C.** Stakeholder register
 - D.** Assumption log
- 57.** A project manager has facilitated the decomposition of work packages into activities. She next carries the team through several exercises to identify predecessor and successor activities. The project manager is performing activities associated with which process?
- A.** Plan Schedule Management
 - B.** Define Activities
 - C.** Sequence Activities
 - D.** Estimate Activity Durations
- 58.** Your project has a total of 35 stakeholders. How many lines of communication exist?
- A.** 600
 - B.** 613
 - C.** 630
 - D.** 595

- 59.** The project sponsor asks the project manager to validate that the product scope has been met. What will the project manager use to measure the completion of the product scope?
- A.** Product requirements
 - B.** Project management plan
 - C.** Requirements documentation
 - D.** Project charter
- 60.** Which of the following represents a definitive range of estimates?
- A.** -25 percent to +75 percent
 - B.** -5 percent to +10 percent
 - C.** -10 percent to +10 percent
 - D.** -50 percent to +50 percent
- 61.** A small sample of your project's critical path is shown in the following table. Assuming each activity must finish before the next activity can begin, what is the late start and late finish date for activity 3?

Activity	Duration	Early Start	Early Finish
1	22	5/1	5/22
2	5	5/23	5/28
3	7	5/29	6/4
4	1	6/5	6/5

- A.** Late start is 5/30, and late finish is 6/5.
 - B.** Late start is 5/29, and late finish is 6/4.
 - C.** Late start is 5/31, and late finish is 6/6.
 - D.** Late start is 6/5, and late finish is 6/11.
- 62.** A project manager is performing quantitative risk analysis. What output is likely to be produced?
- A.** An assessment of probability and impacts for each individual risk
 - B.** A priority level for each individual project risk
 - C.** An assessment of overall project risk exposure
 - D.** A list of potential risk responses

- 63.** A small sample of your project's critical path is shown in the following table. Assuming each activity must finish before the next activity can begin, which of the following options is not correct?

Activity	Duration	Early Start	Early Finish
1	22	5/1	5/22
2	5	5/23	5/28
3	7	5/29	6/4
4	1		

- A.** Activity 1-2-3-4 is the critical path.
 - B.** Late start and late finish are the next set of calculations to perform.
 - C.** To complete the chart and determine the remaining dates for activity 4, you have to perform a backward pass.
 - D.** After early start, early finish, late start, and late finish dates are established, you can calculate the float for each activity.
- 64.** A small sample of your project's PERT calculations is shown here. What is the total duration of the project?

Activity	Optimistic	Pessimistic	Likely Expected Value
1	10	14	12
2	20	30	23
3	3	3	3

- A.** 33
 - B.** 38
 - C.** 37
 - D.** 47
- 65.** You are looking over project team assignments and see that one of your resources is overallocated. You are concerned about the future availability of this resource and also notice the resource is assigned to more than one activity. To keep the project on schedule, which of the following techniques should you use?
- A.** Reverse resource allocation scheduling
 - B.** Resource leveling
 - C.** Resource loading
 - D.** Resource smoothing

- 66.** A small sample of your project's PERT calculations is shown here. Activity 2 is particularly important to the project, and your stakeholders are asking for a confidence level for this activity. You tell them there is a 95.44 percent chance of completing activity 2 within how many days?

Activity	Optimistic	Pessimistic	Likely Expected Value
1	10	14	12
2	20	30	23
3	3	3	3

- A.** Between 18 and 28 days
B. Between 21 and 25 days
C. Between 13 and 33 days
D. Between 23 and 28 days
- 67.** All of the following are true regarding resource calendars except for which one?
- A.** Resource calendars show the resources' vacation time.
B. Resource calendars are an output of the Develop Schedule process.
C. Resource calendars are an output of the Acquire Resources process.
D. Resource calendars consider quantity, capability, and availability of equipment and material resources.
- 68.** A project manager managing a small project has a total of 12 active stakeholders. How many lines of communication exist?
- A.** 66
B. 72
C. 12
D. 24
- 69.** Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. As part of her latest project, she interviews experienced subject-matter experts to better understand what risks exist within the project. What project management process is she carrying out?
- A.** Plan Risk Management
B. Identify Risks

- C. Perform Qualitative Risk Analysis
 - D. Perform Quantitative Risk Analysis
- 70.** This type of dependency has a tendency to create arbitrary total float values that will limit your options when scheduling activities. What type of dependency is this?
- A. Mandatory
 - B. Hard
 - C. Discretionary
 - D. External
- 71.** Which quality theorist is responsible for the theory that promotes doing it right the first time?
- A. Philip Crosby
 - B. Joseph Juran
 - C. W. Edwards Deming
 - D. Walter Shewhart
- 72.** The project manager is facilitating an exercise with the team by asking questions about the product and forming answers to describe the use, characteristics, and other relevant aspects of what will be delivered. In what activity is the team involved?
- A. Data analysis
 - B. Product analysis
 - C. Alternatives analysis
 - D. Facilitation
- 73.** The project team recently participated in a working session to determine the costs associated with individual activities. To produce a more accurate estimate, they broke each activity down further into smaller chunks. What process is the team engaged in?
- A. Plan Cost Management
 - B. Estimate Costs
 - C. Determine Budget
 - D. Control Costs

- 74.** You are a project manager for Time Will Tell, an international watch manufacturer. Your project entails developing a watch with global positioning satellite (GPS) capabilities. Kit is a junior staff member with two years of experience in GPS technology. Carrie is a senior staff member with five years of experience working with GPS technology. You are developing the activity duration estimates for the project activities. You are trying to determine an estimate for a particular activity that involves GPS skills and knowledge. Carrie has worked on activities similar to this in the past. She tells you the activity will likely take 45 days. All of the following statements are true regarding the information in this question except which one?
- A.** Carrie used an analogous estimating technique to come up with the 45-day estimate for this activity.
 - B.** The activities are similar in fact, not just appearance, and Carrie has the needed expertise to provide this estimate, so you can rely on the estimate being reasonably accurate.
 - C.** Carrie used a technique that is a form of expert judgment to estimate this activity.
 - D.** The technique Carrie used can also be used to estimate project duration because of the amount of information available about the details of the project.
- 75.** Kaylee is a risk manager working in collaboration with Alyssa, a project manager, and both work for a top healthcare company. They are currently in the process of performing risk analysis. Of the 20 risks identified, 5 are deemed to be low priority. Where will these risks be documented?
- A.** A watch list
 - B.** The risk report
 - C.** The project management plan
 - D.** The risk management plan
- 76.** Using the following three-point estimates, calculate the expected value using the triangular distribution formula: Optimistic = 25, Pessimistic = 50, Most Likely = 35.
- A.** 25
 - B.** 36
 - C.** 35
 - D.** 37
- 77.** Accuracy levels, units of measure, control thresholds, and performance measurement rules are all elements of what project management document?
- A.** Scope management plan
 - B.** Schedule management plan
 - C.** Project management plan
 - D.** Requirements management plan

- 78.** Reasons to Lyv is the top client of a large marketing firm. Trudy is the president of Reasons to Lyv and has decided to launch a product that leverages new GPS tracking technology. She sits down with Roy, the project manager on the project, to discuss which stakeholders are resistant, unaware, neutral, supportive, or leading within the project. What tool or technique are they using?
- A. Data representation
 - B. Data analysis
 - C. Data gathering
 - D. Expert judgment
- 79.** A project manager is managing a project working to produce a fitness tracking device. He has just finished getting the project authorized and analyzing stakeholder needs and expectations. What activity is he likely to perform next?
- A. Generate a project charter
 - B. Put together the project management plan
 - C. Collect the project and product requirements
 - D. Develop a stakeholder engagement strategy
- 80.** A project manager learns of a recent issue that has been identified while running cable underground. The issue is deemed to be minor, so the project manager emails the project sponsor to ensure she is kept informed of all activities, as requested. What type of communication method did the project manager use?
- A. Interactive communication
 - B. Push communication
 - C. Pull communication
 - D. Multidirectional communication
- 81.** The project team recently participated in a working session to determine the costs associated with individual activities. To produce a more accurate estimate, they broke each activity down further into smaller chunks. What estimating technique is the team using?
- A. Analogous estimating
 - B. Parametric estimating
 - C. Bottom-up estimating
 - D. Three-point estimating
- 82.** What do functional requirements describe?
- A. The environmental conditions or qualities required for the product to be effective
 - B. The needs of a stakeholder or stakeholder group
 - C. The higher-level needs of the organization as a whole
 - D. The behaviors of the product

- 83.** This tool and technique of the Develop Schedule process is used in conjunction with some of its other tools and techniques, including critical path method, to produce the project schedule.
- A.** Applying leads and lags
 - B.** Schedule network analysis
 - C.** Resource leveling
 - D.** Scheduling tool
- 84.** All of the following are true regarding three-point estimates except for which one?
- A.** This estimating technique uses most likely, optimistic, and pessimistic estimates to determine an overall estimate.
 - B.** This estimating technique requires reliance on experienced team members to provide these estimates.
 - C.** This estimating technique calculates a weighted average estimate that is more accurate than one estimate.
 - D.** This estimating technique is a tool and technique of the Estimate Activity Duration process.
- 85.** Your project sponsor has reviewed the initial project schedule you created for the project. She is not happy with the project end date because it doesn't match the promise date she gave the customer. You decide to use some compression techniques first. Which of the following statements should you keep in mind (and know to be true) regarding duration compression?
- A.** Crashing is a compression technique that typically produces a viable alternative.
 - B.** Fast-tracking is a compression technique that typically results in increased costs.
 - C.** Schedule compression shortens the project schedule but doesn't change the project scope.
 - D.** Crashing is a compression technique that typically results in increased risk.
- 86.** Your project estimates have come in as follows: Most Likely is 100 days, Pessimistic is 250 days, Optimistic is 75 days. What is the expected value of this estimate?
- A.** 120.83 days
 - B.** 141.66 days
 - C.** 108.33 days
 - D.** 195.33 days
- 87.** Kaylee is a risk manager working in collaboration with Alyssa, a project manager, and both work for a top healthcare company. They are currently in the process of performing risk analysis. To determine the most likely date of project completion, based on known risks, they run a simulation using a risk management tool that will run through thousands of possible scenarios. What tool are they using?
- A.** Monte Carlo analysis
 - B.** Decision-tree analysis
 - C.** Sensitivity analysis
 - D.** Influence diagrams

- 88.** Using the following three-point estimates, calculate the expected value using the beta distribution formula: Optimistic = 25, Pessimistic = 50, Most Likely = 35.
- A. 25
 - B. 36
 - C. 35
 - D. 37
- 89.** Reasons to Lyv is the top customer of a large marketing firm. Trudy is the president of Reasons to Lyv and has decided to launch a product that leverages new GPS tracking technology. She sits down with Roy, the project manager on the project, to discuss which stakeholders are resistant, unaware, neutral, supportive, or leading within the project. What activity are they performing?
- A. Identifying stakeholders
 - B. Planning stakeholder engagement
 - C. Managing stakeholder engagement
 - D. Monitoring stakeholder engagement
- 90.** Ronaldo has just joined the company as a project manager and is taking over an active project that is in the process of developing the schedule. The previous project manager did a good job of maintaining project management documents up to date. Which project management document can Ronaldo reference that will outline the methodology and tools the team is using to perform schedule network analysis?
- A. Cost management plan
 - B. Activity list
 - C. Schedule management plan
 - D. Project schedule network diagram
- 91.** A project manager learns of a recent issue that has been identified while running cable underground. The issue is deemed to be minor, so the project manager emails the project sponsor to ensure they are kept informed of all activities, as requested. The project sponsor promptly calls the project manager to get additional information on the issue. What communication method did the sponsor use?
- A. Interactive communication
 - B. Push communication
 - C. Pull communication
 - D. Email communication
- 92.** Which of the following is a valid tool and technique that the project manager can use to help ensure the effectiveness of the requirements management plan?
- A. Alternatives analysis
 - B. Meetings
 - C. Organizational process assets
 - D. Requirements traceability matrix

- 93.** These two tools and techniques of the Plan Communications Management process consider the number of communication channels and the methods for transferring information among stakeholders, respectively.
- A.** Information-gathering systems and communications methods
 - B.** Communications requirements analysis and communication technology
 - C.** Communications skills and information distribution methods
 - D.** Communications methods and additional communications distribution methods
- 94.** Which of the following components of Plan Communications Management inputs are of particular importance to this process?
- A.** All of the elements described in the enterprise environmental factors input
 - B.** Lessons learned and historical information (parts of the organizational process assets input)
 - C.** All of the elements described in the organizational process assets input
 - D.** Communications requirements, change control procedures, and performance measurement criteria (parts of the organizational process assets input)
- 95.** You are working on a communications management plan for your project. You examine elements such as the company and department organization charts, stakeholder relationships, the different departments involved on the project, the number of people associated with the project and where they work, and the government reporting needs you have because of the nature of this project. Which of the following does this question describe?
- A.** Communications models
 - B.** Communications technology
 - C.** Communication methods
 - D.** Communications requirements analysis
- 96.** You are working on the communications management plan for your project and have considered the timing and need for updated information by you and your four stakeholders. Your organization has modern, up-to-date technology that your stakeholders and staff have used before, so you anticipate that supplying the information and updates to your stakeholders and team members will be a breeze. Which of the following is true?
- A.** There are 10 channels of communication, which should be considered when examining communications requirements analysis.
 - B.** There are 5 channels of communication, which should be considered when examining communications requirements.
 - C.** There are 12 channels of communication, which should be considered when examining communications technology.
 - D.** There are 20 channels of communication, which should be considered when examining communications technology.

- 97.** Roshoud is the VP of customer operations for Galactic Kidz and project sponsor of the latest project, called Project G. He sits down with Sally, the project manager, to discuss the current budget estimate. Roshoud expresses his concerns to Sally over the budget being far greater than originally anticipated and asks her to course-correct. What produces the greatest expense on most projects?
- A. Vendors
 - B. Resources
 - C. Materials
 - D. Travel
- 98.** This term is used for both costs and schedules to establish what you'll measure against later in the Executing and Monitoring and Controlling processes.
- A. Variance
 - B. Expected value
 - C. Baseline
 - D. Estimates
- 99.** Which of the following best describes individual project risk?
- A. An uncertain event or condition that, if it occurs, has a negative effect on one or more project objectives.
 - B. An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives.
 - C. The effect of uncertainty on the project as a whole, arising from all sources of uncertainty.
 - D. The effect of uncertainty on a project objective, arising from all sources of uncertainty.
- 100.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five data centers into one. She is currently facilitating the estimating process to calculate the duration of the project's activities. Alyssa knows that she has reliable information and is therefore planning on using an estimating technique that will yield a highly accurate estimate with minimal effort expended. What estimating technique is she planning on using?
- A. Three-point estimating
 - B. Bottom-up estimating
 - C. Parametric estimating
 - D. Top-down estimating
- 101.** You are in the Planning stage of the project and have just begun to generate the cost baseline. In what activity are you engaged as a project manager?
- A. Performing the Plan Cost Management process
 - B. Performing the Estimate Costs process
 - C. Performing the Determine Budget process
 - D. Performing the Control Costs process

- 102.** You are a contract project manager and have entered into the activities definition phase of your project. You take the team through a decomposition activity to break down work packages into activities. Before concluding this phase, what else are you and the team likely to capture?
- A. The activity list
 - B. The milestone list
 - C. The network diagram
 - D. The list of predecessors and successors
- 103.** Kaylee is a senior project manager for a fitness company that is developing a new franchise model. She has just led the team through various workshops to capture requirements. What activity is she likely to perform next?
- A. Publish the requirements management plan
 - B. Define the scope of the project
 - C. Develop the work breakdown structure
 - D. Measure the completion of the requirements
- 104.** You've derived cost estimates and allocated them to the activities of your project. You know that these estimates will be used to measure cost variances and performance throughout the remaining life of the project. The cost baseline has been established and becomes the expected cost of the project. Which process did you perform to arrive at the cost baseline?
- A. Estimate Costs
 - B. Cost Control
 - C. Determine Budget
 - D. Develop Costs
- 105.** Which of the following is not true regarding the Determine Budget process?
- A. Cost estimates and basis of estimates are both outputs of the Estimate Costs process and are both inputs to this process.
 - B. Project costs should include all costs associated with the project, including direct and indirect costs.
 - C. Funding limit reconciliation is a tool and technique of this process that involves reconciling the amount of funds to be spent with the amount of funds budgeted for the project.
 - D. Warranty period costs are considered part of the project life cycle and should be included in the cost budget.
- 106.** Which of the following best describes the purpose of the Plan Stakeholder Engagement process?
- A. To identify project stakeholders regularly and analyze and document relevant information regarding their interests, involvement, interdependencies, influence, and potential impact on project success
 - B. To communicate and work with stakeholders to meet their needs and expectations, address issues, and foster appropriate stakeholder involvement

- C. To monitor project stakeholder relationships and tailor strategies for engaging stakeholders through modification of engagement strategies and plans
 - D. To develop approaches to involve project stakeholders based on their needs, expectations, interests, and potential impacts on the project
- 107.** You are creating the cost management plan. You have talked with your project sponsor and CFO and will document that you are rounding to the nearest thousand and will be using weeks to estimate resources. What two elements of the plan does this describe respectively?
- A. Control thresholds and units of measure
 - B. Units of measure and control thresholds
 - C. Rules of performance and level of accuracy
 - D. Level of accuracy and units of measure
- 108.** All of the following statements are true regarding the Develop Project Management Plan process except for which one?
- A. The process has a single output, which is the project management plan.
 - B. The output outlines what processes will be carried out to manage the project, along with the project's requirements.
 - C. The purpose of the process is to describe how the project will be executed, monitored, controlled, and closed.
 - D. The scope management plan, scope baseline, and stakeholder engagement plan are all components of the project management plan.
- 109.** Which of the following serves as the basis for estimating costs?
- A. Scope baseline
 - B. WBS
 - C. Resource management plan
 - D. Cost baseline
- 110.** Which of the following tools and techniques of the Estimate Costs process should you use when you want to improve your estimates and account for risk and estimation uncertainty?
- A. Analogous estimating
 - B. Three-point estimating
 - C. Bottom-up estimating
 - D. Expert judgment
- 111.** Which quality theorist is known as the grandfather of Total Quality Management (TQM)?
- A. Philip Crosby
 - B. Joseph Juran
 - C. W. Edwards Deming
 - D. Walter Shewhart

- 112.** Which of the following best describes overall project risk?
- A.** An uncertain event or condition that, if it occurs, has a negative effect on one or more project objectives.
 - B.** An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives.
 - C.** The effect of uncertainty on the project as a whole, arising from all sources of uncertainty.
 - D.** The effect of uncertainty on a project objective, arising from all sources of uncertainty.
- 113.** You are in the process of facilitating a working session with the project team to decompose the project deliverables into smaller chunks of work. What process are you carrying out?
- A.** Plan Scope Management
 - B.** Collect Requirements
 - C.** Define Scope
 - D.** Create WBS
- 114.** You are in the Planning stage of the project and have just kicked off activities associated with the Determine Budget process. In addition to the cost baseline, what is a likely output of this activity?
- A.** Cost estimates
 - B.** Project funding requirements
 - C.** Basis of estimates
 - D.** Cost management plan
- 115.** You have derived your activity cost estimates, including human resources, materials, equipment, information technology needs, and contingency reserve amounts. You have documented constraints and assumptions for each of your key activities, you have described how the estimates were derived, and you have included a range of possible results. You will eventually request sign-off for the total project budget. Which of the following have you prepared?
- A.** The basis of estimates
 - B.** The project documents updates
 - C.** An organizational process asset update
 - D.** The funding limit reconciliation
- 116.** You have derived your activity cost estimates, including human resources, materials, equipment, information technology needs, and contingency reserve amounts. You have documented constraints and assumptions for each of your key activities, you have described how the estimates were derived, and you have included a range of possible results. You will eventually request sign-off for the total project budget. During this process, you have found the risk register needs to be updated and know that the cost estimates and the overall project budget will likely change as the project progresses. Which of the following does this describe?

- A. The basis of estimates and project documents updates, which are outputs of the Estimate Costs process
 - B. The control thresholds and basis of estimates, which are outputs of the Determine Budget process
 - C. The basis of estimates and project documents updates, which are outputs of the Determine Budget process
 - D. The control thresholds and basis of estimates, which are outputs of the Estimate Cost process
- 117.** Which of the following is not true regarding the cost baseline?
- A. The performance measurement baseline is another term for the cost baseline when you're using parametric estimating techniques to determine costs.
 - B. The cost baseline is the total expected cost for the project when using earned value management techniques.
 - C. The cost baseline is an output of the Determine Budget process along with project funding requirements and project documents updates.
 - D. The cost baseline is calculated in part by using an aggregate of the cost estimates of the project activities.
- 118.** You have completed your cost baseline and are now determining funding requirements. Which of the following is true?
- A. Funding requirements are derived from the activity costs.
 - B. Management reserves are the difference between the funding requirements and the cost baseline.
 - C. The management reserve is released in a lump sum at the beginning of the project.
 - D. Funding requirements are an output of the Estimate Costs process.
- 119.** You are a senior project manager for a company that produces mobile phone applications. In your latest project, you have teamed up with another project manager, who will manage a subset of the project. She tells you that the work packages have been decomposed and milestones captured for her deliverables. Together, you review her list of milestones, the first of which reads "Finish GUI: 30 Days." What is wrong with this scenario?
- A. Two project managers cannot be associated with one project.
 - B. A milestone cannot contain the word *GUI*.
 - C. Work packages should not be decomposed.
 - D. The project manager is unclear as to the definition of a milestone.
- 120.** You are developing the cost baseline and the project budget. You know that all of the following are true regarding these two elements except for which one?
- A. The project budget includes management reserves.
 - B. Work package estimates and contingency reserves are included in the cost baseline and project budget.
 - C. The cost baseline includes the project budget.
 - D. Activity cost estimates and contingency reserves are included in the cost baseline and project budget.

- 121.** Which process is concerned with effectively engaging stakeholders, understanding their needs and interests, understanding the good and bad things they bring to the project, and understanding how the project will impact them?
- A.** Control Stakeholder Engagement
 - B.** Plan Stakeholder Engagement
 - C.** Identify Stakeholders
 - D.** Manage Stakeholder Engagement
- 122.** You work for a company that writes billing software programs for the communication industry. Your customer is located in a country that limits the number of foreigners allowed into the country. You identify this risk in your risk management plan. The critical point during the project is installation and setup. You might do which of the following, given these circumstances?
- A.** Develop a shared response strategy
 - B.** Develop a cause-and-effect diagram that identifies the risk and shows the cost effect of each choice on the objectives of the project
 - C.** Use sensitivity analysis to determine the causal influences of these risks and the time ordering of the events
 - D.** Develop a mitigation plan for installation and setup
- 123.** All of the following are components that make up the scope baseline except for which one?
- A.** Project scope statement
 - B.** Activities list
 - C.** WBS
 - D.** WBS Dictionary
- 124.** You are the project manager for the Heart of Texas casual clothing company. Your project involves installing a new human resources system. You've identified the risks associated with this project and are ready for the next step. What is the next step?
- A.** You should evaluate the risks and assign probabilities and impacts using Qualitative and/or Quantitative Risk Analysis.
 - B.** You should use the Delphi technique to confirm the risks you've detailed and identify others you may have missed.
 - C.** You should evaluate the risks and assign probabilities and impacts using both Perform Qualitative Risk Analysis, which comes first, and then Perform Quantitative Risk Analysis.
 - D.** You should define the steps to take to respond to the risks and detail them in the risk response plan.

125. You work for a company that writes billing software programs for the communication industry. Your customer is located in a country that limits the number of foreigners allowed into the country. You identify this risk in your risk management plan. The critical point during the project is installation and setup. You have assessed the risks and are using the Perform Qualitative Risk Analysis process. Which of the following tools and techniques will you use to determine the potential effect on the project objectives (such as time, cost, scope, or quality) and determine the likelihood of the risk occurring?

- A.** Risk categorization
- B.** Risk probability and impact assessment
- C.** Risk data quality assessment
- D.** Risk urgency assessment

126. All of the following are true regarding the probability and impact matrix except for which one?

- A.** It prioritizes risks according to their potential for meeting the project's objectives.
- B.** It's defined in the risk management plan, which is an output of the Plan Risk Management process.
- C.** It's used as a tool and technique in the Perform Qualitative Risk Analysis process.
- D.** It's used as an input to the Perform Quantitative Risk Analysis process.

127. Using the values within the following table, identify the critical path.

Activity Name	Successor	Duration
A	B, C	5
B	D	2
C	D, E	4
D	F	4
E	F	6
F	None	6

- A.** A-B-D-F
- B.** A-C-D-F
- C.** A-C-E-F
- D.** A-B-E-F

128. Using the values within the following table, calculate the early finish of activity D.

Activity Name	Successor	Duration
A	B, C	5
B	D	2
C	D, E	4
D	F	4
E	F	6
F	None	6

- A.** 10
- B.** 12
- C.** 13
- D.** 15

129. Using the values within the following table, calculate the late start of activity C.

Activity Name	Successor	Duration
A	B, C	5
B	D	2
C	D, E	4
D	F	4
E	F	6
F	None	6

- A.** 6
- B.** 9
- C.** 4
- D.** 8

130. Using the values within the following table, calculate the total float of activity E.

Activity Name	Successor	Duration
A	B, C	5
B	D	2

Activity Name	Successor	Duration
C	D, E	4
D	F	4
E	F	6
F	None	6

- A.** 0
B. 2
C. 6
D. 1
- 131.** Cost plus incentive fee, cost plus award fee, cost plus percentage of cost, and cost plus fixed fee are all other names for what contract type?
- A.** Cost-reimbursable contract
B. Time and materials contract
C. Fixed-price contract
D. Cost plus contract
- 132.** Interviewing, brainstorming, and checklists are three types of data gathering techniques found in which process?
- A.** Perform Qualitative Risk Analysis
B. Monitor Risks
C. Identify Risks
D. Perform Quantitative Risk Analysis
- 133.** All of the following statements describe the Determine Budget process except for which one?
- A.** The Determine Budget process utilizes several estimating techniques.
B. The purpose of the Determine Budget process is to establish an authorized cost baseline.
C. The cost baseline is an output of the Determine Budget process.
D. Management reserves are part of the project funding requirements but not the cost baseline.
- 134.** Why is assessing risk probability in the Perform Qualitative Risk Analysis process difficult?
- A.** Because it relies on historical data
B. Because the values are cardinal
C. Because the values are ordinal
D. Because it relies on expert judgment

- 135.** Mandatory dependency is also known by what other name?
- A.** Preferred logic
 - B.** Hard logic
 - C.** Soft logic
 - D.** External dependency
- 136.** Your project has kicked off, and you are beginning a series of overview sessions with key users to determine requirements for a new enterprise resource software implementation. What process group are the activities you are performing in?
- A.** Initiating
 - B.** Planning
 - C.** Executing
 - D.** Monitoring and Controlling
- 137.** The lowest level of the work breakdown structure (WBS) is referred to as which of the following?
- A.** WBS dictionary
 - B.** Work package
 - C.** Planning package
 - D.** Control account
- 138.** Which contract type can incorporate incentives for meeting or exceeding certain contract deliverables above a firm price for the goods or services rendered?
- A.** Cost-reimbursable contract
 - B.** Time and materials contract
 - C.** Fixed-price contract
 - D.** Cost plus contract
- 139.** You are working on the risk management plan for your current project and need to document how the risk activities will be recorded for the benefit of future projects. Which part of the risk management plan addresses these issues?
- A.** Lessons learned
 - B.** Thresholds
 - C.** Tracking
 - D.** Reporting format
- 140.** A project manager is performing activities associated with the Plan Procurement Management process. He is attempting to determine, along with the relevant subject-matter experts, whether it makes more sense to develop internally or purchase a deliverable. What tool or technique can he use to produce a successful outcome?
- A.** Market research
 - B.** Advertising
 - C.** Source selection analysis
 - D.** Make-or-buy analysis

- 141.** All of the following are true regarding EMV analysis except for which one?
- A. EMV is a tool and technique within the Perform Quantitative Risk Analysis tools and techniques.
 - B. EMV is often used in conjunction with decision-tree analysis.
 - C. EMV examines risk from the perspective of the project as a whole.
 - D. EMV is calculated by multiplying the probability of the occurrence by the value of each possible outcome and adding the results together.
- 142.** You've gathered cost estimates for the activities of your current project. Most of the activities can be completed with existing staff resources. The summary cost estimate for existing resources is \$535,000. You will also need to hire contractors to perform some of the activities that require specialized skills. You've received a bid from a local vendor for \$137,000 for these services. All of the following statements are true except which one?
- A. You've determined a quantitative estimate of the cost to the organization to perform the activities of the project.
 - B. The cost of the vendor services to your organization is considered pricing (from the vendor's perspective), which is a business decision on their part.
 - C. The procurement SOW can be prepared by either the buyer or seller, and it should be as accurate as possible, as you will use this SOW in the contract award.
 - D. You should use purchase price as the sole criterion for choosing among vendors when you have multiple qualified sellers from which to choose.
- 143.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five data centers into one. She is currently facilitating the estimating process to calculate the duration of the project's activities. When she gets to the "run cable" activity, one team member tells her that in a past similar project, they ran a similar length of cable in 13 hours; another team member tells her that they can run 110 meters of cable per hour. The team will need to run a total of 1,320 meters of cable. Using the analogous estimating technique, how many hours will it take the team to run the cable?
- A. 9
 - B. 13
 - C. 10
 - D. 12
- 144.** A project manager meets with a key set of experts within her project team. They express concerns over recent cost estimates produced, insisting that they have not sufficiently considered alternatives. It is still early in the project life cycle. Which of the following is a valid tool or technique that can aid the project manager in addressing the team's concerns?
- A. Analogous estimating
 - B. Expert judgment
 - C. Decision-making
 - D. Data analysis

- 145.** What action can a project manager take if the selected risk response strategy turns out not to be fully effective?
- A.** Develop and implement a fallback plan
 - B.** Document and respond to a secondary risk
 - C.** Actively accept the risk
 - D.** Update the risk register with the outcome
- 146.** Like the WBS, all of the following present project information in a hierarchical fashion except for which one?
- A.** OBS
 - B.** BOM
 - C.** RAM
 - D.** RBS
- 147.** You are the project manager for an outdoor concert event scheduled for one year from today. You're working on the procurement documents for the computer software program that will control the lighting and screen projections during the concert. You've decided to contract with a professional services company that specializes in writing custom software programs. You want to minimize the risk to the organization and want a well-defined set of deliverables for a set price. You have agreed to pay the vendor a bonus if they complete the program at least 30 days earlier than scheduled, so you'll opt for which contract type?
- A.** FPIF
 - B.** CPFF
 - C.** FFP
 - D.** CPIF
- 148.** A project manager spends the afternoon updating the attributes associated with requirements captured. In what document will the project manager record this information?
- A.** Requirements documentation
 - B.** Requirements log
 - C.** Requirements management plan
 - D.** Requirements traceability matrix
- 149.** You are the project manager for the Heart of Texas casual clothing company. It's introducing a new line of clothing called Black Sheep Ranch Wear. You will outsource the production of this clothing line to a vendor. Your legal department has recommended you use a contract that reimburses the seller's allowable costs and includes a fixed fee upon completion of the contract. Which of the following contract types will you use?
- A.** CPIF
 - B.** CPFF
 - C.** CPF
 - D.** FPIF

- 150.** A RAM or RACI chart is considered which of the following?
- A. A type of OBS chart
 - B. A hierarchical chart
 - C. A type of RBS chart
 - D. A matrix-based chart
- 151.** Emma is a project manager working on a project that will require a specially engineered machine. Several manufacturers can make the machine to the specifications Emma needs. She will use purchase price as the sole criterion for choosing from among the vendors. Which of the following is true regarding this question?
- A. Emma must use purchase price alone as the sole criterion for evaluation because multiple vendors are involved.
 - B. Emma will review the procurement documents and teaming agreements as some of the inputs to this process.
 - C. Emma will include delivery and setup charges as part of the purchase price criterion.
 - D. Emma will use the advertising tool and technique of this process to let vendors know about this opportunity.
- 152.** You have been hired as a contract project manager for Grapevine Vineyards. Grapevine wants you to head up a project to design a new visitor center, tasting room, and gift shop. They also want to double the number of fermenting tanks and increase the size of the warehouse (which requires extensive temperature and environmental controls.) Grapevine management estimates this project will take three years. When you submit this project for bid, which of the following contract types will contractors likely want to use in order to protect themselves from cost increases and inflation?
- A. T&M
 - B. CPIF
 - C. FP-EPA
 - D. CPAF
- 153.** You are the project manager for BB Tops, a nationwide toy store chain. Your new project involves creating a prototype display at several stores across the country. You are using a RACI chart to display individuals and activities. Which of the following is true regarding this type of chart?
- A. A RACI chart is part of the organization charts and position descriptions tool and technique of the Plan Resource Management process.
 - B. A RACI chart is a type of matrix-based chart that is a tool and technique of the Plan Resource Management process.
 - C. A RACI chart is part of the organization chart and position descriptions and is a type of hierarchical chart that is a tool and technique of the Plan Resource Management process.
 - D. A RACI chart is a type of RAM chart that is a tool and technique of the Plan Resource Management process.

- 154.** The project team recently participated in a working session to determine the costs associated with individual activities. To produce a more accurate estimate, they broke each activity down further into smaller chunks. What will this activity yield?
- A. Cost estimates
 - B. Basis of estimates
 - C. Cost baseline
 - D. Project budget
- 155.** A project manager facilitates a meeting to review an assessment of risks recently completed with the project team. During this meeting, they evaluate options for responding to the risks. It is decided that three risks will not receive any action other than an increase in the contingency reserve fund, for use should the risks occur. What type of risk response is this?
- A. Passive acceptance
 - B. Active acceptance
 - C. Mitigation
 - D. Avoidance
- 156.** You have been hired as a contract project manager for Grapevine Vineyards. You are in the Plan Procurement Management process. Grapevine wants you to head up a project to design a new visitor center, tasting room, and gift shop. They also want to double the number of fermenting tanks and increase the size of the warehouse (which requires extensive temperature and environmental controls). Grapevine would like to have the bar in the tasting room constructed out of specialty marble that is available from only two places in the world. Grapevine management estimates this project will take three years. You are concerned about the availability of the specialty marble and know all of the following are true except which one?
- A. The project schedule can influence this process.
 - B. The Determine Budget process can be influenced by this process.
 - C. The make-or-buy analysis can be influenced by this process.
 - D. Your organization's business cycle might have an impact on this process.
- 157.** You are the project manager for Xylophone Phonics, which produces children's software programs that teach basic reading and math skills. You are performing the Plan Quality Management process and are considering the trade-offs between cost and quality. You know that it is cheaper and more efficient to prevent defects in the first place than to spend time and money fixing them later. Which of the following does this describe?
- A. Cost-benefit analysis
 - B. Make-or-buy decisions
 - C. Cost of quality
 - D. Nonconformance costs

- 158.** Which of the following best describes the purpose of the project management plan?
- A.** The project management plan describes how the project will be executed, monitored, controlled, and closed.
 - B.** The project management plan describes the requirements that must be met in order to produce the project and product scope.
 - C.** The project management plan documents the project success criteria, the approval requirements, and who will sign off on the project.
 - D.** The project management plan documents the business need and the cost-benefit analysis that justifies the project.
- 159.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five data centers into one. She is currently facilitating the estimating process to calculate the duration of the project's activities. When she gets to the “run cable” activity, one team member tells her that in a past similar project, they ran a similar length of cable in 13 hours; another team member tells her that they can run 110 meters of cable per hour. The team will need to run a total of 1,320 meters of cable. Using the parametric estimating technique, how many hours will it take the team to run the cable?
- A.** 9
 - B.** 13
 - C.** 10
 - D.** 12
- 160.** Collect Requirements and Create WBS are processes belonging to what project management Knowledge Area?
- A.** Project Integration Management
 - B.** Plan Schedule Management
 - C.** Project Scope Management
 - D.** Project Stakeholder Management

Chapter 3



Executing (Domain 3.0)

THE PROJECT MANAGEMENT PROFESSIONAL (PMP)[®] EXAM CONTENT FROM THE EXECUTING THE PROJECT PERFORMANCE DOMAIN COVERED IN THIS CHAPTER INCLUDES THE FOLLOWING:

- ✓ Obtain and manage project resources, including outsourced deliverables, by following the procurement plan in order to ensure successful project execution.
- ✓ Maximize team performance through leading, mentoring, training, and motivating team members.
- ✓ Execute the tasks as defined in the project plan in order to achieve the project deliverables within budget and schedule.
- ✓ Implement approved changes according to the change management plan in order to meet project requirements.
- ✓ Implement the quality management plan using the appropriate tools and techniques in order to ensure that work is being performed according to required quality standards.
- ✓ Implement approved actions and follow the risk management plan and risk register in order to minimize the impact of negative risk events on the project.



The process names, inputs, tools and techniques, outputs, and descriptions of the project management process groups and related materials and figures in this chapter are based on content from *A Guide to the Project Management Body of Knowledge (PMBOK[®] Guide), Sixth Edition* (PMI[®], 2017).

1. The project manager facilitates the implementation of approved changes by following the documented change control process. Which of the following is a valid tool or technique to assist the project manager in performing this activity?
 - A. Change log
 - B. Project management information system
 - C. Work performance data
 - D. Approved change requests
2. All of the following are tools and techniques of the Develop Team process except for which one?
 - A. Training
 - B. Emotional intelligence
 - C. Colocation
 - D. Negotiation
3. These processes are responsible for distributing information about the project to the stakeholders and satisfying the needs of the stakeholders by managing communications with them, respectively.
 - A. Manage Stakeholder Engagement and Manage Communications
 - B. Manage Stakeholder Engagement and Information Distribution
 - C. Manage Communications and Manage Stakeholder Engagement
 - D. Information Distribution and Manage Stakeholder Engagement
4. Recognition and rewards are important parts of team interaction. They are both formal ways of recognizing and promoting desirable behavior. Which of the following statements is not true regarding reward and recognition?
 - A. They are an input of the Develop Team process.
 - B. They should be proportional to the achievement.
 - C. Rewards can kill motivation if used improperly.
 - D. Rewards should be linked to performance.
5. During this contract life-cycle phase, the vendors are asked to compete for the contract and respond to the RFP. What contract life-cycle phase is this?
 - A. Requirement
 - B. Solicitation
 - C. Requisition
 - D. Award
6. Each of the following is an example of an information management system except for which one?
 - A. Email
 - B. Electronic files
 - C. Voicemail
 - D. Websites

7. You are working on a project that involves some top-secret manufacturing techniques your organization has invented and patented. One of the team members on the project has an extraordinary amount of knowledge about this technique. She is sought after by others in the organization for advice and will need to help the team with the current project. It's important that nothing involving this technique is discussed outside of this project. What type of power does this describe?
 - A. Referent
 - B. Situational
 - C. Expert
 - D. Punishment
8. All of the following are true regarding the organizational process assets updates output of the Manage Communications process except for which one?
 - A. Stakeholder notifications are part of this output and go hand in hand with one of the areas covered in the Role Delineation Study in the *PMI Code of Ethics and Professional Conduct*.
 - B. Project reports are part of this output and include status reports, among others, and according to the *PMI Code of Ethics and Professional Conduct*, the status of projects should always be truthful.
 - C. Lessons learned documentation is part of this output, and lessons learned meetings should be conducted at the end of project phases and at the end of the project at a minimum.
 - D. Feedback from stakeholders is part of this output and can improve performance on future projects, but it is too late to incorporate the feedback on the current project.
9. The organizational process assets updates output of the Manage Communications process includes all of the following except which one?
 - A. PMIS and project communications
 - B. Stakeholder notifications and project reports
 - C. Project presentations and project records
 - D. Lessons learned and feedback from stakeholders
10. A project manager has just facilitated the project change control process, which yielded 10 approved change requests. What process is he likely to perform next?
 - A. Direct and Manage Project Work
 - B. Perform Integrated Change Control
 - C. Manage Project Knowledge
 - D. Develop Project Management Plan
11. Raw observations and measurements identified while carrying out activities associated with the project work describe what?
 - A. Work performance information
 - B. Work performance data
 - C. Work performance reports
 - D. Work performance analysis

- 12.** A project manager is carrying out activities associated with the Manage Communications process. What result will these activities produce?
- A.** Ensuring that the information needs of the project and its stakeholders are met
 - B.** Developing an appropriate approach and plan for project communication activities
 - C.** Communicating and working with stakeholders to meet their needs and expectations
 - D.** Ensuring timely and appropriate collection, distribution, and the ultimate disposition of project information
- 13.** Your manager requests a meeting with you. When you meet, she asks you about the third paragraph of the recent status report. She doesn't understand what it means and believes that it may cast a bad light on her and the team. She asks you to explain, listens to your response, restates what you said, and then offers suggestions regarding how to phrase this type of information on future status reports. Which style of leadership and type of power does your manager practice?
- A.** Transactional and punishment
 - B.** Transformational and legitimate
 - C.** Democratic and referent
 - D.** Laissez-faire and reward
- 14.** You have received proposals in response to your recent RFP. The following types of information were used by your evaluation team to rate the vendors: availability, experience, and training. Experience was given the most weight, 5. Availability was assigned a weight of 3, and training was assigned a weight of 2. Vendor A scored the following: availability as 4, experience as 2, and training as 2. Vendor B scored the following: availability as 3, experience as 4, and training as 4. Which vendor won the bid, and what was the final score?
- A.** Vendor B, final score 21
 - B.** Vendor B, final score 37
 - C.** Vendor A, final score 21
 - D.** Vendor B, final score 43
- 15.** You are in the process of attaining and hiring resources for the project. Some of the resources can be found within the organization, but three of the resources you've identified must be hired on contract. You need to consider previous experience, personal interests, personal characteristics, availability, and the competencies and proficiency of the contractors as well as the internal staff. Which of the following statements best describes the situation?
- A.** The situation in this question refers to the project staff assignment, which is an output of Plan Resource Management.
 - B.** The situation in this question refers to organizational process assets, which are an input of Plan Resource Management.

- C. The situation in this question refers to the project staff assignments, which are an output of Acquire Resources.
 - D. The situation in this question refers to the enterprise environmental factors input to the Acquire Resources process.
- 16.** Who is attributed with the theory that says people are motivated by the need for power, achievement, and affiliation?
- A. David McClelland
 - B. Victor Vroom
 - C. Frederick Herzberg
 - D. Douglas McGregor
- 17.** When working in the Conduct Procurements process, you might consider asking the vendor to supply you with an ink sample for a project on which you're working. The ink must have special qualities (they were outlined in the RFQ), and before making a selection, you want to test the ink in the printers that will be used at project deployment. All of the following statements are true except for which one?
- A. This is an example of a proposal evaluation technique, which is a tool and technique of this process.
 - B. This is an example of source selection criteria, which are inputs of this process.
 - C. This is an example of a proposal evaluation technique, which is an output of this process.
 - D. Source selection criteria might also include financial capacity and technical capability.
- 18.** You are working with your stakeholders during the Executing processes. You are dealing with some issues involving the project objectives and are working to maintain consensus among the five stakeholders participating in this project. You have used both influencing and negotiating skills and have finally come to consensus on the issue at hand. Which of the following options best describes the contents of this question?
- A. You are using the interpersonal and team skills tool and technique of the Manage Stakeholder Engagement process.
 - B. You are using the management skills tool and technique of the Control Stakeholder Engagement process.
 - C. You are using the communication method tool and technique of the Plan Stakeholder Management process.
 - D. You are using the meetings tool and technique of the Plan Stakeholder Management process.

- 19.** A project manager is addressing risks or potential concerns related to stakeholder management and is anticipating future issues that may be raised by stakeholders. What process is she performing?
- A.** Monitor Communications
 - B.** Manage Communications
 - C.** Manage Stakeholder Engagement
 - D.** Monitor Stakeholder Engagement
- 20.** All of the following statements are true regarding the Develop Team process except for which one?
- A.** The outputs of the Develop Team process are team performance assessments, change requests, project management plan updates, organizational process assets updates, and enterprise environmental factors updates.
 - B.** This process is concerned with developing and training teams, not individuals.
 - C.** Team building can result in effective, functioning, coordinated performance among team members.
 - D.** Colocation is a technique used to help the team perform better.
- 21.** All of the following statements are true regarding the Manage Project Knowledge process except for which one?
- A.** It addresses both explicit and tacit knowledge.
 - B.** It generates the lessons learned register.
 - C.** It is performed at the end of the Executing process group.
 - D.** It often results in updates to the project management plan.
- 22.** A project manager meets with the team to increase cultural awareness by conducting training on cultural norms relating to countries they will be closely engaged with. What activity is the project manager engaged in?
- A.** Planning stakeholder engagement
 - B.** Monitoring stakeholder engagement
 - C.** Managing stakeholder engagement
 - D.** Managing communications
- 23.** You are a senior project manager working at a manufacturing plant that produces components used by the aviation industry. You are in the process of implementing approved changes. What process group do these process activities belong to?
- A.** Initiating process group
 - B.** Planning process group
 - C.** Executing process group
 - D.** Monitoring and Controlling process group

- 24.** Colocation is also known as what?
- A. Tight matrix
 - B. Virtual teams
 - C. Dedicated teams
 - D. Effective teams
- 25.** Which of the following best describes the directing conflict resolution technique?
- A. Pushing one's viewpoint at the expense of others
 - B. Incorporating multiple viewpoints and insights
 - C. Retreating from a potential conflict solution
 - D. Searching for solutions that bring some degree of satisfaction
- 26.** You are using a set of defined minimum requirements and information about the sellers (including past performance, contract compliance, and quality ratings) to make a selection among vendor proposals. What two tools and techniques does this represent?
- A. Screening systems and seller rating systems, respectively
 - B. Screening systems and internet search, respectively
 - C. Seller rating systems and screening systems, respectively
 - D. Internet search and screening systems, respectively
- 27.** Which of the following options explains one of the purposes of the Develop Team process?
- A. To create an open, encouraging environment in which team members can contribute
 - B. To create a disciplined environment in which team members can contribute
 - C. To create a colocated environment in which team members can contribute
 - D. To create a colocated, disciplined environment in which team members can contribute
- 28.** You've noticed that your CIO shows all the signs of being a good leader. All of the following statements are true regarding leaders except which one?
- A. Leaders use referent power.
 - B. Leaders impart vision.
 - C. Leaders are concerned with strategic plans.
 - D. Leaders are concerned with satisfying stakeholder needs.
- 29.** According to the *PMBOK® Guide*, this is required as part of the selected sellers output of the Conduct Procurements process.
- A. Purchase order
 - B. Memorandum of understanding
 - C. Procurement contract award
 - D. Negotiated draft contract

- 30.** According to the *PMBOK® Guide*, this output of the Manage Stakeholder Engagement process is used to promote communication with stakeholders.
- A.** Project communications
 - B.** Issue log
 - C.** Project management plan updates
 - D.** Change requests
- 31.** Acquire Resources, Manage Communications, and Conduct Procurements are processes that belong to which of the following project management process groups?
- A.** Initiating
 - B.** Planning
 - C.** Executing
 - D.** Monitoring and Controlling
- 32.** Which of the following project management documents records challenges, problems, realized risks, and opportunities?
- A.** Issue log
 - B.** Lessons learned register
 - C.** Risk register
 - D.** Project documents
- 33.** Nicolas is the project manager of a project that has been described as revolutionizing the mobile fitness tracking industry. He recently used his negotiation skills to achieve the support and agreement of two functional leads involved in his project. As part of his approach, he references the plan that outlines strategies and actions documented to manage specific stakeholders. What document did Nicolas reference to get this information?
- A.** Communications management plan
 - B.** Stakeholder engagement plan
 - C.** Resource management plan
 - D.** Procurement management plan
- 34.** You are in the process of facilitating a change control meeting. You review a change request that would double the scope of the project but would not yield a major increase in the project's resulting benefits. You know that the submitter of the change request has a tendency to bloat a project's scope without fully thinking through the impact, but as a result of their position in the company, their changes tend to be approved. You invite a financial analyst to the meeting to walk the team through the negative impact of the change request, and the team votes to reject the change. What type of power did you use?
- A.** Legitimate
 - B.** Expert

- C. Referent
 - D. Punishment
- 35.** Your project is dependent on a precise manufacturing process. You have hired trained auditors to evaluate the process and identify ineffective activities. The auditors bring a few ineffective activities to your attention, and as a result, you take a corrective action. All of the following are true regarding this situation except for which one?
- A. This is a quality improvement that came about as a result of the quality audit.
 - B. Quality improvements are implemented by submitting change requests.
 - C. Quality improvements are implemented by taking corrective actions.
 - D. Quality audits have the same purpose as the Control Quality process.
- 36.** One of your team members, Daniela, talks with you privately about a confrontation she just had with Noelle, another team member working on the same project. It seems they can't agree on a fundamental business process needed for the project. They both think they are correct in their view, and each has set up a meeting with you, independently, to convince you of her position. Which of the following statements is true?
- A. This describes the storming stage of team development.
 - B. This describes the performing stage of team development.
 - C. This describes the norming stage of team development.
 - D. This describes the forming stage of team development.
- 37.** What output of the Manage Stakeholder Engagement process includes updates made to the issue log?
- A. Project documents updates
 - B. Project management plan updates
 - C. Issue log updates
 - D. Change requests
- 38.** This output of the Direct and Manage Project Work process is in part concerned with documenting adherence to quality standards, number of change requests, schedule activity completion estimates, and resource consumption and utilization.
- A. Work performance data
 - B. Status reports
 - C. Project document updates
 - D. Lessons learned

- 39.** You are in the process of hiring resources for a project. Some of the resources can be found within the organization, but three of the resources you've identified must be hired from outside the organization. You need to consider previous experience, personal interests, personal characteristics, availability, and competencies and proficiency of the contractors as well as the internal staff. You have a friend who is looking for a job. He isn't qualified for the position, but you know him well enough to know he will come up to speed quickly. A couple of training classes should do the trick. What process is this question describing, and which area of the *PMI Code of Ethics and Professional Conduct* does this question refer to?
- A.** Develop Team and Respect
 - B.** Manage Team and Honesty
 - C.** Plan Resource Management and Fairness
 - D.** Acquire Resources and Responsibility
- 40.** All of the following statements are true regarding power types, except for which one?
- A.** Punishment power is also known as coercive power.
 - B.** Expert power comes from an individual's knowledge about the subject.
 - C.** Referent power is also known as formal power.
 - D.** Punishment, expert, legitimate, and referent are all power types.
- 41.** All of the following are outputs of the Manage Project Knowledge process except for which one?
- A.** Deliverables
 - B.** Lessons learned register
 - C.** Project management plan updates
 - D.** Organizational process asset updates
- 42.** You have devised some proposal evaluation criteria based on past performance, contract compliance, and quality ratings to select a seller. Your organization has used two of the three vendors that bid on this project on previous projects, so you are comfortable using whichever one is selected. Which of the following is one of the most important criteria in evaluating the responses to your proposal?
- A.** Predefined performance criteria or a set of defined minimum requirements
 - B.** The financial records of the potential vendor to determine their fiscal ability to perform the services
 - C.** Determining whether the vendor has a clear understanding of what you're asking them to do
 - D.** Information about the seller such as past performance, delivery, contract compliance, and quality ratings

- 43.** All of the following are true about the Executing process group except for which one?
- A.** There are 10 project management processes that belong to the Executing process group.
 - B.** The Executing process group contains the processes performed to complete the work defined in the plan.
 - C.** The Executing processes often produce updates to the project management plan and project documents.
 - D.** The Executing process group contains processes that track, review, and regulate the progress and performance of the project.
- 44.** Which of the following describes who is responsible for the quality assurance of the project?
- A.** Project manager
 - B.** Project manager and project team members
 - C.** Stakeholders
 - D.** Project team members, project manager, and stakeholders
- 45.** Corrective actions are taken as a result of which of the following?
- A.** Comparing and monitoring project performance against the baseline
 - B.** When deviations are discovered while coordinating and integrating the various elements of the project
 - C.** To reduce the probability of negative consequences
 - D.** To correct product defects discovered during the quality processes
- 46.** Victor Vroom developed a theory that recognizes the belief that a positive outcome drives motivation. You are looking for a new position as a program manager. You don't have the experience for this level of responsibility, but you are rationalizing that if you have enough motivation and can fudge a bit of experience on the application, you're showing initiative and hopefully, the outcome will be in your favor. What theory is this question describing and what area within the Responsibility domain of the *PMI Code of Ethics and Professional Conduct* does this question refer to?
- A.** Hygiene Theory and Professional Demeanor
 - B.** Achievement Theory and Ensuring Integrity
 - C.** Expectancy Theory and Accepting Assignments
 - D.** Self-actualization level of the Hierarchy of Needs and Conflict of Interest
- 47.** Which of the following power types relies on the influencer's position?
- A.** Legitimate
 - B.** Expert
 - C.** Referent
 - D.** Punishment

- 48.** You are a project manager for a network cabling project for your organization. Your project team consists of six full-time employees and three contractors. They have all worked together on a previous project a year ago. You are new to the team. Which of the following is true?
- A.** According to Tuckman-Jensen, they will start with the storming stage of team development.
 - B.** According to Hersey and Blanchard, they will start with the forming stage of team development.
 - C.** According to Tuckman-Jensen, they will start with the forming stage of team development.
 - D.** According to Hersey and Blanchard, they will start with the performing stage of team development.
- 49.** Contract phases are closely related to the Project Procurement Management Knowledge Area processes. All of the following are true except for which one?
- A.** The requirement stage, which establishes the project and contract needs, is related to the Plan Procurement Management process.
 - B.** The requisition stage, where responses to procurement documents are reviewed, is related to the Conduct Procurements process.
 - C.** The award stage, where the contract is awarded, is related to the Conduct Procurements process.
 - D.** Two of the outputs of the Plan Procurement Management process are inputs to the Conduct Procurements process.
- 50.** You are in the process of translating the quality management plan into executable quality activities that account for existing quality policies. What can you use to help you organize information in a series of steps that lead to a defect?
- A.** Flowcharts
 - B.** Histograms
 - C.** Matrix diagrams
 - D.** Affinity diagrams
- 51.** You are a new project manager and have always been self-motivated. You are destined to achieve good things and desire to attain the coveted PMP designation. Even after attaining the designation, you will strive to apply professional knowledge to your future projects and adhere to the *PMI Code of Ethics and Professional Conduct*. Which theory is described in this question, and what area of the PMI role delineation study does this question refer to?
- A.** Hygiene Theory and ensure personal integrity and professionalism
 - B.** Contingency Theory and contributing to the project management knowledge base
 - C.** Expectancy Theory and enhance professional competence
 - D.** Leadership Theory and responsibility

- 52.** Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. As part of her latest project, she struggles to rein in the team, who seem to be at each other's throats. She knows everyone has good intentions, but they are not yet open and trusting with each other. What phase of the team development model is the team currently in?
- A. Norming
 - B. Performing
 - C. Forming
 - D. Storming
- 53.** You are a project manager working within a project management office (PMO). You facilitate a session to identify the cause of a defect by whiteboarding all of the process steps with the team. One team member expresses frustration during the meeting, stating that this is not his job and that the quality team should be having this conversation alone. Managing quality, as well as participating in quality assurance activities, is whose responsibility?
- A. Quality team
 - B. Project manager
 - C. Project team
 - D. Everyone
- 54.** You are in the Acquire Resources process and are attaining and assigning resources to the project. You have both internal and external resources. You will be hiring your external resources using a work order against a contract you have with a local staffing agency. All of the following are true except for which one?
- A. The project manager is responsible for assuring the resources are skilled and available for the project and for documenting their reporting responsibilities. This is accomplished in this process and in the Plan Resource Management process.
 - B. The project manager might not have the ability to hire or select all of the project team members.
 - C. The team members coming from the consulting company are accounted for in the Plan Procurement Management process and Plan Resource Management process, not this process.
 - D. Checking for availability and considering personal interests and characteristics are an important part of this process.
- 55.** You are a project manager with a new company. You started less than 30 days ago. Your boss has told you it's urgent that resources are obtained and assigned to the project as soon as possible. This is your top priority. In addition, the quality assurance team needs to be assembled. All of the following are true regarding this situation except for which one?
- A. The project manager will have the greatest impact on quality during this process.
 - B. You should follow the Acquire Project Team processes to obtain the new resources.
 - C. Quality assurance is generally provided by a third party.
 - D. Project team members, the project manager, and stakeholders are responsible for the quality assurance of the project.

- 56.** You are a project manager for Dakota Software Consulting Services. You're working with a major retailer that offers its products through mail-order catalogs. It's interested in knowing customer characteristics, the amounts of first-time orders, and similar information. At one of your first project meetings, you explain to the team that quality is the number-one priority with this project and you will immediately deal with any project results (and those who caused them) that are not in keeping with this goal. The last software company that worked with this retailer was terminated because the quality of the end product was unacceptable. You tell the team there will be rewards for those who meet the quality requirements of this project. You also tell them the guidelines for escalating issues with the retailer and instruct them there are to be no deviations from this process. You want to know about anything that has the potential to become an issue. You conclude the meeting and return to your office to write the next status report. Which of the following is true regarding this question?
- A. This behavior is most like the democratic leadership style.
 - B. This behavior is most like the transformational leadership style.
 - C. This behavior is most like the transactional leadership style.
 - D. This behavior is most like the situational leadership style.
- 57.** You hold a position that is primarily concerned with satisfying stakeholder needs as well as issues such as plans, controls, budgets, policies, procedures, and team motivation. You have signed a nondisclosure agreement, promising not to give away trade secrets, and you have signed a noncompete agreement with your current employer that says you will not go to work for a competitor any sooner than 18 months after the date of your termination. Your staff members have signed similar agreements, but their noncompete agreement is for 12 months rather than 18. You have discovered, through a friend of a friend, that one of your staff members is interviewing at a competing company, and if the position is offered and accepted, it would violate the noncompete agreement your staff member signed. Which of the following describes the type of position you hold and the domain within the *PMI Code of Ethics and Professional Conduct* that pertains to this situation?
- A. Manager and Responsibility
 - B. Leader and Respect
 - C. Manager and Honesty
 - D. Leader and Fairness
- 58.** Which of the following shows quality management issues escalated by the team, as well as recommendations for process, project, and product improvements?
- A. Quality management plan
 - B. Quality control measurements
 - C. Test and evaluation documents
 - D. Quality reports

- 59.** You are a project manager with a new company. You started less than 30 days ago. Your boss has told you it's urgent that resources are attained and assigned to the project as soon as possible. This is your top priority. You have both internal and external resources. You have two internal positions that will be full-time employees, but the positions are vacant, so you need to recruit for and fill these positions. You happen to have a good friend you've known for several years who also attends your local PMI chapter. He is well qualified and looking for a new position. You call him up and hire him on the spot. You will be hiring your external resources using a work order against a contract you have with a local staffing agency. Which of the following is true regarding this situation?
- A.** You have ignored the organizational process assets input to the Acquire Resources process.
 - B.** Since the project is not yet underway, the new resource you hired will be considered a pre-assignment, which is a tool and technique of the Acquire Resources process.
 - C.** The personal interests and characteristics of the person you hired were not considered.
 - D.** The resource management plan, an input to the Acquire Resources process, will need updates.
- 60.** All of the following are tools and techniques of the Manage Stakeholder Engagement process except for which one?
- A.** Decision-making
 - B.** Expert judgment
 - C.** Ground rules
 - D.** Meetings
- 61.** Silvana is a junior project manager who was recently hired to work on projects supporting the networking team. Her first project is plagued with issues, mostly caused by team member conflicts. Her sponsor attempts to reassure Silvana. What fact is she likely to share with Silvana?
- A.** Conflict often occurs within a technical environment.
 - B.** Conflict is inevitable in a project environment.
 - C.** Conflict is always good.
 - D.** Conflict is never a reflection of the project manager.
- 62.** You are a project manager for Fly Me to Miami travel services. You need to obtain some services for your project on contract and have published an RFP. You are in the Conduct Procurements process and know that all of the following statements are true except for which one?
- A.** This process is used for obtaining goods or services, whether internal or external to the organization.
 - B.** Several techniques can be used to evaluate proposals.
 - C.** Vendors may be required to be on a qualified seller list to participate in the bid.
 - D.** Bidder conferences are used during this process to answer questions regarding the RFP.

- 63.** Kaylee is a risk manager working in collaboration with Alyssa, a project manager, and both work for a top healthcare company. During a tense moment, they have a heated debate on how a risk should be treated. They decide to get the sponsor's viewpoint and reach consensus after further discussion. What conflict resolution technique did they use?
- A.** Avoid
 - B.** Collaborate
 - C.** Direct
 - D.** Compromise
- 64.** Your virtual project team consists of 12 people in the same building you're located in plus 4 people from the West Coast office, 2 people from the Kansas City office, and 6 people from the London office. Your office works different hours from all the other offices. Additionally, not all of the resources in your building are available at the same times during the day. Three of those 12 team members work swing shift hours. Which of the following is not true?
- A.** The teams do not have the same project goals because of the differences in location. Your role is to make certain team members understand the goals and how you will be measuring their performance.
 - B.** Team members should understand the expectations you have for them on the project, and you should make certain they understand the decision-making processes.
 - C.** Your role is to communicate to all team members and make certain they understand the protocols for communicating with you and each other.
 - D.** Your role is to make certain that team members are given credit for their performance and actions on the project.
- 65.** Roshoud is serving as the project sponsor for a high visibility project within the Galactic Kidz corporation. During a weekly executive status meeting, he expresses concern regarding quality assurance and requests an update. Quality assurance is most concerned with what?
- A.** Using processes effectively and assuring stakeholders that the end result will meet their needs
 - B.** Identifying quality requirements and/or standards of the project and its deliverables
 - C.** Documenting how the project will demonstrate compliance with quality requirements and/or standards
 - D.** Monitoring and recording the results of executing the quality management activities to assess project performance
- 66.** Which of the following best describes the performing stage of the team development model, developed by Tuckman?
- A.** The phase where team members meet and learn about the project and formalize their roles and responsibilities
 - B.** The phase where team members begin to work together and adjust their work habits and behaviors to support the team

- C. The phase where the team is functioning as a well-organized unit and work through their issues smoothly
- D. The phase where the team members begin to address the project work and are not yet collaborative or open with each other
- 67.** You are a project manager working for a nonprofit organization. Your team consists of full-time employees from the same nonprofit organization, and all of you are motivated by providing a service to others in need. You have worked with these team members before and know they each have outstanding performance records. Your project concerns setting up a receiving and distribution center for new and gently used laptops to be distributed to schools in Latvia. At a recent team meeting, you reiterated the expectations for this project with all of your team members. You eagerly listened to their ideas and concerns and assured them you would support them in meeting the goals of the project no matter what it takes. Which theory do you subscribe to?
- A. Theory X
- B. Hygiene Theory
- C. Contingency Theory
- D. Theory Y
- 68.** Your project is well into the Executing phase. You are working with inputs such as quality metrics, work performance information, and quality control measurements, and you are working with tools and techniques such as quality audits and process analysis. You know that the most important thing to remember about this process is which of the following?
- A. This process involves performing systematic quality activities, including quality audits, to determine which processes should be used to achieve the project requirements.
- B. The quality management processes you use on the project help ensure that the project satisfies the quality standards outlined in the project management plan.
- C. This quality process is concerned with achieving the project requirements and assuring they are performed efficiently and effectively.
- D. This process uses tools and techniques such as cost-benefit analysis, cost of quality, and additional quality tools to determine inefficiencies in the process.
- 69.** Your virtual project team consists of 12 people in the same building you're located in plus 4 people from the West Coast office, 2 people from the Kansas City office, and 6 people from the London office. Your office works different hours from all the other offices. Additionally, not all of the resources in your building are available at the same times during the day. Three of those 12 team members work swing shift hours. Which of the following should you use to capture the availability information for these resources and potential future resources, as well as their capabilities and skills?
- A. Activity calendar
- B. Team roster
- C. Project calendar
- D. Composite resource calendar

- 70.** You have accepted a position in a new company and have spent the first 30 days observing your team. Your findings, unfortunately, are not encouraging. The team exhibits a lack of motivation, poor communication among team members, a lack of respect for you and your position, and project work results that are less than satisfactory. For a fleeting moment, you think about leaving but realize that's not in keeping with the *PMI Code of Ethics and Professional Conduct*. You know all of the following are true, given the circumstances, except for which one?
- A.** You know that quitting would not be in keeping with the Responsibility, Respect, Fairness, or Honesty domains of the *PMI Code of Ethics and Professional Conduct*.
 - B.** You will use interpersonal skills, training, and team-building activities, among others, to attempt to improve this dysfunctional team.
 - C.** You are in the Manage Team process and realize that since you are new to the team, the stages of team development will start over again at the forming stage.
 - D.** You will use ground rules, recognition and rewards, and personnel assessment tools, among others, to attempt to improve this dysfunctional team.
- 71.** Kaylee is a risk manager working for a top healthcare company. She was recently brought in to support a project that has been plagued with a multitude of issues. The project sponsor informs her that the issues were a result of not implementing documented risk response plans. Kaylee clarifies to the sponsor that this is not the root cause of the issues at hand but is instead caused by the most common problem with project risk management. What problem is Kaylee referring to?
- A.** Risks are not fully analyzed, and therefore, the risk responses are not effective.
 - B.** A full-time risk manager is often not allocated to a project, causing poor risk management to occur.
 - C.** Project teams spend effort in identifying, analyzing, and developing responses for risks but do not manage them.
 - D.** Risk triggers are not clearly documented in the risk register, causing the response plans to be ineffective.
- 72.** All of the following statements about the Direct and Manage Project Work process are true, except for which one?
- A.** The key benefit of the process is that it provides overall management of the project work.
 - B.** Deliverables and work performance data are outputs of the process.
 - C.** This process is responsible for generating approval of change requests.
 - D.** Approved change requests and the change log are two key inputs to the process.
- 73.** Which of the following processes uses evaluation criteria to evaluate proposals, rank the responses, and award the contract?
- A.** Conduct Procurements, of which proposal evaluation is a tool and technique
 - B.** Plan Procurement Management, of which proposal evaluation is a tool and technique
 - C.** Contract Administration, of which evaluation criteria are inputs
 - D.** Plan Contracting, of which evaluation criteria are outputs

- 74.** A project manager is in the process of holding a kick-off meeting to signal that execution of the project work is about to begin. She reviews the project baseline, communication cadence, and guidelines with the team, and she treats them to a pizza party to increase morale. Which of the following documents serves as the project baseline?
- A. Project management plan
 - B. Approved project schedule
 - C. Work plan
 - D. Approved project budget
- 75.** The project management plan serves as the project baseline. During which of the following process groups should you continually compare and monitor project performance against the baseline so that corrective actions can be taken and implemented as soon as necessary?
- A. Planning
 - B. Monitoring and Controlling
 - C. Executing
 - D. Initiating
- 76.** Marysil is an enterprise project manager for Cups on Fire. To date, she has identified risks, analyzed them, and developed risk responses for her project. What activity is she likely to carry out next?
- A. Plan Risk Responses process
 - B. Perform Quantitative Risk Analysis process
 - C. Implement Risk Responses process
 - D. Plan Risk Management process
- 77.** All of the following are outputs of the Acquire Resources process or are documents that should be updated as a result of this process except for which one?
- A. Project team assignments
 - B. Team performance assessments
 - C. Cost baseline
 - D. Resource management plan
- 78.** Your project is well into the Executing phase. You are working with inputs such as quality metrics, risk report, and quality control measurements, and tools and techniques such as quality audits and process analysis. The other tool and technique of this process includes all of the following tools except which one?
- A. Cost of quality
 - B. Alternatives analysis
 - C. Document analysis
 - D. Root cause analysis

- 79.** You are a project manager and are in the stage of the project where you are juggling a lot of activities at the same time. You are negotiating for resources, negotiating procurements, and monitoring risks and risk triggers. An approved change request has come your way and must be processed back through this process. This approved change will expand your project scope. You daydream of escaping the day-to-day work life and for a brief moment wonder whether you could contract this additional work through your spouse's company and take the money and run. But then the daydream bubble bursts and it's back to reality. What process does this describe, and what area within the *PMI Code of Ethics and Professional Conduct* pertains to this situation?
- A.** Conduct Procurements and ensuring integrity
 - B.** Direct and Manage Project Work and accepting assignments
 - C.** Conduct Procurements and intellectual property
 - D.** Direct and Manage Project Work and conflict of interest
- 80.** Which of the following conflict-resolution techniques emphasizes areas of agreement rather than areas of difference?
- A.** Smoothing
 - B.** Compromising
 - C.** Reconciling
 - D.** Directing
- 81.** A project sponsor asks the project manager to observe nonverbal feedback in the upcoming status meeting and adjust his presentation based on these observations. Which process is associated with these activities?
- A.** Plan Communications Management
 - B.** Manage Communications
 - C.** Monitor Communications
 - D.** Control Communications
- 82.** You are using the data representation tool and technique of the Manage Quality process with one of the product deliverables to organize potential causes of defects into groups. Which tool and technique does this describe?
- A.** Interrelationship digraphs
 - B.** Matrix diagrams
 - C.** Affinity diagrams
 - D.** Process decision program charts

- 83.** You are a project manager for an engineering company. Your company won the bid to add ramp-metering lights to several on-ramps along a stretch of highway at the south end of the city. You subcontracted a portion of the project to another company. The subcontractor's work involves digging the holes and setting the lamp poles in concrete. You discover the end product does not meet safety standards, corrective action is needed to fix the problems and get the project back on track, and applicable standards were not followed. Which of the following is true?
- A.** You are in the Manage Communications process and have completed a performance review of the contractor's work.
 - B.** You are in the Manage Quality process and have performed a quality audit.
 - C.** You are in the Manage Quality process and have performed process analysis.
 - D.** You are in the Validate Scope process and have performed an inspection to ensure correctness of work.
- 84.** Which of the following best describes the purpose of corrective action taken during the Executing process activities of the project?
- A.** An intentional activity that ensures the future performance of the project work is aligned with the project management plan
 - B.** An intentional activity to modify a nonconforming product or product component
 - C.** An unintentional activity that ensures that the work of the project is aligned with the project management plan
 - D.** An intentional activity intended to bring the work of the project back into alignment with the project management plan
- 85.** Your project includes a new manufacturing technique that requires knowledge of chemical engineering to perform one of the services required in the project management plan. The service was performed, and as a result, an approved change request has been submitted. Which of the following statements is true?
- A.** Approved change requests come about as a result of the Direct and Manage Project Work process, and the Direct and Manage Project Work process will be repeated in order to implement this change.
 - B.** Approved change requests are inputs to the Direct and Manage Project Work process, and the Direct and Manage Project Work process will be repeated in order to implement this change.
 - C.** This approved change request is external to the project and is expanding the scope of the original project. Therefore, this change request will be addressed during the Monitoring and Controlling process group.
 - D.** This approved change request is internal to the project and is expanding the scope of the original project. Therefore, this change request will be addressed during the Monitoring and Controlling process group.

- 86.** The tools and techniques of the Acquire Resources process include all of the following except for which one?
- A. Multicriteria decision analysis
 - B. Virtual teams
 - C. Resource calendars
 - D. Negotiation
- 87.** This quality management and control tool consists of two-dimensional diagrams (L-Type, T-Type, and X-Type) and three-dimensional diagrams such as C-Type. Which tool within this tool and technique does this question describe?
- A. Prioritization matrices
 - B. Tree diagrams
 - C. Matrix diagrams
 - D. PDPC
- 88.** Marysil is an enterprise project manager for Cups on Fire. To date, she has identified risks, analyzed them, and developed risk responses for her project. Now, she and the team are executing the work and responding to risk triggers. What project management artifact will they need?
- A. Contingency plan
 - B. Risk register
 - C. Risk report
 - D. Fallback plan
- 89.** You hold a position that is primarily concerned with satisfying stakeholder needs as well as issues such as plans, controls, budgets, policies, procedures, and team motivation. You have signed a nondisclosure agreement, promising not to give away trade secrets, and you have signed a noncompete agreement with your current employer that says you will not go to work for a competitor any sooner than 18 months after the date of your termination. You will be working with a virtual team, and during the hiring process, the members will be required to sign similar agreements, but their noncompete agreement is for 12 months rather than 18 months. Because this virtual team will have members from all over the globe, you should be concerned with one area in particular of the *PMI Code of Ethics and Professional Conduct*. Which of the following options best describes this situation?
- A. You are a manager, working in the Develop Team process, and need to pay particular attention to cultural awareness and diversity training.
 - B. You are a manager, working in the Acquire Resources process, and need to pay particular attention to cultural awareness and diversity training.
 - C. You are a manager, working in the Develop Team process, and need to pay particular attention to fairness and stakeholder influence.
 - D. You are a manager, working in the Acquire Resources process, and need to pay particular attention to fairness and stakeholder influence.

- 90.** Avoiding, accommodating, reconciling, directing, and problem-solving are all considered to be types of what?
- A.** Interpersonal and team skills
 - B.** Communication skills
 - C.** Conflict resolution
 - D.** Power
- 91.** A project manager publishes an advertisement for goods needed to complete a major deliverable of the project. What key output is she hoping to generate?
- A.** Procurement strategy
 - B.** Selected sellers
 - C.** Independent cost estimates
 - D.** Make-or-buy decisions
- 92.** You have selected a vendor and are meeting with them to begin discussing the details of the final contract. They tell you that the equipment originally bid in the RFP is no longer available. They say the best solution is to buy the new equipment they're offering, which costs more than the original equipment. You have concerns that the new equipment might not be compatible with existing equipment and discuss this with them. After further investigation, it's proven the new equipment will work, and the vendor agrees to add some additional training time to help offset the difference in price. Which of the following tools and techniques of the Conduct Procurement process does this describe?
- A.** Procurement negotiation
 - B.** Independent estimates
 - C.** Proposal evaluation techniques
 - D.** Fait accompli
- 93.** All of the following result in a change request, except for which one?
- A.** Updates to project documents
 - B.** Corrective actions
 - C.** Preventive actions
 - D.** Defect repairs
- 94.** Sally is a project manager who works at Galactic Kidz. While managing the execution of the project team's work, she notices that two critical activities are delayed and decides to speak to the project sponsor. What action are Sally and the project sponsor likely to take?
- A.** Preventive action
 - B.** Defect repair
 - C.** Updates to the plan
 - D.** Corrective action

- 95.** Your project sponsor approaches you with a small bonus check for your excellent work keeping costs in line with the budget. You think the amount of the bonus check is fair and deserved. All of the following statements are true except for which one?
- A.** The reward is appropriately linked to the performance.
 - B.** Rewards and recognition systems are informal ways of promoting desirable behavior.
 - C.** Rewards and recognition systems are a tool and technique of the Develop Team process.
 - D.** The reward is in line with the performance, and you should accept it.
- 96.** Three of your stakeholders have approached you regarding the difficulty they are having with one of your team members. This team member is making inappropriate jokes, continually interrupts others, and is argumentative and unwilling to listen to the stakeholders' ideas. Which of the following is true regarding this situation?
- A.** This is referring to training, which is a tool and technique of the Plan Resource Management process.
 - B.** This is referring to ground rules, which is a tool and technique of the Develop Team process.
 - C.** This is referring to interpersonal and team skills, which is a tool and technique of the Develop Team process.
 - D.** This is referring to team-building activities, which is a tool and technique of the Manage Team process.
- 97.** Managing quality is sometimes called what?
- A.** Quality management
 - B.** Quality adherence
 - C.** Quality assurance
 - D.** Plan-Do-Check-Act
- 98.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five data centers into one. After kicking off the execution of the project work, she holds a team-building workshop with the core project team. What project management process is she performing?
- A.** Acquire Resources
 - B.** Develop Team
 - C.** Manage Team
 - D.** Control Resources
- 99.** How are quality improvements implemented?
- A.** By completing quality audits
 - B.** By submitting a change request and/or taking a corrective action

- C. By submitting a change request and/or implementing a preventive action
 - D. By completing a quality audit and identifying gaps or shortcomings in the process
- 100.** One of the primary inputs to the Conduct Procurement process is an output of the _____ process and contains responses prepared by the _____.
 - A. Conduct Procurements, buyer
 - B. Plan Procurement Management, buyer
 - C. Conduct Procurements, seller
 - D. Plan Procurement Management, seller
- 101.** You have just been hired into a new organization. You are working on an RFP and have discovered that the qualified sellers list for this organization includes a company owned by someone who attended college with you. You have performed a make-or-buy analysis and decided it is best to procure the product needed for this project. You are helping the procurement group prepare for the upcoming bidder conference and are determining the criteria to use to evaluate proposals. You schedule a meeting with your manager and the procurement officer to explain your association with one of the vendors. Since you haven't seen your college friend in many years, you are certain this won't be a problem. What area of the *PMI Code of Ethics and Professional Conduct* does this question refer to, and which process are you conducting?
 - A. Conflict of interest and the Control Procurements process
 - B. Ensuring integrity and the Conduct Procurements process
 - C. Ensuring integrity and the Control Procurements process
 - D. Conflict of interest and the Conduct Procurements process
- 102.** Dr. William Ouchi developed a theory that is concerned with increasing employees' loyalty to their organizations and places emphasis on the well-being of the employees, both at work and outside of work. What is the name of this leadership theory?
 - A. Theory Y
 - B. Theory Z
 - C. Theory X
 - D. Theory Y/Z
- 103.** Procurement statement of work, insurance and performance bonds, vendor pricing, and payment terms are all elements of what document?
 - A. Agreements
 - B. RFP
 - C. Procurement management plan
 - D. Seller proposals

- 104.** One of your project's deliverables requires skills in journalism. You have three resources working on the activities that need to be completed for this deliverable. One of the resources is beyond happy with her situation and tells you that she is finally in a project where she feels like she is performing at her peak potential. Which of the following statements best describes this situation?
- A.** This team member is describing the self-actualization level of Maslow's Hierarchy of Needs.
 - B.** Salary is not a motivator because her basic needs have been fulfilled.
 - C.** This team member's need has been fulfilled, and now, according to Maslow, the ability to advance, the opportunity to learn new things, and the challenges involved in the work become motivators.
 - D.** The Expectancy Theory says that the importance of camaraderie with other team members is an important motivator.
- 105.** A project manager is preparing to obtain the resources needed to perform the work of the project. What project document is the project manager likely to reference as a guide to both acquiring and managing the project resources?
- A.** Project management plan
 - B.** Resource management plan
 - C.** Staffing management plan
 - D.** Resource requirements
- 106.** Your team has done an outstanding job, and you have notified their functional managers that their assignment is over. They are all reluctant to go back to their functional work group and are sorry to see the project come to an end. They enjoy working for you and say this project, and working for you, has been one of the best experiences of their career. Which of the following does this describe?
- A.** The adjourning stage of team development
 - B.** That you are likely a Theory Y manager
 - C.** Maslow's performing level on the Hierarchy of Needs
 - D.** Recognition and rewards
- 107.** One of your subproject managers, a recent graduate with limited experience in managing projects, prepared a procurement SOW. When you were researching independent estimates, you discovered that your vendor's proposals are way off of your expectations. You review the SOW and find that it was not detailed enough for the vendor to come up with an accurate estimate. Of the following options, which area of the *PMI Code of Ethics and Professional Conduct* does this question relate to, and which process does the independent estimates tool and technique belong to?
- A.** Contribute to the project management knowledge base and Plan Procurement Management
 - B.** Ensure personal integrity and professionalism and Control Procurements
 - C.** Promote interaction among team members and other stakeholders and Plan Procurement Management
 - D.** Truthful reporting and Control Procurements

- 108.** You have examined the problems and constraints experienced while conducting the project and identified inefficient and ineffective processes associated with process operations. Which tool and technique of the Manage Quality process have you used?
- A.** Quality management and control tools
 - B.** Quality audits
 - C.** Cost-benefit analysis
 - D.** Process analysis
- 109.** Which conflict-resolution technique does not result in a permanent resolution?
- A.** Withdraw/avoid
 - B.** Force/direct
 - C.** Collaborate/problem-solve
 - D.** Smooth/accommodate
- 110.** Which of the following motivational theories states that the expectation of a positive outcome drives motivation?
- A.** Expectancy Theory
 - B.** Achievement Theory
 - C.** Hygiene Theory
 - D.** Maslow's Hierarchy of Needs
- 111.** Which of the following is a valid input that a project manager can use to disseminate information to appropriate stakeholders?
- A.** Communication technology
 - B.** Work performance reports
 - C.** Project management information system
 - D.** Project reporting
- 112.** This win-win conflict-resolution technique is the one that project managers should use most.
- A.** Collaboration
 - B.** Compromise
 - C.** Withdrawal
 - D.** Smoothing
- 113.** A project manager is overseeing the execution of the team's project activities. She closes out the day, satisfied that the team is working together harmoniously and beginning to adjust their work habits and behaviors to support one another. Which stage of the Tuckman team development ladder is the team currently in?
- A.** Forming
 - B.** Storming
 - C.** Norming
 - D.** Performing

- 114.** You are in the process of translating the quality management plan into executable quality activities that account for existing quality policies. What process are you in?
- A.** Plan Quality Management
 - B.** Manage Quality
 - C.** Control Quality
 - D.** Validate Scope
- 115.** Your team has done an outstanding job, and you have notified their functional managers that their assignment is over. They are all reluctant to go back to their functional work group and are sorry to see the project come to an end. They enjoy working for you and say this project, and working for you, has been one of the best experiences of their career. According to the adjourning phase of team formation, you could take all of the following actions except for which one?
- A.** Conduct a team celebration
 - B.** Thank your team members for their contributions
 - C.** Guide the team through a closure process
 - D.** Focus on closing out the project management processes
- 116.** You are a project manager for Fly Me to Miami travel services. You are in the process of documenting and distributing project information. You know all of the following statements are true regarding information exchange except for which one?
- A.** Encoding the information involves putting it in a format the listener will understand.
 - B.** The receiver is responsible for understanding the information correctly.
 - C.** Senders filter the information through their knowledge of the subject, cultural influences, language, emotions, attitudes, and geographic location.
 - D.** The message is the actual information being sent and received.
- 117.** Availability, experience levels, interests, cost, and abilities of project resources are considered part of which input to the Acquire Resources process?
- A.** Enterprise environmental factors
 - B.** Organizational process assets
 - C.** Interpersonal and team skills
 - D.** Resource calendars
- 118.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five data centers into one. After kicking off the execution of the project work, she holds a team-building workshop with the core project team. What is she looking to achieve?
- A.** Address people-related corrective actions
 - B.** Resolve existing conflicts
 - C.** Enhance team competencies
 - D.** Improve overall project performance

- 119.** One of your project's deliverables requires skills in business analysis. You have three resources working on the activities that need to be completed for this deliverable. Jim and John are making more in salary than Mary is. Jim tends to spend a large majority of his time on social networking sites, John is motivated by accomplishment and capability, and Mary is looking for a sense of belonging as part of the team. Which of the following statements is true?
- A. Your resources are at various levels of Maslow's Hierarchy of Needs.
 - B. McClelland contends that salary is a self-esteem need.
 - C. The Expectancy Theory says that salary isn't a motivator regardless of pay discrepancies.
 - D. The Achievement Theory contends that salary is tied to achievement, so large disparities in salary become a demotivator.
- 120.** You are in the midst of some difficult procurement negotiations. The schedule, service-level agreements, and incentives have not been agreed upon. One of the parties representing the vendor lashes out at you during the negotiations. You were not expecting this outburst and are just about to stoop to their level when you remember which of the following in reference to the *PMI Code of Ethics and Professional Conduct* and the process you are currently performing?
- A. Your actions and you should maintain respect even though the other party is out of control. The Control Procurements process can be difficult when you are negotiating complex contracts.
 - B. You can't control the actions of others, but you can control your actions, and you should ensure personal integrity by controlling yourself even though the other party is out of control. The Control Procurements process can be difficult when you are negotiating complex contracts.
 - C. You can't control the actions of others, but you can control your actions, and you should maintain respect even though the other party is out of control. The Conduct Procurements process can be difficult when you are negotiating complex contracts.
 - D. You can't control the actions of others, but you can control your actions, and you should ensure personal integrity by controlling yourself even though the other party is out of control. The Conduct Procurements process can be difficult when you are negotiating complex contracts.
- 121.** Rianna is a developer who is interested in moving toward a career in project management. She takes on a small project that will implement a new security feature to protect her company's internal network. To date, she has baselined the project's scope, schedule, and budget, and she is now actively helping to resolve issues as they arise. What process is she currently performing?
- A. Plan Resource Management
 - B. Develop Team
 - C. Manage Team
 - D. Control Resources

- 122.** Herzberg's Hygiene Theory notes that there are two factors that contribute to motivation, one being hygiene factors. Which of the following represents the second factor?
- A. Hygiene
 - B. Motivators
 - C. Self-actualization
 - D. Basic needs
- 123.** Rachel is a project sponsor of a project that is developing a new innovative line of screen doors meant to attract budget-minded consumers. Most project managers cringe when assigned to a project sponsored by Rachel since she tends to hover for the details and tends to be suspicious of every team member's behavior, causing a flurry of issues for the project manager to resolve. According to Douglas McGregor's leadership theory, what type of manager is Rachel?
- A. Theory Y
 - B. Theory Z
 - C. Theory X
 - D. Theory Y/Z
- 124.** You have a very energetic project team. They are motivated by results, have good conflict-resolution skills, and are highly committed to the project, among other things. They have a solid understanding of the project goals and objectives and understand the direction the project is headed in. Which of the following does this describe?
- A. The norming stage of team formation
 - B. The characteristics of an effective team
 - C. The transactional-style leadership the project manager employs
 - D. The Expectancy Theory
- 125.** You are working on a project with contentious team members. You know if you resolve the conflicts, it will result in increased productivity and better working relationships. You pull the team together in a meeting to discuss the issue. You allow everyone to express their viewpoint, and as a result, some team members gain an understanding of the perspective of some of their teammates that they didn't have before this meeting. At the conclusion of the meeting, consensus is reached, and the team members thank you for taking the time to get them together and asking them to discuss this issue. Which of the following conflict-resolution techniques does this describe?
- A. Compromise/reconcile
 - B. Force/direct
 - C. Smooth/accommodate
 - D. Collaborate/problem-solve
- 126.** Forming, storming, norming, performing, and adjourning are all phases of what?
- A. Maslow's Hierarchy of Needs
 - B. Tuckman's team development model
 - C. Herzberg's Motivation-Hygiene Theory
 - D. Vroom's Expectancy Theory

- 127.** Which of the following best defines virtual teams?
- A. Groups of people with a shared goal who are dispersed across various locations
 - B. Groups of colocated people with a shared goal who fulfill their roles with little or no time spent meeting face to face
 - C. Groups of people with a shared goal who fulfill their roles with little or no time spent meeting face to face
 - D. Groups of people with varying goals who fulfill their roles with little or no time spent meeting face to face
- 128.** Your manager knocks on your door and asks whether you have time to discuss the recent draft status report you sent her for review. She knows you are interested in performing at your best, but it seems that the third paragraph of the status report may contain a misstatement. She diligently listens to your explanation and realizes that her assumptions were incorrect. She explains that if she misunderstood, others might also. She asks if you wouldn't mind taking a stab at clarifying this paragraph. Which theory does your manager practice?
- A. Achievement Theory
 - B. Expectancy Theory
 - C. Contingency Theory
 - D. Theory Y
- 129.** As a result of a face-to-face meeting you recently had, you have resolved an issue and have come away with an update to the issue log, change requests, project management plan updates, and project documents updates, and you have submitted a change request. You know all of the following are true regarding this except which one?
- A. This describes the Manage Communications process.
 - B. The issue log acts like an action item log in this process.
 - C. Issues should be ranked and prioritized.
 - D. Responsible parties and due dates should be assigned to each issue.
- 130.** You have a very energetic project team. One of your team members has been classified by his teammates as brilliant. The team members are motivated by results, have good conflict-resolution skills, and are highly committed to the project, among other things. They have a solid understanding of the project goals and objectives and understand the direction the project is headed in. When their brilliant teammate questions the approach the team is using regarding one of the goals, you ask the team for their input and gather the facts before making a decision. You ask the team what they would do, and their conclusion is that the brilliant teammate is right and it's better to go with his solution than the one they planned. What type of power is the teammate displaying, and what leadership style does the project manager possess based on this question?
- A. Expert, democratic
 - B. Referent, democratic
 - C. Expert, situational
 - D. Legitimate, situational

- 131.** Rianna is a developer who is interested in moving toward a career in project management. She takes on a small project that will implement a new security feature to protect her company's internal network. To date, she has baselined the project's scope, schedule, and budget, and she is now actively helping to resolve issues as they arise. What outcome is she looking to produce?
- A. Optimize project performance
 - B. Improve competencies
 - C. Improve team interaction
 - D. Allocate resources appropriately
- 132.** Which of the following is a valid input that aids the project manager in managing the overall work of the project?
- A. Project documents
 - B. Expert judgment
 - C. Issue log
 - D. Work performance data
- 133.** You are using the project reporting tool and technique along with others from this process, such as the following: communication technology, communication skills, communication methods, interpersonal and team skills, meetings, and information management systems. The vice president of your division has told you to report the status of the project budget as good. You have experienced three budget overruns in the past 6 months and know that the status of the budget is poor. However, you also know there is a repayment coming on one of the procurement work orders that will reverse almost all of the cost overruns you've experienced to date. You know that all of the following are true regarding this question except for which one?
- A. You can't control the actions of others, but you can control your actions, and you should report the truth no matter what the vice president has instructed you to do.
 - B. This question describes the Manage Stakeholder Engagement process.
 - C. Project communications are an output of this process and are usually comprised of performance reports, deliverables status, schedule progress, and cost incurred.
 - D. You use the project management information systems tool and technique of this process to distribute the project status report by posting it on the project website on the company intranet.
- 134.** Your co-worker, Mishi, is a project manager who has come by this title through experience. He hasn't had any formal training in project management and isn't familiar with the best practices described in the *PMBOK® Guide*. Mishi has gathered and recorded information about the outcomes of the work his team has completed, including activity completion dates, status and quality of the deliverables, and more. You are a certified PMP and know that according to the *PMBOK® Guide*, Mishi has just accomplished which of the following?
- A. Mishi is working on the deliverables output of the Direct and Manage Project Work process.
 - B. Mishi has documented work performance information, which is an output of the Direct and Manage Project Work process.

- C. Mishi is working on the project management plan documents input of the Direct and Manage Project Work process.
- D. Mishi has conferred with the team and used expert judgment, a tool and technique of the Direct and Manage Project Work process, to document project updates.
- 135.** Knowledge that is difficult to express is called what?
- A. Explicit knowledge
- B. Tacit knowledge
- C. Tangible knowledge
- D. Formal knowledge
- 136.** You are working on a project with contentious team members. You know if you resolve the conflicts, it will result in increased productivity and better working relationships. Most conflicts come about as a result of all the following except for which one?
- A. Scheduling issues
- B. Availability of resources
- C. Personal work habits
- D. Cultural differences
- 137.** This motivational theory is a combination of Theory Y behaviors and the Hygiene Theory.
- A. Tannenbaum and Schmidt Continuum Management Theory
- B. Situational Leadership Theory
- C. Contingency Theory
- D. Recognition and Rewards Theory
- 138.** All of the following are outputs of the Manage Communications process except for which one?
- A. Project document updates
- B. Project management plan updates
- C. Work performance reports
- D. Organizational process assets updates
- 139.** You are a senior project manager working at a manufacturing plant that produces components used by the aviation industry. You have just finalized team assignments. What action are you likely to perform next?
- A. Control resources
- B. Develop the team
- C. Develop the training plan
- D. Review pre-assignments

- 140.** This process is where activities are clarified, the work of the project is authorized to begin, and resources are committed who then carry out their assigned activities to create the product or service of the project. Which process does this describe?
- A.** Develop Project Management Plan
 - B.** Direct and Manage Project Work
 - C.** Develop Schedule
 - D.** Develop Team
- 141.** Which project management process produces vendor agreements?
- A.** Plan Procurement Management
 - B.** Acquire Resources
 - C.** Conduct Procurements
 - D.** Control Procurements
- 142.** The purpose of this process is concerned with satisfying the needs of the stakeholders, managing communications with them, resolving issues, managing their expectations, and more, and this process also relates to this area of the *PMI Code of Ethics and Professional Conduct*, respectively.
- A.** Manage Stakeholder Engagement and the Role Delineation Study
 - B.** Control Stakeholder Engagement and the Role Delineation Study
 - C.** Control Stakeholder Engagement and Professional Responsibility
 - D.** Manage Stakeholder Engagement and Professional Responsibility
- 143.** Maslow's Hierarchy of Needs is a motivational theory that notes that humans have five basic needs arranged in a hierarchical order. What is the highest set of needs of the five within the hierarchy?
- A.** Social needs
 - B.** Safety and security needs
 - C.** Self-actualization
 - D.** Basic physical needs
- 144.** You are in the process of facilitating a change control meeting. You review a change request that would double the scope of the project but would not yield a major increase in the project's resulting benefits. You know that the submitter of the change request has a tendency to bloat a project's scope without fully thinking through the impact, but as a result of their position in the company, their changes tend to be approved. What type of power does the submitter of the change request typically use?
- A.** Legitimate
 - B.** Expert

- C. Referent
 - D. Punishment
- 145.** According to the *PMBOK® Guide*, all of the following mean the same as *contract* except which one?
- A. Purchase order
 - B. Memorandum of understanding
 - C. Agreement
 - D. Procurement order
- 146.** Who developed the model that defines the stages of a team's development?
- A. Bruce Tuckman
 - B. Victor Vroom
 - C. David McClelland
 - D. Abraham Maslow
- 147.** What plan from a prior process is put into action during the process that is concerned with gathering, creating, storing, distributing, retrieving, and disposing of project information?
- A. Scope management plan
 - B. Resource management plan
 - C. Stakeholder engagement plan
 - D. Communications management plan
- 148.** You are in the Manage Team process and preparing for your individual team members' performance assessments. All of the following inputs will assist you with this process except for which one?
- A. Work performance reports
 - B. Project management information system
 - C. Resource management plan
 - D. Team performance assessments
- 149.** David McClelland is responsible for which motivational theory that states that people are motivated by three things, two of which are power and affiliation?
- A. Expectancy Theory
 - B. Achievement Theory
 - C. Hygiene Theory
 - D. Maslow's Hierarchy of Needs

- 150.** The elements of communication are incorporated within the models of communication exchange. They are best explained as which of the following?
- A.** The elements of communication include encode, transmit, acknowledge, and feedback/response, and the communication model includes senders, receivers, and messages.
 - B.** The elements of communication include senders, receivers, and messages and the communication model includes verbal and written.
 - C.** The elements of communication include senders, receivers, and messages and the communication model includes encode, transmit, acknowledge, and feedback/response.
 - D.** The elements of communication includes encode, transmit, acknowledge, and feedback/response, and the communication model includes verbal and written.
- 151.** Each of the following is a key input to Acquire Resources that you should consider when performing the process, except for which one?
- A.** Resource calendars
 - B.** Resource requirements
 - C.** Stakeholder register
 - D.** Project team assignments
- 152.** What output of the Develop Team process involves determining and documenting a team's effectiveness?
- A.** Team performance assessments
 - B.** Project performance appraisals
 - C.** Organizational process assets updates
 - D.** Enterprise environmental factors updates
- 153.** Status review meetings are an important tool for informing stakeholders (and others) of the status of the project. All of the following are true regarding status review meetings except for which one?
- A.** They are a form of communication and include verbal and written material.
 - B.** Verbally communicating at a status meeting is less complicated and more easily understood than written communication.
 - C.** You might have multiple status review meetings, each intended for different audiences.
 - D.** Face-to-face meetings are more effective for team members than status review meetings because you'll learn of potential risks and problems more quickly.

- 154.** You're the project manager for Dream Clinics, a research organization that specializes in sleep disorders. You're working on an internal service project and are in the Executing process group. You negotiate with a manager to obtain resources for specific activities on the project that your team is not able to fulfill. These resources will roll off the project as soon as the activities are completed. Which of the following does this question describe?
- A. Resource requirements, which are an output of Plan Resource Management
 - B. Interpersonal and team skills, which are a tool and technique of Acquire Resources
 - C. Staffing requirements, which are an input to Acquire Resources
 - D. Resource pool description, which is an input to Plan Resource Management
- 155.** Maslow's Hierarchy of Needs is a motivational theory that notes that humans have five basic needs arranged in a hierarchical order. What is the first set of needs that must be met before a person can move to the next level of needs in the hierarchy?
- A. Social needs
 - B. Safety and security needs
 - C. Self-actualization
 - D. Basic physical needs
- 156.** Knowledge that can be codified using images, numbers, and words is called what?
- A. Explicit knowledge
 - B. Tacit knowledge
 - C. Tangible knowledge
 - D. Formal knowledge
- 157.** You are in the Manage Team process and preparing for your individual team members' performance assessments. You will use one of the tools and techniques of this process to determine each team member's leadership, influencing, and effective decision-making capabilities. Which tool and technique is this referring to?
- A. Interpersonal and team skills
 - B. Observation and conversation
 - C. Leadership skills
 - D. General management skills
- 158.** Legitimate, expert, referent, and punishment are all types of what?
- A. Interpersonal and team skills
 - B. Communication skills
 - C. Conflict resolution
 - D. Power

- 159.** You are a project manager for an engineering company. Your company won the bid to add ramp-metering lights to several on-ramps along a stretch of highway at the south end of the city. You subcontracted a portion of the project to another company. The subcontractor's work involves digging the holes and setting the lamp poles in concrete. You've discovered the subcontractor's work is not correct because the poles are not buried to the correct depth. You review the work and note gaps in the process and a lack of safety standards as a result of this error. Which of the following is true?
- A.** You are in the Manage Quality process and have performed a quality audit and identified a need for a corrective action.
 - B.** You are in the Validate Scope process and have performed a quality audit to ensure correctness of work.
 - C.** You are in the Control Procurements process and have completed a contract audit to ensure that the subcontractor's performance meets the contract requirements.
 - D.** You are in the Close Project or Phase process and have completed a performance review of the contractor's work.
- 160.** The primary focus of this process is on individual team members and their performance.
- A.** Acquire Resources
 - B.** Develop Team
 - C.** Manage Team
 - D.** Manage Resource Plan
- 161.** You are a senior project manager working at a manufacturing plant that produces components used by the aviation industry. You are in the process of implementing approved changes. What key information will you need to successfully complete the associated activities?
- A.** Lessons learned register
 - B.** Change requests
 - C.** Approved change requests
 - D.** Project schedule

Chapter 4



Monitoring and Controlling (Domain 4.0)

THE PROJECT MANAGEMENT PROFESSIONAL (PMP)® EXAM CONTENT FROM THE MONITORING AND CONTROLLING THE PROJECT PERFORMANCE DOMAIN COVERED IN THIS CHAPTER INCLUDES THE FOLLOWING:

- ✓ Measure project performance using appropriate tools and techniques in order to identify and quantify any variances and corrective actions.
- ✓ Manage changes to the project by following the changed management plan in order to ensure that project goals remain aligned with business needs.
- ✓ Verify that project deliverables conform to the quality standards established in the quality management plan by using appropriate tools and techniques to meet project requirements and business needs.
- ✓ Monitor and assess risk by determining whether exposure has changed and evaluating the effectiveness of response strategies in order to manage the impact of risks and opportunities on the project.
- ✓ Review the issue log, update if necessary, and determine corrective actions by using appropriate tools and techniques in order to minimize the impact on the project.
- ✓ Capture, analyze, and manage lessons learned, using lessons learned management techniques in order to enable continuous improvement.

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- ✓ Monitor procurement activities according to the procurement plan in order to verify compliance with project objectives.



The process names, inputs, tools and techniques, outputs, and descriptions of the project management process groups and related materials and figures in this chapter are based on content from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Sixth Edition* (PMI®, 2017).

1. All of the following statements are true regarding configuration management except which one?
 - A. The configuration management system is a subset of the records management system.
 - B. Change control systems are a subset of the configuration management system.
 - C. Configuration control is managed through the configuration management system and is concerned with changes to the specifications of the deliverables.
 - D. Configuration control is managed through the configuration management system and is concerned with changes to the project management processes.
2. All of the following are true regarding the Monitor and Control Project Work process except for which one?
 - A. This process is responsible for reporting and comparing actual project results against the project management plan.
 - B. This process monitors approved change requests and documents appropriate product information.
 - C. This process is responsible for executing the planned project activities to complete project deliverables.
 - D. This process analyzes performance data and determines whether corrective or preventive action is needed.
3. Your organization is experiencing a shake-up at the top levels of management. Your project team has expressed concerns that their project might be canceled because of the changes going on at the top. Sure enough, your project team was correct in their suspicions. You've received notice that the project is canceled. The team has one remaining deliverable for the project that was scheduled for completion next month. Your next step is to document the work results to date. Which of the following describes the tools and techniques of the process this question describes?
 - A. Information management systems, expert judgment, and meetings
 - B. Seven basic quality tools, statistical sampling, inspection, and approved change requests review
 - C. Inspection and decision-making techniques
 - D. Variance analysis
4. These processes are responsible for adjusting stakeholder engagement and communication strategies and plans, based on how the project is progressing and how the results compare to the plan.
 - A. Monitor Communications and Monitor Stakeholder Engagement
 - B. Manage Communications and Manage Stakeholder Engagement
 - C. Plan Communications Management and Plan Stakeholder Engagement
 - D. Direct and Manage Project Work and Monitor and Control Project Work

5. If earned value = 500, planned value = 700, and actual costs = 450, what is the schedule variance?
 - A. -200
 - B. 200
 - C. -50
 - D. 50
6. You are working on a project that involves multiple vendors. One of the vendors has been difficult to work with and is not very cooperative. You have received the latest invoice from them for services and disagree with them about the charges they have listed for the change request that was submitted last month. When you called and spoke with your representative at the company, they refused to budge on the charges. You will likely need to use an alternative dispute resolution (ADR) to get to the bottom of this matter. Which tool and technique of the Control Procurements process does this question describe?
 - A. Payment systems
 - B. Claims administration
 - C. Procurement performance reviews
 - D. Contract change control system
7. While carrying out the Monitor and Control Project Work process, a project manager analyzes performance data to determine whether any corrective or preventive action is needed. Which of the following is a valid input that can assist the project manager in performing this activity?
 - A. Variance analysis
 - B. Work performance information
 - C. Work performance data
 - D. Expert judgment
8. You are a project manager for Community Trends, a nonprofit organization. Your project has come about because of a social need. So far, the project has experienced some cost variances, but these variances are atypical and are not expected to continue. You know the following information: BAC = 900, EAC = 885, PV = 475, EV = 500, and AC = 425. Which of the following is the correct ETC given this information?
 - A. 400
 - B. 460
 - C. 471
 - D. Re-estimate
9. All of the following are tools and techniques of the Perform Integrated Change Control process except for which one?
 - A. Change control meetings
 - B. Change control tools

- C. Expert judgment
 - D. Project management information systems
10. A project manager has recently communicated a complete performance index of 1.0 to the project sponsor. What does this mean?
- A. That it will be difficult to complete the project within set targets
 - B. That the project must continue performing at the current rate to complete within target
 - C. That it will be relatively easy to complete the project within set targets
 - D. That it will be impossible to complete the project within set targets
11. All of the following are true regarding the Control Costs process except for which one?
- A. It is the process responsible for aggregating the estimated costs to establish an authored cost baseline.
 - B. It is the fourth and final process of the Project Cost Management Knowledge Area.
 - C. It belongs to the Monitoring and Controlling process group.
 - D. It uses earned value analysis to calculate work performance information and cost forecasts.
12. If you know that EV = 114, PV = 120, and AC = 103, what are CPI and SPI, respectively?
- A. 1.1 and .95
 - B. 1.2 and 1.05
 - C. 1.05 and 1.2
 - D. .95 and 1.1
13. A project manager has executed work, producing a key deliverable. What process is he likely to perform next?
- A. Direct and Manage Project Work
 - B. Develop Project Management Plan
 - C. Perform Integrated Change Control
 - D. Monitor and Control Project Work
14. Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. As part of her practice, she sits down with her sponsor to evaluate how the project is performing by comparing the performance measurement baseline against actual schedule and cost performance. What technique is Carina using?
- A. Variance analysis
 - B. Earned value analysis
 - C. Technical performance analysis
 - D. Trend analysis

- 15.** David is a project manager working for a prominent book publishing company. As the most senior project manager within the organization, he often gets the most complex project assignments. As part of his current project, he oversees the inspection of deliverables, measuring them against documented requirements and acceptance criteria. What project management process is he performing?
- A. Control Scope
 - B. Validate Scope
 - C. Control Quality
 - D. Manage Quality
- 16.** You work for Sergio's, a golf equipment manufacturer. Your organization is installing some new manufacturing equipment, and you are managing the project. You are preparing a report, and one of the numbers your sponsor is asking for is the estimate at completion. You are using the most common method of calculating EAC. If EV = 145, PV = 162, AC = 138, BAC = 200, and ETC = 62, what is EAC?
- A. 190.4
 - B. 193
 - C. 201
 - D. 200
- 17.** This tool and technique of the Control Procurements process refers to a structured review of the work being performed by the contractor. Which tool and technique does this question describe?
- A. Payment systems
 - B. Claims administration system
 - C. Contract change control system
 - D. Inspection
- 18.** LaFawnduh is a project manager working for Dancing Apron, a company that combines cooking with simple children's cooking recipes and music. Her latest project involves the release of the company's first digital product, which parents will be able to purchase and download online. While overseeing the project, LaFawnduh notices that recent stakeholder engagement levels have dropped significantly, and they've begun to disagree during status meetings. She decides to evaluate their engagement levels using prioritized criteria and weights that she documented in the stakeholder engagement plan so that she can share and discuss the results with the project sponsor. What process is LaFawnduh performing?
- A. Plan Stakeholder Engagement
 - B. Manage Stakeholder Engagement
 - C. Control Stakeholder Engagement
 - D. Monitor Stakeholder Engagement

- 19.** Monitor and Control Project Work, Perform Integrated Change Control, and Validate Scope are processes that belong to what process group?
- A.** Planning
 - B.** Executing
 - C.** Monitoring and Controlling
 - D.** Closing
- 20.** Several processes in the Monitoring and Controlling process group involve change requests. Which of the following is not true?
- A.** Approved change requests are an input to the Control Procurements and Control Quality processes.
 - B.** Approved change requests are an output of the Perform Integrated Change Control and Monitor Risks process.
 - C.** Inspection is a tool and technique of Control Quality.
 - D.** Changes are verified as part of the Control Scope process.
- 21.** Roshoud is the VP of customer operations for Galactic Kidz and the project sponsor of the latest project, called Project G. He sits down with Sally, the project manager, to discuss resource utilization on the project. He expresses concern after recently hearing in the hallway that planned resources have been unavailable. Sally admits that this has been the case and that it has set the project back unexpectedly. What did Sally fail to do in this scenario?
- A.** Properly plan the schedule
 - B.** Keep the sponsor informed
 - C.** Procure the right resources
 - D.** Build the right relationships
- 22.** You are a project manager for Community Trends, a nonprofit organization. Your project has come about because of a social need. You're calculating performance measurements and using actual costs to date, and you assume that ETC work will be completed at the budgeted rate. You know the following information: BAC = 900, ETC = 65, PV = 500, EV = 475, and AC = 425. Which of the following is the correct expected total cost at completion, given this situation?
- A.** 379
 - B.** 804
 - C.** 875
 - D.** 850
- 23.** All of the following are outputs of the Validate Scope process except for which one?
- A.** Verified deliverables
 - B.** Accepted deliverables
 - C.** Change requests
 - D.** Work performance information

- 24.** The project manager is in the process of bringing the relevant parties together, along with a neutral party, to discuss a contested change to a procurement agreement. Which of the following is a valid tool or technique to assist the project manager in performing this activity?
- A.** Claims administration
 - B.** Change control system
 - C.** Audit
 - D.** Inspection
- 25.** Calculate the to-complete performance index (TCPI) based on the current EAC, using the following values: BAC = 15,000, AC = 12,000, EV = 10,000, EAC = 17,000.
- A.** 0.50
 - B.** 1.67
 - C.** 1.0
 - D.** Insufficient information provided
- 26.** Your project sponsor has asked you for a forecast of the likely cost to complete the work of the project. Which of the following statements is true?
- A.** You'll use the ETC calculation, which is part of the forecasting tool and technique of the Control Costs process.
 - B.** You'll use the EAC calculation, which is part of the forecasting tool and technique of the Control Costs process.
 - C.** You'll use the ETC calculation, which is part of the EVM tool and technique of the Control Costs process.
 - D.** You'll use the EAC calculation, which is part of the EVM tool and technique of the Control Costs process.
- 27.** You are in the Control Procurements process and are updating some information regarding some of your vendors, such as contract documents, warranties, performance information, payment records, and inspection/audit results. Which of the following outputs does this describe?
- A.** Organizational process assets updates
 - B.** Project management plan updates
 - C.** Work performance information
 - D.** Project documents updates
- 28.** All of the following are tools and techniques of the Control Costs process except for which one?
- A.** Expert judgment
 - B.** Data analysis

- C. To-complete performance index
 - D. Cost forecasts
- 29.** A project manager is managing the work of a vendor, who has produced 75 percent of the work committed to in the contract. Recently, a change was submitted by the vendor, which was approved by the project's change control board. The project manager facilitates the next steps in applying the approved changes. What project management process is she performing?
- A. Direct and Manage Project Work
 - B. Control Procurements
 - C. Perform Integrated Change Control
 - D. Conduct Procurements
- 30.** This tool and technique of the Control Costs process is the projected or estimated cost performance that the remaining work of the project must achieve to meet the BAC or EAC.
- A. EV
 - B. Forecast
 - C. TCPI
 - D. VAC
- 31.** Who is chartered with the authority to approve or deny change requests as defined by the organization?
- A. Project manager
 - B. Project sponsor
 - C. Change control board
 - D. Executive team
- 32.** Which of the following measurements is the value of the work actually completed?
- A. AC
 - B. EV
 - C. PV
 - D. EAC
- 33.** The project team recently participated in a working session to examine and document the effectiveness of risk responses in dealing with overall project risk. What project management process are they performing?
- A. Identify Risks
 - B. Plan Risk Responses
 - C. Implement Risk Responses
 - D. Monitor Risks

- 34.** Nicolas is the project manager of a project that has been described as revolutionizing the mobile fitness tracking industry. He prepares for a meeting with the project's sponsor to discuss the performance of their largest vendor. What information will Nicolas need to reference to provide this information?
- A.** Data analysis
 - B.** Project management plan
 - C.** Agreement
 - D.** Procurement documentation
- 35.** What group is responsible for reviewing all change requests and approving or denying them?
- A.** TCB
 - B.** CCB
 - C.** CRB
 - D.** ECB
- 36.** Your customer has decided that you cannot go forward with the project you're managing without a change to the agreed-upon WBS. A contract amendment is agreed on and signed, the change control system processes are followed, and you modify the appropriate planning documents to reflect the change. As a result of the approved change, substantial updates to the project costs and the project schedule occur as well. Which of the following is not true regarding this situation?
- A.** Baselines must be adjusted to reflect the new project costs and schedule.
 - B.** The PMB includes management reserves and contingencies.
 - C.** The PMB is determined using EVM.
 - D.** The schedule, scope, and cost baseline together make up the PMB.
- 37.** You are working on a critical project for your organization. The CEO has made it clear this is a top priority. One of the key stakeholders on your project resigned, and her replacement started about 3 weeks ago. She does not make time for you or seem to have the same level of urgency regarding this project as the CEO. You are concerned with overall project success and want to efficiently manage the processes involved with this project. Which of the following addresses this situation?
- A.** Monitor Stakeholder Engagement
 - B.** Monitor and Control Project Work
 - C.** Monitor Communications
 - D.** Perform Integrated Change Control
- 38.** The project team recently participated in a working session to examine and document the effectiveness of risk responses in dealing with overall project risk. What is this working session, or meeting, called?
- A.** Status meeting
 - B.** Technical performance assessment
 - C.** Risk review
 - D.** Brainstorming

- 39.** A project manager recently received agreement to crash the schedule. He begins negotiating with the head of development to utilize their most senior Java developer. What project management process is the project manager currently using?
- A.** Control Schedule
 - B.** Control Resources
 - C.** Control Costs
 - D.** Monitor and Control Project Work
- 40.** All of the following statements are true regarding trend analysis except for which one?
- A.** Trend analysis is a tool and technique of the Control Costs process.
 - B.** Trend analysis is a mathematical formula used to forecast future outcomes.
 - C.** Trend analysis determines whether project performance is improving or worsening over time.
 - D.** Trend analysis is used to analyze how problems occur.
- 41.** You are using a technique in the Control Costs process and are trying to determine whether project performance is improving or worsening over time by periodically analyzing project results. Which of the following tools and techniques does this describe?
- A.** Forecasting
 - B.** This describes trend analysis, which is part of the data analysis tool and technique.
 - C.** This describes variance analysis, which is a part of the performance reviews tool and technique.
 - D.** Statistical sampling
- 42.** All of the following are true regarding the Control Procurements process except for which one?
- A.** It is where vendor disputes are managed, including through arbitration.
 - B.** It produces work performance information containing an analysis of vendor performance.
 - C.** It is responsible for closing out contracts, with closed procurements as an output.
 - D.** It is the third of four processes within the Project Procurement Management Knowledge Area.
- 43.** You are the project manager for a project that will produce a mobile phone application that sends alerts when UV rays are at dangerous levels, alerting users to stay indoors. You are in the process of measuring schedule performance against the schedule baseline. These activities are associated with what process group?
- A.** Initiating
 - B.** Planning
 - C.** Executing
 - D.** Monitoring and Controlling

- 44.** David is a project manager working for a prominent book publishing company. As the most senior project manager within the organization, he often gets the most complex project assignments. For this reason, the PMO manager assigns David to manage a project for a sponsor who is notorious for scope creep. Knowing this, David is likely to place greater emphasis on what project management process?
- A.** Validate Scope
 - B.** Monitor and Control Project Work
 - C.** Control Quality
 - D.** Control Scope
- 45.** You are the project manager for Ooh La La Beauty Products. Your project concerns developing a new line of bath products. You also serve on the CCB, and they have just approved a scope change. You know that all of the following statements are true except which one?
- A.** Scope changes include modifications to the agreed-upon WBS.
 - B.** Scope changes could result in schedule revisions.
 - C.** Scope changes do not usually impact the project budget.
 - D.** Scope changes should be reflected in the product scope.
- 46.** David is a project manager working for a prominent book publishing company. As the most senior project manager within the organization, he often gets the most complex project assignments. As part of his current project, he oversees the inspection of deliverables, measuring them against documented requirements and acceptance criteria. What does he hope to achieve as part of carrying out these activities?
- A.** Work performance information
 - B.** Change requests
 - C.** Accepted deliverables
 - D.** Updates to the plan
- 47.** You are working on a critical project for your organization. The CEO has made it clear this is a top priority. One of the key stakeholders on your project resigned, and her replacement started about 3 weeks ago. She does not make time for you or seem to have the same level of urgency regarding this project as the CEO. You are concerned with overall project success and want to efficiently manage the processes involved with this project. All of the following are tools and techniques of the process this question refers to except for which one?
- A.** Meetings
 - B.** Data analysis
 - C.** Ground rules
 - D.** Decision-making
- 48.** Which of the following is not true about the Control Schedule process?
- A.** It establishes leads and lags for the first time by performing earned value analysis.
 - B.** It evaluates whether corrective or preventive action is needed to complete the project on schedule.

- C. It uses schedule variance and schedule performance index calculations to assess any variation in the schedule baseline.
 - D. It performs reserve analysis and resource optimization techniques.
- 49.** Your project sponsor has asked you to monitor the project results for conformity to standards. You will use the tool and techniques of the Control Quality process to help accomplish this. You know that these tools can be used with which of the following to help identify and resolve problems related to quality defects?
- A. Expert judgment
 - B. Facilitation techniques
 - C. Plan-Do-Check-Act cycle
 - D. Alternatives generation
- 50.** Sally and Joe are two project managers working in the corporate offices of a popular fast-food franchise. They are both studying for their PMP certification and are reviewing processes pertaining to the Project Procurement Management Knowledge Area. They disagree on which process is responsible for performing activities relating to closure of procurements. Sally insists it's the Close Project or Phase process, while Joe argues that it is the Control Procurements process. Who is right?
- A. Sally
 - B. Joe
 - C. Neither
 - D. Both
- 51.** You are the project manager for Ooh La La Beauty Products. Your project concerns developing a new line of bath products. A quality inspection of one of the new products reveals that the product is nonconforming. Which of the following result in conforming or nonconforming measurements?
- A. Control measurements
 - B. Attributes sampling
 - C. Variances
 - D. Common causes of variance
- 52.** If earned value = 500, planned value = 700, and actual costs = 450, what is the cost variance?
- A. -200
 - B. 200
 - C. -50
 - D. 50

- 53.** LaFawnduh is a project manager working for Dancing Apron, a company that combines cooking with simple children's cooking recipes and music. Her latest project involves the release of the company's first digital product that parents will be able to purchase and download online. Kip, who is the sponsor of the project, asks her to calculate the estimate at completion (EAC) assuming that the work will be accomplished at the planned rate. LaFawnduh knows that they have spent \$15,000 to date of the \$20,000 budgeted and that the earned value of the project has already been calculated at \$18,000. What is the EAC that she will communicate to Kip?
- A. \$13,000
 - B. \$17,000
 - C. \$20,000
 - D. \$15,000
- 54.** You are working in the Perform Integrated Change Control process. One of the activities you are involved in is documenting and storing the configuration management information needed to effectively manage product information and data associated with changes. Which of the following does this describe?
- A. Configuration identification
 - B. Configuration verification and auditing
 - C. Configuration verification and documentation
 - D. Configuration status accounting
- 55.** Which of the following statements best describes the purpose of the Control Schedule process?
- A. It identifies and documents specific actions to be performed to produce the project deliverables.
 - B. It estimates the number of work periods needed to complete individual activities with the estimated resources.
 - C. It monitors the status of the project to update the schedule and manage changes to the schedule baseline.
 - D. It analyzes activity sequence, duration, resource requirements, and constraints to create the schedule model.
- 56.** You're a project manager for Music On Demand, and you're in the Control Risks process. Your project, when completed, will provide a way for owners of smartphones to purchase music on demand from the recording company you work for and download it directly to their devices. Your testers are testing the download process now but discover that the name of the song and other textual information does not download properly. This technical deviation poses a risk to the project. Your developers are working on a solution and have assured you this isn't a showstopper. This is an example of which of the following?
- A. Technical performance analysis
 - B. Workaround
 - C. Periodic project risk reviews
 - D. Corrective action

- 57.** You are conducting the Perform Integrated Change Control process. You are using a software system that helps track change requests and the decisions regarding change requests by the CCB and that also helps manage the distribution of the decisions of the change board. Which tool and technique does this describe?
- A. Information management system
 - B. Change control tools
 - C. Records management system
 - D. Change control system
- 58.** Which of the following is a valid tool or technique that aids the project manager in monitoring and controlling communications throughout the life of the project?
- A. Data representation
 - B. Communication methods
 - C. Communication skills
 - D. Communication technology
- 59.** Who is responsible for managing changes within a project?
- A. Project sponsor
 - B. Everyone
 - C. Project manager
 - D. Risk manager
- 60.** Control charts measure the results of processes over time and depict common causes of variances. Common causes of variances are a result of all of the following except which one?
- A. Random variances
 - B. Quantifiable variances
 - C. Predictable variances
 - D. Variances that are always present
- 61.** A project manager is preparing to lead a project status meeting. The project is currently 75 percent complete and is reaching the most critical point. Since the project sponsor is planning on attending the meeting, the project manager decides to update the earned value calculations to present the latest performance updates in terms that the sponsor will want to see. The budget at completion (BAC) is set at \$550,000, and the current estimate at completion (EAC) is at \$525,000. What variance at completion (VAC) value will the project manager communicate to the sponsor?
- A. 0.10
 - B. 0.95
 - C. -25,000
 - D. 25,000

- 62.** You're a project manager for Music On Demand, and you're in the Monitor Risks process. Your project, when completed, will provide a way for owners of smartphones to purchase music on demand from the recording company you work for and download it directly to their devices. You are monitoring the risks on the project and have analyzed elements such as the risk audits, preventive actions, and corrective actions. This information might be reported in which of the following outputs of this process?
- A.** Work performance reports
 - B.** Work performance information
 - C.** Work performance data
 - D.** Project document updates
- 63.** Which of the following processes involves ensuring that all requirements of procurement agreements are met?
- A.** Close Project or Phase
 - B.** Plan Procurement Management
 - C.** Conduct Procurements
 - D.** Control Procurements
- 64.** You are in the Monitor Communications process. Your organization has taken on a large, complex, multiyear project. You are coming in as the new project manager (the old project manager left one day for lunch and never came back). After you've spent some time working on the project, you begin to realize that the project sponsor doesn't want to hear bad news. There is, unfortunately, some bad news related to the project, but you have a plan to get the project back on track. One of the other stakeholders on the project informed you that the sponsor had just told them that the project was proceeding as planned and was on time and on budget. You've found that the stakeholders are not communicating with each other and that since you've started working on the project, there have been no regularly scheduled meetings with stakeholders. All of the following are true regarding this question except which one?
- A.** Regular, timely status meetings will help prevent situations like this. Meetings, which include regularly scheduled status review meetings, are a tool and technique of this process.
 - B.** Reporting templates and communication policies will help with the communication process. Templates and policies are part of the project communications input to this process.
 - C.** The project manager is responsible for facilitating the status meetings and for providing honest, truthful information.
 - D.** You may need status meetings with different groups of people for a project as complex as this one.

- 65.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five data centers into one. Alyssa is in the process of determining whether communications-related artifacts and activities that she had earlier planned had the intended effect. She also recently launched a customer satisfaction survey to get feedback on how stakeholders feel things are progressing thus far within the project. What project management process is she performing?
- A. Manage Communications
 - B. Monitor Communications
 - C. Plan Communications Management
 - D. Monitor and Control Project Work
- 66.** You work for Sergio's, a golf equipment manufacturer. Your organization is installing some new manufacturing equipment, and you are managing the project. Some risk events have come to fruition on the project, and as a result, change requests have been submitted. You are in the Monitor Risks process and know that all of the following are true regarding this question except for which one?
- A. Change requests may take the form of corrective actions in the Monitor Risks process, which is part of the Monitoring and Controlling process group.
 - B. Change requests will not take the form of preventive actions because you are in the Monitoring and Controlling process group and too far into the work of the project.
 - C. Change requests must be processed through the Perform Integrated Change Control process, which is also in the Monitoring and Controlling process group.
 - D. Change requests may take the form of workarounds in the Control Risks process, which is part of the Monitoring and Controlling process group.
- 67.** Kaylee is a senior project manager for a fitness company that is developing a new franchise model. She has just finished overseeing the implementation of several planned risk responses. What activity is she likely to perform next?
- A. Risk review
 - B. Trend analysis
 - C. Technical performance analysis
 - D. Sensitivity analysis
- 68.** You are the project manager for a large software development project. Your project is being performed under contract, and the project has just been canceled. Which of the following processes should document the level of completeness of the project?
- A. Close Project or Phase
 - B. Control Quality
 - C. Validate Scope
 - D. Perform Integrated Change Control

- 69.** A project manager is preparing to lead a project status meeting later that afternoon. The project is currently 75 percent complete and is reaching the most critical point. Since the project sponsor is planning on attending the meeting, the project manager decides to update the earned value calculations to present the latest performance updates in terms that the sponsor will want to see. The budget at completion (BAC) is set at \$550,000, and the current estimate at completion (EAC) is at \$525,000. How is the project performing in terms of the budget?
- A. It is under the planned cost.
 - B. It is on the planned cost.
 - C. It is over the planned cost.
 - D. Insufficient information was provided.
- 70.** Your project is running behind schedule and over budget. You are performing the Control Schedule process and have made updates to the schedule baseline, the schedule management plan, and the cost baseline. Which output of this process are you using?
- A. Project management plan updates
 - B. Schedule forecasts
 - C. Project documents updates
 - D. Organizational process assets updates
- 71.** Diana is a project manager for a small technology startup. One of her first projects involves shifting data hosting from an on-premise solution to a cloud-based one. With work now fully underway, she begins generating status reports so that they can later be distributed to the project team and other relevant stakeholders. Which process group does this activity—creation of status reports—belong to?
- A. Planning
 - B. Executing
 - C. Monitoring and Controlling
 - D. Closing
- 72.** Yasmin is a senior project manager who has just taken on a project that will produce a new line of medical widgets for a Fortune 100 company. The entire industry is buzzing with excitement over this project, which is estimated to span three years and require an investment of \$1.5 billion from the company. While executing the project work, Yasmin performs activities to verify that approved changes that have been implemented are complete, retested, and certified as correct. What project management process is Yasmin performing?
- A. Validate Scope
 - B. Control Quality
 - C. Manage Quality
 - D. Control Scope
- 73.** You are a project manager working on a project involving a new scientific discovery in conjunction with your local university. Because of some changes that were approved during the Monitoring and Controlling processes, you discover that the descriptions of

the deliverables that make up the final product of the project are no longer accurate or complete. Which of the following will you use to track the changes to the deliverables and ensure their descriptions are accurate and complete, and what process is this associated with?

- A. Scope change control system in Control Scope
 - B. Quality control system in Control Quality
 - C. Configuration management system in Perform Integrated Change Control
 - D. Change control system in Monitor Communications
- 74.** While performing activities associated with controlling project and product scope, a project manager uncovers scope creep. What is scope creep?
- A. The uncontrolled expansion of project or product scope
 - B. The controlled expansion of project or product scope
 - C. A team member who causes constant issues within the project
 - D. The delivery of scope that is behind schedule and over costs
- 75.** Given the following information, is the project schedule ahead of or behind what was planned for this period? EV = 95, PV = 85, AC = 100.
- A. Ahead, because the result of the variance formula is negative
 - B. Behind, because the result of the variance formula is negative
 - C. Ahead, because the result of the variance formula is positive
 - D. Behind, because the result of the variance formula is positive
- 76.** A project manager is performing activities associated with controlling quality for his assigned project. What data representation tool can the project manager use to show the number of defects by source?
- A. Histogram
 - B. Scatter diagram
 - C. Control chart
 - D. Cause and effect diagram
- 77.** You are a project manager working for Mail House King. Your company processes orders for several mail-order catalog companies. Your project is to install new mail-sorting equipment and software. You've had some problems and experienced some variances during the project. You expect these variances to continue throughout the life of the project and expect they will be similar to the variances you've seen so far. You know the following information: PV = 900, BAC = 1400, EV = 925, AC = 925. Which of the following is the correct ETC given the circumstances?
- A. 490
 - B. 1400
 - C. 475
 - D. 500

- 78.** While performing activities associated with controlling project and product scope, a project manager uncovers scope creep. What is the project manager likely to do next to take corrective action?
- A.** Scold the individual(s) responsible
 - B.** Update the scope baseline
 - C.** Submit a change request and analyze the impact
 - D.** Notify the project team
- 79.** You are using the critical chain method to construct your schedule, and there are variances in your critical path tasks. Which of the following is true?
- A.** Your schedule is not at risk yet, but you should monitor both critical and noncritical path tasks for further delays or variances.
 - B.** You should compare the amount of buffer needed to what's remaining to help assess if the schedule is on track.
 - C.** You should use preventive actions to get the project back on track.
 - D.** Delays to the noncritical path tasks won't cause any further issues for the critical path.
- 80.** Diana is a project manager for a small technology startup. One of her first projects involves shifting data hosting from an on-premise solution to a cloud-based one. With work now fully underway, she begins distributing status reports to the project team and other relevant stakeholders. Status reports are an example of what?
- A.** Work performance information
 - B.** Work performance reports
 - C.** Work performance data
 - D.** Work performance analysis
- 81.** Which of the following earned value calculations reflects the estimated difference in cost at the completion of the project?
- A.** Estimate at completion
 - B.** Budget at completion
 - C.** Variance at completion
 - D.** To complete performance index
- 82.** Given the following information, are project costs ahead or behind what was planned for this period? EV = 95, PV = 85, AC = 100.
- A.** Ahead, because the result of the variance formula is negative
 - B.** Behind, because the result of the variance formula is negative
 - C.** Ahead, because the result of the variance formula is positive
 - D.** Behind, because the result of the variance formula is positive

- 83.** You are the project manager for a construction company that is building a new city and county office building in your city. Your CCB recently approved a scope change. You know that scope change might come about as a result of all of the following except which one?
- A.** Schedule revisions
 - B.** Product scope change
 - C.** Changes to the agreed-upon WBS
 - D.** Changes to the project requirements
- 84.** Yazzy is a junior project manager for a fitness company that is developing a new franchise model. She is currently working under the guidance of a senior project manager over her parent project, who asks that she calculate the expected costs to finish the remaining project work. The work is proceeding as planned. She determines that the EAC is \$75,000, and the cumulative actual costs to date are \$50,000. What will Yazzy communicate to the senior project manager?
- A.** \$25,000
 - B.** -\$25,000
 - C.** \$10,000
 - D.** \$15,000
- 85.** You are using the tools and techniques of the Control Schedule process and know all of the following are true except for which one?
- A.** Schedule variances are a key factor in monitoring and controlling project time.
 - B.** Comparing actual dates to estimated or forecast dates is one way to determine schedule variances.
 - C.** Delays to noncritical path activities will not cause schedule delays.
 - D.** Delays to critical path tasks will always cause schedule delays.
- 86.** You know that PV = 563, AC = 558, EV = 521, EAC = 560, and BAC = 600. What is VAC?
- A.** 2
 - B.** 79
 - C.** 40
 - D.** 37
- 87.** A project manager meets with a key set of experts within her project team. They express concerns over a recent scope change that was submitted by the customer, since the project is deep into the execution stages of the project life cycle. Which of the following is a valid tool or technique that can aid the project manager in addressing the team's concerns?
- A.** Decision-making
 - B.** Data analysis
 - C.** Meetings
 - D.** Change control tools

- 88.** You are a project manager working on a project involving a new scientific discovery in conjunction with your local university. You are in the Monitoring and Controlling process group and are performing activities such as reporting and comparing actual project results against the project management plan; analyzing performance data; monitoring the project for risks to make certain they're identified and reported; documenting product information; gathering, recording, and documenting project information; and monitoring approved change requests. Which process are you performing?
- A.** Monitor Communications
 - B.** Perform Integrated Change Control
 - C.** Monitor Risks
 - D.** Monitor and Control Project Work
- 89.** You are a project manager and are meeting with your team. The goal of this meeting is to determine the source of defects recently found. Which of the following describes what you are doing?
- A.** Performing an inspection
 - B.** Performing an audit
 - C.** Performing a what-if scenario analysis
 - D.** Performing root-cause analysis
- 90.** You are asked to calculate TCPI using BAC for your current project. You know that PV = 1750, AC = 1700, EV = 1680, BAC = 1800, EAC = 1820. What is the TCPI?
- A.** 1.0
 - B.** 1.2
 - C.** 120
 - D.** 180
- 91.** You work for Rory's, a golf equipment manufacturer. Your organization is installing some new manufacturing equipment, and you are managing the project. Your project sponsor has asked for an EAC and has told you that he wants you to consider ETC work performed at the present CPI. If EV = 145, PV = 162, AC = 138, and BAC = 200, what is EAC?
- A.** 190
 - B.** 61
 - C.** 58
 - D.** 196
- 92.** Your project has experienced some changes in performance, and some risks have occurred. EAC and BAC now differ as a result. Your project sponsor is asking for an estimate of the cost of the project at completion. Which of the following is true?
- A.** BAC may no longer be reasonable given the changes in performance, so you should use EAC to forecast the cost at completion.
 - B.** EAC may no longer be reasonable given the changes in performance, so you should use BAC to forecast the cost at completion.

- C. BAC may no longer be reasonable given the changes in performance, so you should use ETC to forecast the cost at completion.
 - D. EAC may no longer be reasonable given the changes in performance, so you should use ETC to forecast the cost at completion.
- 93.** If earned value = 1700, planned value = 2000, and actual costs = 1950, what is the cost performance index (CPI)?
- A. 0.87
 - B. 1.15
 - C. 0.85
 - D. 1.18
- 94.** What action can the project manager take if the baselined project schedule is no longer achievable?
- A. Update the schedule with new targets
 - B. Evaluate options and submit a change request
 - C. Nothing, the project remains off track until closure
 - D. Inform the project sponsor
- 95.** You are a project manager for Laurel's Theater Productions. You are comparing cost performance over time and are considering using variance analysis, trend analysis, or earned value performance. Which tool and technique does this refer to?
- A. Earned value management
 - B. Reserve analysis
 - C. Forecasting
 - D. Data analysis
- 96.** You are the project manager for a software consulting firm that is developing a new software program for a customer in another country. Things seem to be progressing well. Recently, your stakeholders examined the work of the project and formally accepted the work results. Which process was just performed?
- A. Validate Scope
 - B. Manage Assurance
 - C. Close Project or Phase
 - D. Control Quality
- 97.** You are the project manager for a project that will produce a mobile phone application that sends alerts when UV rays are at dangerous levels, alerting users to stay indoors. You are in the process of managing the schedule and use a chart to track the work that remains to be completed within the iteration backlog. What is this chart called?
- A. Velocity chart
 - B. Scrum chart
 - C. Iteration burndown chart
 - D. Iteration chart

- 98.** You work for Rory's, a golf equipment manufacturer. Your organization is installing some new manufacturing equipment, and you are managing the project. Your project sponsor has asked for an EAC and has told you that he wants you to use ETC work considering CPI and SPI factors. If EV = 145, PV = 162, AC = 148, and BAC = 200, what is EAC?
- A. 63
 - B. 207
 - C. 58
 - D. 210
- 99.** Reasons to Lyv is the top customer of a large marketing firm. Trudy is the president of Reasons to Lyv and has decided to launch a product that leverages new GPS tracking technology. She sits down with Roy, the project manager on the project, to review and evaluate whether a sufficient amount of funds remains to address known risks. What activity are they performing?
- A. Technical performance analysis
 - B. Audit
 - C. Reserve analysis
 - D. Risk review
- 100.** Your project sponsor has asked for an EAC and has told you that he wants you to use ETC work considering CPI and SPI factors. You know that this formula assumes which of the following?
- A. There is a positive cost performance to date.
 - B. There is a negative cost performance to date, and the project schedule must be met.
 - C. The project schedule has slipped and must be corrected.
 - D. There is a positive cost performance to date, and the project schedule must be met.
- 101.** Which project management process is responsible for determining whether the project outputs do what they were intended to do?
- A. Direct and Manage Project Work
 - B. Control Quality
 - C. Validate Scope
 - D. Manage Quality
- 102.** A project manager spends the afternoon evaluating the impact of adding in two new features recently requested by the customer. The justification for the addition was high, although she could clearly see that it would increase costs by 75 percent. What process is the project manager performing?
- A. Develop Scope
 - B. Validate Scope
 - C. Perform Integrated Change Control
 - D. Control Scope

- 103.** Your project has come about because of a social need. You're calculating performance measurements and know the following information: BAC = 2400, ETC = 400, PV = 2200, EV = 2100, and AC = 2000. What are the CPI and SPI?
- A. CPI = 1.14 and SPI = .87
 - B. CPI = 1.05 and SPI = .95
 - C. CPI = .87 and SPI = 1.14
 - D. CPI = .95 and SPI = 1.05
- 104.** If earned value = 1700, planned value = 2000, and actual costs = 1950, what is the schedule performance index (SPI)?
- A. 0.87
 - B. 1.15
 - C. 0.85
 - D. 1.18
- 105.** Dennis is a project manager working for a company that advertises a high degree of quality to their customers within the medical device industry. In his current assigned project, Dale is monitoring quality of the most critical deliverable that will be produced through his project. What technique can he use to ensure that the deliverable conforms to documented standards?
- A. Perform an audit
 - B. Perform a risk review
 - C. Perform an inspection
 - D. Perform a product evaluation
- 106.** The first input listed in the following options is unique to the Monitor and Control Project Work process, and the second input listed is an input of the following processes: Manage Team, Manage Communications, Perform Integrated Change Control, Monitor Risks.
- A. Work performance information, work performance data
 - B. Work performance data, work performance information
 - C. Work performance reports, work performance data
 - D. Work performance information, work performance reports
- 107.** All of the following are true regarding earned value analysis except for which one?
- A. A negative cost variance is good, meaning the project is under the planned cost.
 - B. A positive schedule variance means that the project is ahead of schedule.
 - C. A cost variance of zero means that the project is on the planned cost.
 - D. A schedule variance of zero means that the project is on schedule.
- 108.** Which of the following is the only tool and technique of the Control Scope process?
- A. Requirements traceability matrix
 - B. Data analysis
 - C. Configuration management system
 - D. Project management software

- 109.** Your project has come about because of market demand. You're calculating performance measurements and know the following information: BAC = 2400, ETC = 400, PV = 2200, EV = 2100, and AC = 2000. What are the CV and SV?
- A. CV = -100 and SV = 100
 - B. CV = 300 and SV = 200
 - C. CV = 200 and SV = 300
 - D. CV = 100 and SV = -100
- 110.** A project manager facilitates a meeting to provide updated information regarding the progress of the project. What type of meeting is this?
- A. Risk review meeting
 - B. Status review meeting
 - C. Planning meeting
 - D. Change control meeting
- 111.** Yazzi is a junior project manager for a fitness company that is developing a new franchise model. She is currently working under the guidance of a senior project manager over her parent project, who asks that she provide an update on the efficiency that must be maintained to complete the project on plan. Yazzi knows the following information: BAC = 70,000, EV = 65,000, AC = 60,000. What will Yazzi communicate to the project manager?
- A. 0.50
 - B. 2.0
 - C. 1.08
 - D. 1.17
- 112.** These two processes in the Monitoring and Controlling process group are usually performed in parallel to assure correctness and acceptance of the work. Which two processes are concerned with correctness and acceptance, respectively?
- A. Control Quality and Control Scope
 - B. Validate Scope and Control Scope
 - C. Control Quality and Validate Scope
 - D. Control Quality and Perform Integrated Change Control
- 113.** During a status meeting, the project manager informs the team that the project has spent a total of \$7,500 to date and that the earned value is \$5,000. How is the project currently performing?
- A. Under planned cost
 - B. On planned cost

- C. Over planned cost
 - D. Insufficient information provided
- 114.** Data analysis is used to help determine the impact of schedule variations and whether corrective actions are needed. Which of the following measurements pertain to the project schedule?
- A. CPI, ETC
 - B. SP, CPI
 - C. CP, ETC
 - D. SV, SPI
- 115.** Kaylee is a risk manager working in collaboration with Alyssa, a project manager, and both work for a top healthcare company. They are currently evaluating the effectiveness of the risk management processes. What tool and technique are they likely to use to carry out this activity?
- A. Risk review
 - B. Risk audit
 - C. Technique performance analysis
 - D. Reserve analysis
- 116.** Which performance measurement estimates the expected total cost of a scheduled activity and is the most commonly used formula?
- A. AC + bottom-up ETC
 - B. AC + (BAC – EV)
 - C. Reestimate
 - D. EAC – AC
- 117.** Which of the following best describes the purpose of the change log?
- A. It is used to document corrective action needed during a project.
 - B. It is used to document changes that occur during a project.
 - C. It is used to document preventive action needed during a project.
 - D. It is used to document defect repairs that are needed during a project.
- 118.** The realized cost incurred for specific work performed on an activity is referred to as what?
- A. Earned value
 - B. Planned value
 - C. Actual cost
 - D. Budget at completion

- 119.** Your organization is experiencing a shake-up at the top levels of management. Your project team has expressed concerns that their project might be canceled because of the changes going on at the top. Thankfully, the new management team has decided to continue with the project. Before the shake-up happened, you were in the Monitoring and Controlling process group, and your next step was to check for correct work results to make certain they comply with the standards set out in the quality management plan. One of the results you've inspected measures 70 miles per hour. The quality management plan outlined standards between 65 and 75 miles per hour. Which of the following does this describe?
- A.** Statistical sampling
 - B.** Tolerable results
 - C.** Inspection
 - D.** Nonconformance
- 120.** The output of the Monitor and Control Project Work process can take many forms, including issues or action item logs, status reports, project documents, dashboards, and more. Which output does this refer to?
- A.** Work performance information
 - B.** Work performance data
 - C.** Work performance reports
 - D.** Project documents updates
- 121.** All of the following are true regarding the Perform Integrated Change Control process except for which one?
- A.** This process is carried out as part of executing the project work.
 - B.** This process is performed throughout the project life cycle.
 - C.** This process addresses changes that encompass corrective actions, preventive actions, and defect repair.
 - D.** This process belongs to the Project Integration Management Knowledge Area.
- 122.** You work for Writer's Block, a service that reviews and critiques manuscripts for aspiring writers. You were assigned to be the project manager for a new computer system that logs, tracks, and saves submitted manuscripts along with the editor's notes. You hired and worked with a vendor who wrote the system from scratch to your specifications. You are reviewing a report regarding certain aspects of the project's performance, and one of the measurements on the report is the expected cost of the work when completed. Which of the following does this describe?
- A.** AC
 - B.** EV
 - C.** ETC
 - D.** EAC
- 123.** Validate Scope is primarily concerned with what?
- A.** Verification of scope changes
 - B.** Correctness of the deliverables

- C. Acceptance of the deliverables
 - D. Validation of the planned scope
- 124.** You are a project manager working for Mail House King. Your company processes orders for several mail-order catalog companies. Your project involves installing new mail-sorting equipment and software, and the project is progressing as expected so far. Your project sponsor has asked for an EAC. You ask your team members to help estimate a bottom-up ETC. You know the following information: BAC = 650, ETC = 75, EV = 625, AC = 650. Which of the following is the correct EAC given the circumstances?
- A. 675
 - B. 677
 - C. 725
 - D. 700
- 125.** A project manager is performing activities associated with monitoring and control scope of the project. What key information can they use in conjunction with the plan to help them get started?
- A. Project documents
 - B. Variance analysis
 - C. Trend analysis
 - D. Work performance data
- 126.** Roshoud is the VP of customer operations for Galactic Kidz and is the project sponsor of the latest project, called Project G. He sits down with Sally, the project manager, to discuss resource utilization on the project. He expresses concern after recently hearing that resources have been unavailable as planned. Sally admits that this has been the case and that it has set the project back unexpectedly. What action should Sally take to remedy the situation?
- A. Review the schedule to identify what resource gaps currently exist within the project
 - B. Perform data analysis to determine what corrective action may be taken to get back on track with the plan
 - C. Procure additional resources to take the place of those that became unavailable after the project work began
 - D. Talk to the functional managers to ensure the unavailable resources receive poor performance reviews
- 127.** A project manager is performing activities associated with monitoring and controlling the scope of the project. What tool and technique are they likely to use to carry out the process?
- A. Performance review
 - B. Data analysis
 - C. Variance analysis
 - D. Inspection

- 128.** You are going to calculate TCPI and know that BAC is no longer attainable. You know that PV = 1750, AC = 1700, EV = 1680, BAC = 1800, EAC = 1820. What is TCPI?
- A. 1.4
 - B. 1.2
 - C. 1.7
 - D. 1.0
- 129.** A good status review meeting uses which type of communication method?
- A. Push
 - B. Pull
 - C. Interactive
 - D. Public
- 130.** You are in the Control Quality process and are using a control chart. All of the following are true regarding this tool except for which one?
- A. Common causes of variance include random, known, or predictable, and variances that are always present in the process and common causes of variance are plotted on a control chart.
 - B. Control charts measure variances to determine whether process variances are in control or out of control.
 - C. Common causes of variance that are outside of the acceptable range may require the project manager to approve changes to or reorganization of the process.
 - D. Control charts are used in conjunction with the Rule of 7.
- 131.** What is the most commonly used method of performance measurement?
- A. Variance analysis
 - B. Trend analysis
 - C. Forecasting
 - D. Earned value management
- 132.** The project sponsor emails the project manager urgently requesting the latest measurement of cumulative work performed, expressed in terms of the approved budget. The sponsor notes that they must have this information by end of day to prepare for a critical meeting the next morning. What information is the sponsor looking for?
- A. Earned value
 - B. Planned value
 - C. Actual cost
 - D. Budget at completion

- 133.** Assuming that work is progressing as planned, calculate estimate to complete (ETC) using the following values: BAC = 25,000; EV = 10,000; AC = 12,000. Calculate to the nearest whole number.
- A. Insufficient information provided
 - B. 13,000
 - C. 30,120
 - D. 18,121
- 134.** You work for Writer's Block, a service that reviews and critiques manuscripts for aspiring writers. You were assigned to be the project manager for a new computer system that logs, tracks, and saves submitted manuscripts along with the editor's notes. You hired and worked with a vendor who wrote the system from scratch to your specifications. You are reviewing a report regarding certain aspects of the project's performance, and one of the measurements on the report calculates the difference between the budget at completion and the estimate at completion. Which of the following does this describe?
- A. TCPI
 - B. VAC
 - C. ETC
 - D. EAC
- 135.** You are in the process of evaluating the engagement levels of stakeholders. What tool can you use to help you get started quickly?
- A. Stakeholder assessment matrix
 - B. Alternatives analysis
 - C. Root cause analysis
 - D. Presentations
- 136.** You are working on a project where all of the work of the project has been outsourced. Which of the following is the process you will use to monitor vendor performance, coordinate communications and interfaces among all the vendors, administer each of the contracts and procurement agreements, and manage all the due dates?
- A. Conduct Procurements
 - B. Control Procurements
 - C. Control Communications
 - D. Monitor and Control Project Work
- 137.** This tool of the Control Quality process is used to help organize data when performing inspections and gathering information on defects. This information can also be displayed as a Pareto diagram.
- A. Run charts
 - B. Fishbone diagrams
 - C. Scatter diagrams
 - D. Check sheets

- 138.** All of the following statements are true regarding earned value management except which one?
- A.** Earned value management monitors the PV, AC, and EV, which might result in corrective action.
 - B.** Earned value management is a project integration method that monitors scope, schedule, and cost measurements, which might result in lessons learned for future projects.
 - C.** Earned value management is a performance measurement analysis tool and technique of Control Costs, which might result in budget updates.
 - D.** Earned value management monitors performance measurements, which might result in workarounds to correct problems.
- 139.** Which of the following values refers to the value of the work planned to be completed?
- A.** Earned value
 - B.** Planned value
 - C.** Actual cost
 - D.** Budget at completion
- 140.** If cumulative EV = 145, PV = 162, AC = 138, BAC = 200, and ETC = 62, what is ETC when you believe future cost variances will not be typical?
- A.** 57.75
 - B.** 200
 - C.** 55
 - D.** 193
- 141.** Earned value analysis, iteration burndown chart, performance reviews, trend analysis, variance analysis, and what-if scenario analysis are all types of what?
- A.** Project management information systems
 - B.** Data representation tools and techniques
 - C.** Data analysis tools and techniques
 - D.** Schedule compression tools and techniques
- 142.** All of the following are key dimensions that are developed and monitored through earned value management for each work package and control account, except for which one?
- A.** Budget value
 - B.** Planned value
 - C.** Earned value
 - D.** Actual cost
- 143.** Which tool within the data representation tools and techniques in the Control Quality process is sometimes used to show planned performance against actual performance?
- A.** Run charts
 - B.** Fishbone diagrams
 - C.** Scatter diagrams
 - D.** Check sheets

- 144.** Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. As part of her practice, she sits down with her sponsor to regularly evaluate how the project is performing. In their most recent meeting, they analyze whether sufficient contingency and manage reserves remain. What technique is Carina using?
- A. Forecasting
 - B. Reserve analysis
 - C. Earned value analysis
 - D. Trend analysis
- 145.** Validate Scope and Control Scope are Project Scope Management processes that belong to which project management process group?
- A. Initiating
 - B. Planning
 - C. Executing
 - D. Monitoring and Controlling
- 146.** You are calculating the expected total cost of the project at completion and are anticipating some significant changes and do not expect the work of the project to proceed as planned. If BAC = 400, EAC = 425, PV = 400, EV = 375, and AC = 85, what is the expected total cost at completion?
- A. 340
 - B. Re-estimate
 - C. 25
 - D. 27
- 147.** This tool and technique of the Monitor Risks process is used to examine the implementation of risk response plans and examine their effectiveness at dealing with risks and their root causes.
- A. Audits
 - B. Risk reassessment
 - C. Variance and trend analysis
 - D. Reserve analysis
- 148.** All of the following are true regarding the Monitor Communications process except for which one?
- A. It is the third and final process of the Project Communications Management Knowledge Area.
 - B. It is the process that ensures timely and appropriate collection, creation, distribution, and storage of project information.
 - C. It relies on project work performance data and the plan to generate work performance information.
 - D. It may generate change requests to adjust communications activities as a way of ensuring they are producing the desired results.

- 149.** All of the following are true regarding the Monitor Risks process except for which one?
- A.** It involves the development of risk responses.
 - B.** It is the only risk management process belonging to the Monitor and Control process group.
 - C.** It involves performing risk reviews and risk audits.
 - D.** It generates updates to the risk register.
- 150.** A project with a cost performance index (CPI) of 1.12 and a schedule performance index (SPI) of 0.90 is performing:
- A.** Under budget and ahead of schedule
 - B.** Over budget and behind schedule
 - C.** Under budget and behind schedule
 - D.** Over budget and ahead of schedule
- 151.** You are working on a project where all of the work of the project has been outsourced. You are monitoring vendor performance, coordinating communications and interfaces among all the vendors, administering each of the contracts and procurement agreements, and managing all the due dates. The information you gather regarding these activities is collected as part of which of the following outputs and its associated process?
- A.** Work performance data, Direct and Manage Project Work
 - B.** Work performance reports, Monitor and Control Project Work
 - C.** Work performance information, Control Procurements
 - D.** Work performance reports, Conduct Procurements
- 152.** Using the following values, calculate the schedule performance index (SPI): EV = 4,000, PV = 3,500, AC = 5,500.
- A.** 0.88
 - B.** 1.14
 - C.** 0.73
 - D.** 1.38
- 153.** Which project management process is responsible for formal acceptance of deliverables?
- A.** Control Scope
 - B.** Validate Scope
 - C.** Control Quality
 - D.** Manage Quality
- 154.** You are a project manager for Community Trends, a nonprofit organization. Your project has come about because of a social need. You're calculating performance measurements, and you know the following information: BAC = 900, ETC = 65, PV = 500, EV = 475, and AC = 425. Which of the following statements is true?
- A.** This project is ahead of schedule, and costs are higher than planned.
 - B.** This project is behind schedule, and costs are higher than planned.

- C. This project is behind schedule, but costs are lower than planned.
 - D. This project is ahead of schedule, and costs are lower than planned.
155. LaFawnduh is a project manager working for Dancing Apron, a company that combines cooking with simple children's cooking recipes and music. Her latest project involves the release of the company's first digital product that parents will be able to purchase and download online. While overseeing the project, LaFawnduh notices that recent stakeholder engagement levels have dropped significantly, and they've begun to disagree during status meetings. What key information can she use to help her deal with the situation?
- A. Project management plan
 - B. Work performance data
 - C. Interpersonal and team skills
 - D. Decision-making
156. David is a project manager working for a prominent book publishing company. As the most senior project manager within the organization, he often gets the most complex project assignments. As part of his current project, he oversees the inspection of deliverables, measuring them against documented requirements and acceptance criteria. Inspections are also known by all of the following names, except for which one?
- A. Walk-throughs
 - B. Product reviews
 - C. Audits
 - D. Reviews
157. You work for Writer's Block, a service that reviews and critiques manuscripts for aspiring writers. You were assigned to be the project manager for a new computer system that logs, tracks, and saves submitted manuscripts along with the editor's notes. You hired and worked with a vendor who wrote the system from scratch to your specifications. You are monitoring risks and determining whether their consequences still have the same impact on the project objectives as they did when you were performing the risk processes during the Planning process group. Which of the following does this describe?
- A. Risk audits
 - B. Data analysis
 - C. Risk probability and impact assessment
 - D. Risk urgency assessment
158. A project manager is carrying out activities associated with the Monitor Stakeholder Engagement process. What result will these activities produce?
- A. Decision-making
 - B. Work performance information
 - C. Interpersonal and team skills
 - D. Stakeholder engagement plan

- 159.** Alyssa is a project manager tasked with managing an infrastructure project that will consolidate five data centers into one. She updates a stakeholder engagement matrix that she created at the start of the project to document the communication needs of the project. What tool or technique is Alyssa using?
- A.** Project management information system
 - B.** Interpersonal and team skills
 - C.** Expert judgment
 - D.** Data representation
- 160.** You are working on a project where all of the work of the project has been outsourced. You are in the Control Procurements process and know that each of the following options is correct regarding seller invoices except for which one?
- A.** They describe the work that was completed or the materials that were delivered.
 - B.** They should include any supporting documentation necessary to describe what was delivered.
 - C.** They are an input to this process, and the invoices are processed using the payment systems output.
 - D.** This is one method that vendors use to request payment for goods or services.

Chapter

5



Closing (Domain 5.0)

THE PROJECT MANAGEMENT PROFESSIONAL (PMP)[®] EXAM CONTENT FROM THE CLOSING THE PROJECT PERFORMANCE DOMAIN COVERED IN THIS CHAPTER INCLUDES THE FOLLOWING:

- ✓ Obtain final acceptance of the project deliverables from relevant stakeholders in order to confirm that project scope and deliverables were achieved.
- ✓ Transfer the ownership of deliverables to the assigned stakeholders in accordance with the project plan in order to facilitate project closure.
- ✓ Obtain financial, legal, and administrative closure using generally accepted practices and policies in order to communicate formal project closure and ensure transfer of liability.
- ✓ Prepare and share the final project report according to the communications management plan in order to document and convey project performance and assist in project evaluation.
- ✓ Collate lessons learned that were documented throughout the project and conduct a comprehensive project review in order to update the organization's knowledge base.
- ✓ Archive project documents and materials using generally accepted practices in order to comply with statutory requirements and for potential use in future projects and audits.
- ✓ Obtain feedback from relevant stakeholders using appropriate tools and techniques and based on the stakeholder management plan in order to evaluate their satisfaction.



The process names, inputs, tools and techniques, outputs, and descriptions of the project management process groups and related materials and figures in this chapter are based on content from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Sixth Edition* (PMI®, 2017).

1. Which of the following statements best describes a project that has ended because of addition?
 - A. A project that evolves into ongoing operations
 - B. A project that no longer has access to the required resources
 - C. A project whose resources are distributed to other areas in the organization
 - D. A project that is completed and accepted by the stakeholders
2. What type of organization experiences the least amount of stress during project closeout?
 - A. Project-oriented
 - B. Functional
 - C. Weak matrix
 - D. Strong matrix
3. Which of the following is a valid output of the Close Project or Phase process that includes archiving project or phase closure documents?
 - A. Project management plan updates
 - B. Organizational process assets updates
 - C. Project documents updates
 - D. Enterprise environmental factors updates
4. Cheryl is a procurement manager assigned to a project that implemented a new system patching service. Although she experienced a multitude of issues with the vendor, the project manager and sponsor decide to accept the vendor's result, and she then provides the vendor with formal written notice that the contract has been completed. What output has just been generated?
 - A. Final report
 - B. Closed procurements
 - C. Change request
 - D. Procurement documentation updates
5. What is the ethical code you'll be required to adhere to as a PMP credential holder?
 - A. Code of Professional Conduct
 - B. Code of Project Management Professional Standards and Ethics
 - C. Code of Professional Ethics
 - D. Code of Ethics and Professional Conduct
6. Sue is the head of an enterprise project management office (PMO). She calls her team of project managers together for an urgent ad hoc staff meeting. During the meeting, she expresses concern over the results of a recent audit she conducted of projects that have closed over the past quarter. As part of her audit findings, she shares that most project managers missed transitioning ongoing activities to operations and that documentation had not been fully archived. What key process are project managers skipping?
 - A. Perform Integrated Change Control
 - B. Close Project or Phase
 - C. Monitor and Control Project Work
 - D. Control Quality

7. Sally and Joe are two project managers working in the corporate offices of a popular fast food franchise. They are both studying for their PMP certification, and as usual, they debate the latest topic on the agenda. Joe insists that when a project ends because of a lack of resources, this is referred to as *starvation*, whereas Sally insists that it is referred to as *integration*. Who is correct?
- A. Sally
 - B. Joe
 - C. Neither
 - D. Both
8. All of the following represent values addressed in the *Code of Ethics and Professional Conduct*, except for which one?
- A. Honor
 - B. Responsibility
 - C. Fairness
 - D. Respect
9. David is a project manager working for a prominent book publishing company. As the most senior project manager within the organization, he often gets paired with strong-willed project sponsors. During a recent project meeting, David's project sponsor began yelling in frustration at the project's status, which was blocked because of a critical resource being out ill. In frustration, the sponsor began spewing profanities at David, questioning his ability to manage effectively. In response, David calmly assured the project sponsor that a contingency plan would be implemented and requested that they speak privately to address his frustrations. David then excused the rest of the project team. What core value did David uphold during the meeting?
- A. Fairness
 - B. Honesty
 - C. Respect
 - D. Responsibility
10. All of the following are true regarding project life cycles except for which one?
- A. Predictive life cycles take advantage of things that are unknown and unproven.
 - B. Iterative, incremental, Agile, and predictive are all types of project life cycles.
 - C. Agile life cycles leverage both iterative and incremental characteristics.
 - D. Iterative life cycles allow feedback on partially completed work to improve the work.
11. At which point are project resources released?
- A. At the end of contract closure
 - B. At the end of the resource management processes
 - C. At the conclusion of the project
 - D. After their work is complete

- 12.** All of the following statements are true of the Close Project or Phase process except for which one?
- A.** Probability for success is greatest in the Close Project or Phase processes.
 - B.** The project manager's influence is greatest in the Close Project or Phase processes.
 - C.** The stakeholders' influence is least in the Close Project or Phase processes.
 - D.** Risk is greatest in the Close Project or Phase processes.
- 13.** You are the project manager for a construction company that is building a new city and county office building in your city. Your change control board recently approved a scope change based on analysis that you provided. You recently learned that the analysis was flawed. Bringing the change control board back together to reevaluate the change request would set the project back by one month. What should you do?
- A.** Since a decision has already been made, there is nothing that can be done.
 - B.** Overturn the change immediately; flawed analysis should not be considered, and the change request should be rejected.
 - C.** Do nothing; setting the project back by a month would be detrimental to the project.
 - D.** Bring the error to the attention of the change control board, and follow the process of reevaluating the change request.
- 14.** As a value upheld by the project management community, honesty entails which of the following?
- A.** Ensuring integrity
 - B.** Truthful reporting
 - C.** Reporting ethics violations
 - D.** Avoiding conflict of interest
- 15.** You've recently begun to suspect your friend, a fellow PMP credential holder, might be accepting gifts from hardware vendors who are bidding on an upcoming multimillion-dollar project that she's going to manage. She has a new LED flat-screen computer monitor at her desk, she showed off her new electronic tablet at a meeting two days ago, and today she unpacked a new ultra-thin laptop while you were in her office. Which of the following should you do?
- A.** You tell your friend these gifts probably aren't appropriate and leave it at that.
 - B.** You and your friend have a long conversation about the items she's received, and she decides to return them and not accept any more items from vendors in the future.
 - C.** You tell your friend you're concerned about the appearance of impropriety because of all the new things she's purchased lately, so you ask her directly whether these items were gifts from the vendor or whether she purchased them herself.
 - D.** You know this is a conflict-of-interest situation, and it violates the *Code of Ethics and Professional Conduct*. You report your friend so that an investigation can take place.

- 16.** Which of the following values represents taking ownership for the decisions you make or fail to make, the actions you take or fail to take, and the consequences that result?
- A.** Responsibility
 - B.** Fairness
 - C.** Respect
 - D.** Honesty
- 17.** All of the following are true regarding the Close Project or Phase process except for which one?
- A.** It is part of the Closing process group.
 - B.** It belongs to the Project Scope Management Knowledge Area.
 - C.** It generates a final report summarizing project performance.
 - D.** It is where the transition of the final product, service, or result occurs.
- 18.** Which of the following project management Knowledge Areas addresses closure activities?
- A.** Project Scope Management
 - B.** Project Communications Management
 - C.** Project Resource Management
 - D.** Project Integration Management
- 19.** Nicolas is the project manager of a project that has been described as revolutionizing the mobile fitness tracking industry. He prepares for a meeting with the project's sponsor to discuss how to approach the project. During the meeting, he tells the project sponsor that he would like to promote self-awareness, listening, and coaching versus controlling. Nicolas is promoting characteristics of what?
- A.** Servant leadership approach
 - B.** Incremental approach
 - C.** Deming approach
 - D.** Hygiene model
- 20.** You learn that a trusted colleague has falsely reported that they earned their PMP credential. This was a requirement for earning their bonus for the end-of-fiscal-year rewards. What should you do?
- A.** Report your colleague immediately to the appropriate management.
 - B.** Tell another trusted colleague and hope that they will report it to management so that you don't need to violate their trust.
 - C.** Do nothing. It is your colleague's business, and you should stay out of it.
 - D.** Talk to your colleague and give them an opportunity to correct their behavior and be truthful.

- 21.** Alfred is a senior project manager with 15 years of hands-on experience managing projects within the information technology space. After having been laid off because of budgetary cuts, Alfred begins perusing job postings on a career website. One posting in particular catches his eye. The position is for a security project manager within his favorite online retail brand. The position notes that applicants should have an active PMP and Security+ certification, neither of which he has. He briefly considers submitting his application and claiming that he has the credentials, confident that he could earn both during the interview process. What should Alfred do?
- A.** Update his résumé with the two credentials since they likely do not perform a verification of the credentials
 - B.** Peruse his network to identify whether he knows someone in the company who could tell him whether they verify
 - C.** Update his résumé with the two credentials and submit his application while concurrently pursuing the two credentials
 - D.** Contact the recruiter to determine whether the credentials are a requirement before submitting his application
- 22.** You are a project manager working in a foreign country. You observe that some of your project team members are having a difficult time adjusting to their new environment. You provided them with training on cultural differences and the customs of this country before arriving, but they still seem uncomfortable and disoriented. Which of the following statements is true?
- A.** This is the result of working with teams of people from two different countries.
 - B.** This condition comes about when working in an unfamiliar environment or culture and is called *culture shock*.
 - C.** This is the result of jet lag and travel fatigue.
 - D.** This condition is best resolved by providing diversity training to the team.
- 23.** All of the following are true regarding honesty as a value project managers should uphold, except for which one?
- A.** Personal gain should never be a factor in any project decision.
 - B.** Honesty can include reporting the truth regarding project status.
 - C.** Honesty only involves information regarding your own background and experience.
 - D.** Honesty includes being honest about your own experience, not deceiving others, and not making false statements.
- 24.** You are the project manager for a high-profile, critical project for your organization. You recently learn that the customer of your project has downsized, and as a result, the project funds have been cut. What type of project ending is this?
- A.** Extinction
 - B.** Integration
 - C.** Starvation
 - D.** Addition

- 25.** A project manager is managing a project that will consist of a single delivery with fixed requirements. What project life cycle is the project manager using?
- A. Iterative
 - B. Incremental
 - C. Predictive
 - D. Agile
- 26.** At minimum, measuring stakeholder satisfaction typically occurs at what point of the project life cycle?
- A. During project initiation
 - B. During project planning
 - C. During project execution
 - D. During project closure
- 27.** You are a project manager working on an international project. Your project involves building a factory in a foreign country that will produce chemical products to be used in the country's agricultural industry. Because of the scarcity of resources in this country, you've had to substitute one of the ingredients in the primary chemical product the factory produces. Initial tests show that the combination of ingredients in this particular product can cause sickness to those who handle the product without protective gloves and masks. However, the incidence of sickness is minor and is usually experienced only by those who are elderly or are experiencing another illness when handling the material. Which of the following is the most appropriate next step?
- A. Inform the foreign officials of the problem and that you are conducting an examination of the production process and the combination of the chemical ingredients to determine the extent of the problem.
 - B. Inform foreign officials that there is no problem except for the elderly or sick, who should wear masks when handling the materials.
 - C. Hold training for the foreign officials to show them the advances the company has made in technology, chemical engineering, and agricultural procedures.
 - D. Since the incidence of sickness is so small, risks are extremely low, and no action is needed.
- 28.** During a project status meeting, you request updates to work tasks. One of your close friends accountable for the most critical milestone on the schedule notes that they are on track. Over wine the previous evening, the friend had confided that the task was two weeks behind schedule. What should you do as the project manager?
- A. Throw your friend under the bus—after all, the wine was cheap and not worth it.
 - B. Immediately report the slip, along with the source of your information.
 - C. Give your friend an opportunity to report accurate status; if this does not occur, report accurately that a slippage has occurred.
 - D. Do nothing. Honoring friendship is far more important, and this is an opportunity to display trust.

- 29.** Which of the following characteristics do all project life cycles share?
- A.** Degree of uncertainty
 - B.** Degree of planning
 - C.** Degree of unfinished work
 - D.** Degree of work sequencing
- 30.** Roshoud is the VP of customer operations for Galactic Kidz and is the project sponsor of Project G. He sits down with Sally, the project manager, to review the summary of the project's performance. The project is now in its final stages, and Sally has been focused on administrative closure activities. What project management document are they reviewing?
- A.** Project management plan
 - B.** Milestone list
 - C.** Final report
 - D.** Work performance report
- 31.** Yasmin is a senior project manager for a project that aims to produce a new line of medical widgets for a Fortune 100 company. The entire industry has been buzzing with excitement over this project, which was estimated to span three years and require an investment of \$1.5 billion from the company. While wrapping up for the week, Yasmin receives a fifth call from a vendor that has been pursuing an active RFP for the project. The vendor notes that they have connections in the offshore company by which the product will be manufactured, and if they win the contract, they are certain that they could bypass customs, saving Yasmin's company millions of dollars in the process. What should Yasmin do?
- A.** Agree to discuss options with the vendor, since it would save the company millions of dollars
 - B.** Pass on the offer but take down the vendor's phone number to keep options open
 - C.** Pass on the offer and report the conversation to the company's legal department
 - D.** Pass on the offer and report the conversation to her colleagues
- 32.** You are in the Closing process group and are determining whether the work of the project is accurate and satisfactory and ensuring it is in accordance with the contract terms. This is known as which of the following?
- A.** Product verification
 - B.** Documentation of the product of the project
 - C.** Verifying product scope
 - D.** Inspection

- 33.** Sue is the head of an enterprise project management office (PMO). She delivers a presentation at the annual company meeting to describe her roles and responsibilities and the value of the PMO. As part of her presentation, she notes that, as practitioners, project managers should abide by four core values. In particular, Sue notes that project managers should avoid conflicts of interest. Which core value addresses conflict of interest?
- A.** Responsibility
 - B.** Fairness
 - C.** Respect
 - D.** Honesty
- 34.** You are managing a project on contract. Your bonus is contingent on the timely completion of the project. The project is behind schedule, but the remaining tasks are easy to complete and won't take more than a week. Which of the following is the most appropriate response?
- A.** Invoice the customer for the full amount of the contract at the originally scheduled completion date.
 - B.** Invoice the customer for the amount of work as of the actual project completion date.
 - C.** Submit an invoice and complete the remaining tasks while the payment request is being processed because the work will be finished before the payment is made.
 - D.** Tell the customer about the delay and negotiate a change to the schedule and/or invoice payment date and then bill for the full amount when the work is completed.
- 35.** As a project manager, balancing stakeholder interests and competing needs is an ongoing activity. All of the following make up the triple constraints except for which one?
- A.** Quality
 - B.** Time
 - C.** Cost
 - D.** Scope
- 36.** An iterative life cycle contains all of the following characteristics, except for which one?
- A.** Activities are performed once for a given increment.
 - B.** Requirements are dynamic.
 - C.** The goal is corrective of the solution.
 - D.** It produces a single delivery.
- 37.** Renee is managing a project with speed as the primary goal. What project life cycle is Renee likely using?
- A.** Predictive project life cycle
 - B.** Iterative project life cycle
 - C.** Agile project life cycle
 - D.** Incremental project life cycle

- 38.** Your colleague has reported to their manager that they passed their PMP certification exam. You know this is inaccurate, since you both took your exams at the same time and the colleague shared the results with you. What should you do?
- A. Give them an opportunity to correct their behavior and report them to PMI if they do not.
 - B. Don't say anything. Since this is your friend, the code states that you must look out for each other.
 - C. Give your friend a difficult time to teach them a lesson and disassociate with them.
 - D. Tell their manager immediately and report the violation to PMI directly.
- 39.** Which of the following is a valid tool or technique that aids the project manager in improving performance on future projects by analyzing the interrelationships between project variables that contributed to project outcomes?
- A. Variance analysis
 - B. Regression analysis
 - C. Trend analysis
 - D. Document analysis
- 40.** A project manager works with the project team to identify lessons learned. The information captured will then be archived and summarized within the project's final report. What activity is the project team engaged in?
- A. Updating the lessons learned register
 - B. Administrative closure
 - C. Conducting a project meeting
 - D. Capturing work performance information
- 41.** Yasmin is a senior project manager for a project that aims to produce a new line of medical widgets for a Fortune 100 company. The entire industry has been buzzing with excitement over this project, which was estimated to span three years and require an investment of \$1.5 billion from the company. Yasmin recently learned that her project would be placed on hold for the foreseeable future after a lawsuit against the company resulted in shareholders pulling out their investments, thereby liquidating capital needed to continue with the project. What type of project ending is this?
- A. Integration
 - B. Starvation
 - C. Addition
 - D. Extinction
- 42.** You are the project manager for a large software development project. Your project was performed under contract, and the project is complete. You know that the closed procurement output encompasses which of the following elements?
- A. Formal written notice to the seller that the contract has been completed
 - B. Archive of all procurement-related documents generated through the project
 - C. Project records, project closure procedures, and procurement files
 - D. Recap of verbal agreement that the agreement has been satisfied

- 43.** Who is responsible for engaging in project closure activities?
- A.** Project stakeholders
 - B.** Project sponsor
 - C.** Project manager
 - D.** Risk manager
- 44.** Which of the following statements is true?
- A.** All projects meet their objectives.
 - B.** All projects come to an end.
 - C.** All projects experience ending by integration.
 - D.** All projects evolve into ongoing operations.
- 45.** You've just accepted a new project management assignment. The project is for a customer in a foreign country. You've requested a business analyst and two other project team members from the country the customer resides in to participate on your team. The remaining team members are from your country. You know that the best way to ensure that the project team doesn't get bogged down in cultural differences and hold up project progress is to do which of the following?
- A.** Perform team-building exercises using videoconferencing to allow team members to get to know each other and get to the performing stage of team development as soon as possible.
 - B.** Require project team members to read and sign the organization's diversity policy.
 - C.** Establish your role as project manager as the first order of business and require compliance with company policies.
 - D.** Provide diversity training for all the team members to make them aware of cultural differences and teach them to function effectively as a team despite these differences.
- 46.** Sue is the head of an enterprise project management office (PMO). During a private meeting with one of her project managers, she expresses her disappointment after learning that the project manager had falsely noted on their résumé that they were a certified project management professional (PMP). Which core value did the project manager fail to abide by?
- A.** Responsibility
 - B.** Fairness
 - C.** Respect
 - D.** Honesty
- 47.** Charles works for a prominent company within the entertainment industry as head project manager. He recently learned that a highly confidential movie deal under negotiation may feature his wife's favorite actress. Despite the confidentiality agreement he signed, he decides to reveal the information, knowing that she will keep it to herself. What core value upheld by project managers has Charles violated?
- A.** Honesty
 - B.** Respect

- C. Honor
 - D. Responsibility
- 48.** Stakeholders have the greatest level of influence during which stage of the project's life cycle?
- A. During project initiation
 - B. During project planning
 - C. During project execution
 - D. During project closure
- 49.** All of the following are Agile and Lean frameworks except for which one?
- A. Scrumban
 - B. Extreme Programming
 - C. Waterfall
 - D. Crystal Methods
- 50.** Your colleague recently accepted a job transfer that requires a PMP credential. During a recent conversation, he confided to you that he lied on his application in order to get the assignment. This is an example of what?
- A. A bad friend
 - B. Poor judgment
 - C. An ethics violation
 - D. Unprofessional behavior
- 51.** All of the following are common roles used in Agile projects except for which one?
- A. Cross-functional team member
 - B. Project manager
 - C. Product owner
 - D. Team facilitator
- 52.** You are a project manager for Snow Fun, a chain of retail shops specializing in winter sports gear and clothing. You've been working on contract with Snow Fun and are ready to move on to your next assignment. The customer has signed off on the project, formal acceptance notices have been distributed, and project closure procedures have been performed. What type of project ending is this?
- A. Starvation
 - B. Extinction
 - C. Integration
 - D. Addition

- 53.** All of the following are true regarding the Close Project or Phase process except for which one?
- A.** The process is performed once at the end of the project's life cycle.
 - B.** The process belongs to the Project Integration Management Knowledge Area.
 - C.** It is the only process belonging to the Closing process group.
 - D.** It is responsible for producing the project's final report.
- 54.** A project manager has just begun working on activities to close out the project. One of the most influential functional leads associated with the project calls the project manager and begins insisting that a new scope of work be added. The project manager insists that the agreed-upon scope of the project has been completed and accepted and that a separate project will need to be initiated to complete the new scope identified. What is the likely outcome of this scenario?
- A.** The new scope of work will be approved through the change control board.
 - B.** The new scope of work will be approved by the project sponsor.
 - C.** The new scope of work will be rejected by the change control board.
 - D.** The new scope of work will be rejected by the project sponsor.
- 55.** Which of the following best describes the servant leadership approach used in Agile projects?
- A.** The practice of one individual directing the team to provide clear and concise direction
 - B.** The practice of generating work through iterations, with one leader clearly prominent
 - C.** The practice of installing one clear leader, with team members serving as followers
 - D.** The practice of focusing on understanding and addressing the needs and development of team members
- 56.** One of your team members, a fellow PMP credential holder, is under investigation for violation of the *Code of Ethics and Professional Conduct*. What action should you take?
- A.** Cooperate fully with the investigation.
 - B.** Tell the PMI investigator it would be a conflict of interest for you to cooperate in the investigation because this person is your team member.
 - C.** Tell the PMI investigator it would be a conflict of interest for you to cooperate because they might uncover information about you during the investigation that could cause them to investigate you.
 - D.** Cooperate with the PMI investigator by truthfully answering all their questions, but refuse to give them any written documentation.
- 57.** All of the following are true regarding project endings except for which one?
- A.** Integration and starvation are two of the four types of project endings.
 - B.** All work should cease immediately when a project ends prematurely.

- C. Closure activities should be performed in all cases, including cancelled projects.
 - D. A project that achieves its objectives and is accepted by stakeholders ends through extinction.
- 58.** A project manager is preparing to send five engineers to Japan to install a high-security network. The engineers have never been outside of the United States before. Prior to their travel, the project manager asks the Japan-based manager to give the engineers an overview of their history, customs, and social norms. What is the project manager's motive?
- A. Teach the engineers about the Japanese culture
 - B. Take a breather after a hard day's work
 - C. Ensure the engineers understand how to interact abroad
 - D. Prevent culture shock
- 59.** A project manager has been reassigned to another project after her previous project evolved to ongoing operations. What type of project ending did she experience?
- A. Addition
 - B. Extinction
 - C. Starvation
 - D. Integration
- 60.** All of the following are examples of a project that has ended because of starvation, except for which one?
- A. Resources are reassigned to other projects.
 - B. A key resource quits.
 - C. The project budget is reduced.
 - D. The customer curtails an order.
- 61.** A project manager working under contract for an enterprise project management office contributes to the creation of a project management handbook as part of his assignment. At the conclusion of the project, he decides to sell and market the handbook under his consulting group's brand, even though he was one of many contributors acting as agents of the organization. He reasoned that his contribution to the creation of the handbook afforded him this right. How are his actions likely to be viewed by the contracting organization?
- A. As acting on his rights as a content contributor
 - B. As a violation of intellectual property
 - C. As a collaborator, given his contributions to the work
 - D. As operating against his agreement

- 62.** You are a project manager for Snow Fun, a chain of retail shops specializing in winter sports gear and clothing. You've been working on contract with Snow Fun and are ready to move on to your next assignment. As the project manager, you know all of the following statements are true regarding the Closing process group except which one?
- A.** The Close Project or Phase process is where the project manager verifies that all the exit criteria have been met.
 - B.** The Closing process is the most commonly skipped process.
 - C.** Both the Close Project or Phase and Control Procurements processes verify that the work and product of the project were completed satisfactorily.
 - D.** Control Procurements is the only process needed to perform contract closure if the project is completed on contract.
- 63.** A project manager is in the process of performing closure activities for a project. What input can they use to review the project success criteria and sign-off requirements for the project?
- A.** Project management plan
 - B.** Benefits management plan
 - C.** Project charter
 - D.** Project scope statement
- 64.** At which stage of the project does project spending taper off?
- A.** Planning
 - B.** Executing
 - C.** Monitoring and Closing
 - D.** Closing
- 65.** A project team that is attempting to adopt an Agile mind-set may use all of the following questions to develop an implementation strategy, except for which one?
- A.** What work can be avoided to focus on high-priority items?
 - B.** How can the team act in a predictable manner?
 - C.** What work can the team deliver rapidly to obtain early feedback?
 - D.** How can a servant-leadership approach aid the achievement of goals?
- 66.** You are a project manager working on contract. As your project comes to a close, your contract completes, and you find yourself out of work. What type of organizational structure did you work in?
- A.** Strong matrix
 - B.** Project-oriented
 - C.** Functional
 - D.** Weak matrix

- 67.** Diana is a newly appointed project manager. As part of onboarding to the new team, she shadows Charlie, a senior project manager. During a team meeting, she witnesses Charlie using several profanities when engaging with one engineer in particular. She cringes in her seat as she sees Charlie talk over the engineer and chastise him for challenging the schedule. Although new to the team, Diana decides to report Charlie's behavior to her manager. What core value has Charlie violated?
- A.** Responsibility
 - B.** Fairness
 - C.** Respect
 - D.** Honesty
- 68.** Which project management process group is most likely to be skipped by the project manager?
- A.** Initiating
 - B.** Planning
 - C.** Monitoring and Controlling
 - D.** Closing
- 69.** A project manager facilitates a kickoff meeting for a project with team members based in nine countries. As part of the kickoff, the project manager has the human resource manager provide everyone with diversity training. Which value noted within PMI's code of conduct supports an environment where diverse perspectives and views are encouraged and valued?
- A.** Honor
 - B.** Respect
 - C.** Fairness
 - D.** Responsibility
- 70.** As part of performing administrative closure activities, a project manager creates false responses to a stakeholder satisfaction survey. He reasons that he has received highly positive feedback throughout the entire project and didn't want to be a bother to his stakeholders after they worked so hard to successfully finish the project. The project manager's actions violated which core value addressed within the *Code of Ethics and Professional Conduct*?
- A.** Respect
 - B.** Honor
 - C.** Honesty
 - D.** Integrity

- 71.** A project manager hosted a celebration for the project team to reward them for a job well done that led to the successful completion of a major project. It was clear to the project manager that the team was relaxed and enjoying themselves, with some talking about upcoming vacation plans. What type of organizational structure does the project team likely work within?
- A.** Strong matrix
 - B.** Weak matrix
 - C.** Project-oriented
 - D.** PMO
- 72.** You are a project manager for Snow Fun, a chain of retail shops specializing in winter sports gear and clothing. You've been working on contract with Snow Fun and are ready to move on to your next assignment. You are performing administrative closure procedures within the Close Project or Phase process, so you are doing all of the following regarding this activity except for which one?
- A.** Documenting and gathering lessons learned
 - B.** Indexing the records and storing them in a safe place
 - C.** Updating records to document the final results of the contract
 - D.** Analyzing the project success or failure
- 73.** During a final meeting between the project manager and project sponsor, the sponsor asks to review the document that summarizes the project's performance, including the validation information on the project's end result. What document is the sponsor requesting?
- A.** Project management plan
 - B.** Final report
 - C.** Lessons learned register
 - D.** Project documents
- 74.** A project sponsor calls the project manager to obtain the summary of the performance of a project that recently closed. What document can the project manager provide the sponsor that will contain this information?
- A.** Project management plan
 - B.** Final report
 - C.** Work performance report
 - D.** Work performance information
- 75.** A role delineation study can best be described as which of the following?
- A.** A job analysis
 - B.** A credential
 - C.** A feasibility study
 - D.** A business case

- 76.** You are the project manager for a project that will produce a mobile phone application that sends alerts when the UV rays are at dangerous levels, alerting users to stay indoors. As you move into the final closing stages of the project, you review communications generated for and by stakeholders as a method of analyzing feedback. What document will you reference to review this feedback?
- A.** Change log
 - B.** Lessons learned register
 - C.** Project communications
 - D.** Quality reports
- 77.** A project manager is planning the kickoff meeting for a project that will have team members dispersed across nine countries. What can the project manager do to support an environment where diverse perspectives and views are encouraged and valued?
- A.** Include videoconferencing as an option.
 - B.** Have all team members attend the kickoff in person.
 - C.** Hold diversity training.
 - D.** Have each team member state their name and country.
- 78.** A project manager is in the process of transitioning ongoing maintenance of a system recently implemented. What project management process are they performing?
- A.** Validate Scope
 - B.** Control Quality
 - C.** Close Project or Phase
 - D.** Control Resources
- 79.** Projects that combine elements of different life cycles to achieve a specific goal are said to use what type of project life cycle?
- A.** Agile
 - B.** Hybrid
 - C.** Predictive
 - D.** Experimental
- 80.** A project manager is in the process of confirming that all ongoing activities have successfully transitioned into operations. The project manager is performing activities associated with which project management Knowledge Area?
- A.** Project Integration Management
 - B.** Project Stakeholder Management
 - C.** Project Scope Management
 - D.** Project Resource Management

- 81.** Which of the following best describes the value of respect that project management practitioners should follow?
- A.** Our duty to take ownership for the decisions we make or fail to make, the actions we take or fail to take, and the consequences that result
 - B.** Our duty to make decisions and act impartially and objectively
 - C.** Our duty to show a high regard for ourselves, others, and the resources entrusted to us
 - D.** Our duty to understand the truth and act in a truthful manner both in our communications and in our conduct
- 82.** All of the following are reasons that can lead to a project ending except for which one?
- A.** It evolves into ongoing operations.
 - B.** It is cancelled or killed prior to completion.
 - C.** It is completed successfully.
 - D.** Deliverables are accepted and approved.
- 83.** A project team wraps up activities to hand over ongoing support of a time-reporting system to the information technology operations team. What process output has the project team completed?
- A.** Final report
 - B.** Final product, service, or result transition
 - C.** Work performance information
 - D.** Accepted deliverable
- 84.** You are wrapping up the Closing process for your project. You've provided formal notice to the seller that the terms of the contract have been satisfied, and you've updated the organizational process assets. What tools and techniques have you used to accomplish this process?
- A.** Expert judgment, procurement audits, procurement negotiations, and meetings
 - B.** Procurement audits, procurement negotiations, analytical techniques, and meetings
 - C.** Expert judgment, analytical techniques, and meetings
 - D.** Expert judgment, data analysis, claims administration, inspection, and audits
- 85.** Giving someone the benefit of the doubt and asking for clarification if you believe there is a problem can be associated with which core value covered within the *Code of Ethics and Professional Conduct*?
- A.** Honor
 - B.** Respect
 - C.** Fairness
 - D.** Responsibility
- 86.** A project manager is in the process of assembling the final report of the project. What project document are they likely to reference to view the completion date of major project deliverables?
- A.** Final report
 - B.** Schedule baseline

- C. Milestone report
 - D. Milestone list
- 87.** All of the following are true regarding the final report except for which one?
- A. It provides justification for the project, including a summary of the project benefits.
 - B. It is generated from the Close Project or Phase process.
 - C. It includes a summary of the project performance.
 - D. It is archived with other project documentation at the conclusion of the project.
- 88.** Which project management process is responsible for collating all lessons learned and archiving project documents?
- A. Monitor Stakeholder Engagement
 - B. Control Communications
 - C. Close Project or Phase
 - D. Monitor Project Work
- 89.** A project manager has just closed out a procurement, which produced the final deliverable of the project. What is the project manager likely to do next?
- A. Celebrate
 - B. Perform administrative closure
 - C. Release the remaining project resources
 - D. Finalize any open claims
- 90.** A superuser of a customer relationship management system calls the project manager for assistance in resolving a system bug recently discovered by a member of his team. What has the project manager failed to do?
- A. Provide the appropriate training to superusers to ensure they are equipped to address bugs as they arise
 - B. Publish the final report of the project, which would detail how ongoing activities are to be addressed
 - C. Release the project team back to their ongoing responsibilities, including the superuser community
 - D. Transition the ongoing support and maintenance of the system to the appropriate operational team
- 91.** All of the following are characteristics of the Agile life cycle except for which one?
- A. The team typically collaborates to finish the most important feature.
 - B. The team expects requirements to change.
 - C. Feedback is given with the purpose of better planning the next part of the project.
 - D. It combines both iterative and incremental approaches.

- 92.** All of the following are formal types of project endings except for which one?
- A.** Addition
 - B.** Crashing
 - C.** Starvation
 - D.** Integration
- 93.** You witness a trusted colleague violating a privacy law of the country in which you are both temporarily stationed for an assigned project. What should you do?
- A.** Do nothing; this is a trusted colleague whom you assume has ethical intentions.
 - B.** Talk to your colleague and highlight that what they have done is wrong.
 - C.** Report the actions to the legal department and inform the appropriate management.
 - D.** Advise your colleague to talk to the legal department and give them room to take action as they see fit.
- 94.** The project manager conducts a final meeting with the project team to review project risks. At what stage of the project is risk the highest?
- A.** During project initiation
 - B.** During project planning
 - C.** During project execution
 - D.** During project closure
- 95.** Which of the following best describes a predictive life cycle?
- A.** A traditional approach where the majority of planning occurs up front, followed by execution
 - B.** An approach that generates finished deliverables that the customer may be able to use immediately
 - C.** An approach that is a blend of iterative and incremental and that refines and delivers frequently
 - D.** An approach that focuses on generating feedback early to improve and modify the work
- 96.** A project manager traveled from the United Kingdom to Mexico for a project kickoff meeting. During the meeting, they became highly offended when the project sponsor attempted to welcome them by giving them a hug. The project manager noticed that many people gave a hug as part of personal introductions and decided to leave the meeting after feeling that the project team was exhibiting inappropriate behavior. What did the project manager experience?
- A.** Sexual harassment
 - B.** An overfriendly team
 - C.** Culture shock
 - D.** Inappropriate behavior

- 97.** Which of the following best describes an incremental life cycle?
- A.** A traditional approach where the majority of planning occurs up front, followed by execution
 - B.** An approach that generates finished deliverables that the customer may be able to use immediately
 - C.** An approach that is a blend of iterative and incremental and that refines and delivers frequently
 - D.** An approach that focuses on generating feedback early to improve and modify the work
- 98.** A project manager hosted a celebration for the project team to reward them for a job well done that led to the successful completion of a major project. It was clear to the project manager that the team was relaxed and enjoying themselves, with some talking about upcoming vacation plans. What type of project ending is this?
- A.** Integration
 - B.** Addition
 - C.** Extinction
 - D.** Starvation
- 99.** All of the following statements are true regarding the Closing process except which one?
- A.** The closed procurements output is part of the Project Procurement Management Knowledge Area.
 - B.** Close Project or Phase is part of the Project Communications Management Knowledge Area.
 - C.** Procurement closure activities are performed only for the project phases or deliverables performed under contract.
 - D.** Closing activities include verifying that the work of the project was completed accurately and satisfactorily.
- 100.** All of the following are true regarding the Closing process group except for which one?
- A.** It is the fifth and final of the process groups that make up the project management life cycle.
 - B.** It is where administrative closure of the phase, project, and contracts occurs.
 - C.** It is responsible for finalizing all activities for the project, phase, or contract.
 - D.** Like the Initiating process group, it consists of two project management processes.
- 101.** A project manager has just received acceptance of the final deliverable. What project management process have they just completed?
- A.** Close Project or Phase
 - B.** Control Scope
 - C.** Validate Scope
 - D.** Close Procurements

- 102.** Which of the following best describes responsibility as a core value that project management practitioners should abide by?
- A. Our duty to take ownership for the decisions we make or fail to make, the actions we take or fail to take, and the consequences that result
 - B. Our duty to make decisions and act impartially and objectively
 - C. Our duty to show a high regard for ourselves, others, and the resources entrusted to us
 - D. Our duty to understand the truth and act in a truthful manner both in our communications and in our conduct
- 103.** Predictive, iterative, incremental, and Agile are all types of what?
- A. Delivery methods
 - B. Project life cycles
 - C. Project management methodologies
 - D. Project management frameworks
- 104.** All of the following are true regarding the *Code of Ethics and Professional Conduct* except for which one?
- A. It addresses responsibility, honesty, respect, and fairness.
 - B. It contains core values that project management practitioners are highly advised to uphold.
 - C. Adhering to the code is mandatory for PMI members.
 - D. Values identified in the code stem from practitioners from the global project management community.
- 105.** You are a project manager working in an organization that is considered to be a weak matrix organizational type. You are two months into a four-month project, when the functional manager for half of your most critical resources announces that she will be reallocating them to another project. You explain to her that this will result in early closure of your project and that resources should not be redirected. If the functional manager succeeds in reallocating the resources, what type of ending will the project experience?
- A. Extinction
 - B. Starvation
 - C. Integration
 - D. Addition
- 106.** A project manager is performing closure activities for the project and meets with the project sponsor to review the final report. The report reveals that the project budget is 90 percent consumed. The project sponsor expresses concern that there may be a risk of going over budget. How is the project manager likely to respond?
- A. Assure the project sponsor that the risk of going over budget is low.
 - B. Agree with the project sponsor and begin risk mitigation activities.

- C. Email the project team to express disappointment in project spending.
 - D. Take offense at the project sponsor's lack of trust and confidence.
- 107.** A junior project manager works with the procurement manager to review vendor proposals. The procurement manager decides to select a vendor who did not have the highest weighted score against the criteria that were predetermined. The project manager learns that the vendor is the procurement manager's cousin. What should the project manager do?
- A. Bring this to the procurement manager's attention and report it to the appropriate department for investigation.
 - B. Do nothing. Project managers should respect the role and authority of each member of the team.
 - C. Confront the procurement manager and threaten to report their behavior to the ethics committee.
 - D. Overturn the procurement manager's decision and select the vendor with the highest weighted score.
- 108.** A project manager is performing closing activities and is getting ready to release project resources. What document can they reference for guidance on how resources are to be released?
- A. Project schedule
 - B. Project management plan
 - C. Release plan
 - D. Project documents
- 109.** You are a project manager working on a new ad campaign for the holiday season. Part of this project entails a series of new TV commercials. You contracted out the production of the commercials that will air during the busy buying season. Now all of the work of the project is done, and you're closing out the project. You're gathering information from the vendor, including some detailed technical specifications for the commercials that were produced by them, along with the WBS, the project schedule, financial and payment records, and more. Which of the following contains this information?
- A. Procurement documentation
 - B. Project documents
 - C. Contract file
 - D. Work performance data
- 110.** Which of the following best describes an Agile life cycle?
- A. A traditional approach where the majority of planning occurs up front, followed by execution
 - B. An approach that generates finished deliverables that the customer may be able to use immediately
 - C. An approach that is a blend of iterative and incremental and that refines and delivers frequently
 - D. An approach that focuses on generating feedback early to improve and modify the work

- 111.** The *Code of Ethics and Professional Conduct* applies to all of the following groups of individuals, except for which one?
- A.** Those holding PMI certification
 - B.** All PMI members
 - C.** Those volunteering through PMI
 - D.** Project team members
- 112.** A junior project manager works with the procurement manager to review vendor proposals. The procurement manager decides to select a vendor who did not have the highest weighted score against the criteria that were predetermined. The project manager learns that the vendor is the procurement manager's cousin. The procurement manager's actions can be construed as what?
- A.** Vendor selection
 - B.** Preferential treatment
 - C.** Violation of procurement code
 - D.** Conflict of interest
- 113.** As part of closing out the project, a project manager sits down with the project sponsor for a final meeting. They review the final report. The project sponsor then asks the project manager to share the documentation summarizing knowledge gained throughout the project. What document is the sponsor looking for?
- A.** Final report
 - B.** Lessons learned register
 - C.** Project documents
 - D.** Quality reports
- 114.** Gagandeep is a fellow project manager who has been managing a project to install an enterprise resource planning system. You've enjoyed hearing stories of how the project progressed over the past two years and feel just as invested in its successful outcome as Gagandeep. He shares with you that during a recent conversation with the project sponsor, the sponsor shared that the project team would be absorbed as permanent full-time staff supporting the system and that the project would be considered closed. What type of project ending is this?
- A.** Integration
 - B.** Addition
 - C.** Extinction
 - D.** Starvation
- 115.** David is a project manager working for a prominent book publishing company. As part of his latest project, he uses an approach that yields frequent smaller deliverables throughout the span of the project. What type of project life cycle is David using?
- A.** Predictive
 - B.** Incremental

- C. Waterfall
 - D. Agile
116. Alfred accepts a job as a security program manager, even though he is not qualified for the role. He reasons that he can learn on the job, despite not having met the position requirements. What value did Alfred fail to uphold?
- A. Honor
 - B. Honesty
 - C. Respect
 - D. Responsibility
117. A project has the highest probability of completing successfully at which stage of the project?
- A. During project initiation
 - B. During project planning
 - C. During project execution
 - D. During project closure
118. You are the project manager of a construction company that is working on a project to build a new community of townhomes. You serve as a member of the board for one of the vendors bidding on the contract to pour the foundations of the homes. You are following the documented procurement processes and know you will be unbiased during the vendor selection process. What actions should you take, if any?
- A. None, since you strictly adhered to the procurement process.
 - B. Ensure that the project sponsor and decision committee are aware of your relationship with the vendor.
 - C. Give a strong reference, in writing, for the vendor company you are affiliated with, since you can vouch for their work.
 - D. Step down as the project manager so that the vendor company you are affiliated with can compete for the contract.
119. Your project is progressing nicely. One of the key deliverables for your project was contracted out to a vendor, but your organization is performing all the remaining work of the project. The completion of this deliverable marks the end of the design phase of the project. There are several more phases to go, and the internal team is responsible for all of the remaining deliverables. Which of the following Closing processes should be performed, if any?
- A. Close Project or Phase and Close Procurements
 - B. Close Project or Phase only
 - C. Close Procurements only
 - D. No closing processes should be performed yet because the work of the project isn't finished.

- 120.** You are the project manager for a project that will produce a mobile phone application that sends alerts when the UV rays are at dangerous levels, alerting users to stay indoors. You are in the process of confirming that all remaining project activities have been transitioned to operations. These activities are associated with what process group?
- A. Planning
 - B. Executing
 - C. Monitoring and Controlling
 - D. Closing
- 121.** Quincy and Michael are two executives of Widgets for Life, a company providing the latest cool lifestyle gadgets. As part of their annual planning process, they sit down to evaluate three projects linked to their department objectives that are in the midst of execution. They determine that in order to tackle the newest program announced by their CEO, they will need to redirect all critical resources away from the three projects. What type of project ending did the three projects experience?
- A. Addition
 - B. Extinction
 - C. Integration
 - D. Starvation
- 122.** Fairness, one of four values that project management practitioners should abide by, can best be described as:
- A. Our duty to take ownership for the decisions we make or fail to make, the actions we take or fail to take, and the consequences that result
 - B. Our duty to make decisions and act impartially and objectively
 - C. Our duty to show a high regard for ourselves, others, and the resources entrusted to us
 - D. Our duty to understand the truth and act in a truthful manner both in our communications and in our conduct
- 123.** All of the following are examples of administrative closure activities except for which one?
- A. Addressing contested changes to a contract
 - B. Updating procurement records to reflect final results
 - C. Archiving procurement information for future use
 - D. Confirming formal acceptance of a seller's work
- 124.** Abiding by and complying with laws and regulations, confidentiality of information, and accepting assignments for which you are qualified as a project manager are examples of upholding which value?
- A. Honor
 - B. Honesty
 - C. Respect
 - D. Responsibility

- 125.** You are a project manager working in an organization that is considered to be a weak matrix organizational type. You are two months into a four-month project when the functional manager for half of your most critical resources announces that she will be reallocating them to another project. You explain to her that this will result in early closure of your project and that resources should not be redirected. What is the likely outcome of this scenario?
- A. Resources will be distributed to another project.
 - B. Resources will not be distributed to another project.
 - C. You will resign, and the project will end.
 - D. The functional manager will pull the project budget.
- 126.** You work for a nonprofit organization in your local community. Your project will establish a new community outreach program for preteens. This project is being funded by a grant awarded to your organization based on its innovative ideas and approach. The project has consumed more financial resources than originally anticipated, so you've written and submitted a request for additional grant money to continue with the project. Today you received word that the grant has been denied. All of the following statements are true except for which one?
- A. This project came about as a result of a social need.
 - B. Cost overruns should have been identified when performance measures were taken.
 - C. This project ended because of extinction.
 - D. Corrective action should have been put into place to keep the project on track with the plan and the budget.
- 127.** Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. She has just entered the final stages of the project. What is she likely to do first?
- A. Archive lessons learned
 - B. Hold a celebration for the project team
 - C. Review the project management plan
 - D. Release all project resources
- 128.** Cheryl is a procurement manager assigned to a project that implemented a new system patching service. She sits down with the project manager to review the final performance of the primary vendor used, highlighting the many issues that they experienced with the vendor, including delivering three weeks late and going over budget by \$5,000. Cheryl spends an additional hour with the project manager identifying what they could have done differently and what they did well in addressing the vendor issues as they occurred. What activity are Cheryl and the project manager engaged in?
- A. Finalizing an open claim with the vendor
 - B. Generating a work performance report
 - C. Confirming formal acceptance of the vendor's work
 - D. Capturing lessons learned

- 129.** Who is responsible for writing the project's final report?
- A.** All stakeholders
 - B.** Project sponsor
 - C.** Project manager
 - D.** Executive sponsor
- 130.** You are the project manager of a construction company that is working on a project to build a new community of townhomes. A vendor that is bidding on the electrical contract for the project knows you are a big fan of your favorite comedian and sends you two tickets to attend a show. You know that the tickets are expensive, valued at more than \$500 based on the location of the seats. What should you do?
- A.** Respectfully decline the gift and send back the tickets.
 - B.** Accept the tickets since you already accepted another gift from a separate vendor competing for the same contract.
 - C.** Respectfully decline the gift but keep the tickets for evidence.
 - D.** Accept the tickets, but take the project sponsor, who is also a fan of the comedian.
- 131.** Which of the following best describes honesty as a value that project management practitioners should abide by?
- A.** Our duty to take ownership for the decisions we make or fail to make, the actions we take or fail to take, and the consequences that result
 - B.** Our duty to make decisions and act impartially and objectively
 - C.** Our duty to show a high regard for ourselves, others, and the resources entrusted to us
 - D.** Our duty to understand the truth and act in a truthful manner both in our communications and in our conduct
- 132.** Which of the following best describes an iterative life cycle?
- A.** A traditional approach where the majority of planning occurs up front, followed by execution
 - B.** An approach that generates finished deliverables that the customer may be able to use immediately
 - C.** An approach that is a blend of iterative and incremental that refines and delivers frequently
 - D.** An approach that focuses on generating feedback early to improve and modify the work
- 133.** Lessons learned are used for all of the following except which one?
- A.** To provide historical information that you can review during your next project
 - B.** To document employee performance
 - C.** To identify successes and failures on the project
 - D.** To record the causes of performance variances

- 134.** Which organizational process asset should you utilize when carrying out the Close Project or Phase process?
- A.** Marketplace conditions
 - B.** Configuration management knowledge base
 - C.** Financial management and accounts payable system
 - D.** Procurement policies
- 135.** All of the following are tools and techniques of the Close Project or Phase process except for which one?
- A.** Inspection
 - B.** Expert judgment
 - C.** Meetings
 - D.** Data analysis
- 136.** As a value upheld by the project management community, responsibility entails which of the following?
- A.** Ensuring integrity
 - B.** Maintaining professional demeanor
 - C.** Reporting ethics violations
 - D.** Avoiding conflict of interest
- 137.** Cheryl is a procurement manager assigned to a project that implemented a new system patching service. She sits down with the project manager to review the final performance of the primary vendor used, highlighting the many issues that they experienced with the vendor, including delivering three weeks late and going over budget by \$5,000. Cheryl spends an additional hour with the project manager identifying what they could have done differently and what they did well in addressing the vendor issues as they occurred. What project management process are they performing?
- A.** Control Procurements
 - B.** Close Procurements
 - C.** Close Project or Phase
 - D.** Monitor Procurements
- 138.** All of the following statements about fairness are true except for which one?
- A.** Conflicts of interest might include your associations or affiliations.
 - B.** Accepting vendor gifts is sometimes acceptable.
 - C.** Fairness includes avoiding favoritism and discrimination.
 - D.** Fairness encompasses diversity training and preventing culture shock.

- 139.** A project manager has just received acceptance of the final deliverable. What project management process are they likely to perform next?
- A. Close Project or Phase
 - B. Control Scope
 - C. Validate Scope
 - D. Close Procurements
- 140.** Your organization is experiencing a breakup at the top levels of management. Your project team has expressed concerns that their project might be canceled because of the changes going on at the top. Sure enough, your project team was correct in those suspicions. You've received notice that the project is canceled. Your vendor has only one remaining deliverable for the project scheduled for completion next month. You notify the vendor in writing that the project has been canceled, but you understand there is one more deliverable they need to complete in order to close out the contract. You also notify them that the Phase II portion of the project has been canceled, so current contract negotiations for that portion of the project will end immediately. All of the following processes should be performed given the circumstances in this question except for which one?
- A. Lessons learned
 - B. Close Project or Phase
 - C. Validate Scope
 - D. Control Procurements
- 141.** Project Integration Management Knowledge Area consists of all of the following project management processes except for which one?
- A. Manage Lessons Learned
 - B. Close Project or Phase
 - C. Monitor and Control Project Work
 - D. Manage Project Knowledge
- 142.** Which of the following stages of the Tuckman ladder addresses the completion of the work and release of staff?
- A. Concluding
 - B. Adjourning
 - C. Releasing
 - D. Closing
- 143.** Carina is a principal project manager of You've Got Dogs, a specialty company that creates custom dog apparel and toys. As is part of her practice, she sits down with her sponsor to evaluate how the project is performing. She reviews feedback from the most recent prototype, which the team has produced successively to yield additional insight.

Carina notes to the sponsor that the use of timeboxing has been helpful in reducing the uncertainty in the project. What type of life cycle is Carina using?

- A. Predictive
- B. Waterfall
- C. Agile
- D. Iterative

144. A project manager has just begun working on activities to close out the project. To improve the metrics of the organization, the project manager decides to evaluate what was initially planned versus the end result of the project. Which of the following inputs can the project manager reference for this information?

- A. Assumption log
- B. Quality reports
- C. Project charter
- D. Basis of estimates

145. A project manager is updating a presentation slide with updates on a high visibility project for a monthly customer service review. The purchase order for hardware had not been placed yet because of multiple complications in the process, which would cause the schedule to slip by a minimum of two weeks. The project manager knew that the customer would be enraged. Hoping to not cause a scene, he omits this information in the presentation update, with a plan of crashing the schedule to make up for the slip. What core value has the project manager violated?

- A. Fairness
- B. Honesty
- C. Respect
- D. Responsibility

146. A project manager is getting ready to wrap up his project and is interested in referencing the organization's policies on project closure surveys. What is a valid input that the project manager can use to get this information?

- A. Organizational process assets
- B. Enterprise environmental factors
- C. Project documents
- D. Lessons learned register

147. As a value upheld by the project management community, fairness entails which of the following?

- A. Ensuring integrity
- B. Maintaining professional demeanor
- C. Reporting ethics violations
- D. Avoiding conflict of interest

- 148.** Your project is running behind schedule and over budget. The account manager of a supplier you've worked with before tells you that if you select them for a contract they are bidding on, they will throw in a free resource. Later that day, you meet with the vendor selection committee and see that the vendor ranks at the bottom of the stack. You select the vendor anyway to help the budget, even though it goes against the procurement policy. How may your actions be perceived?
- A. Heroic
 - B. Conflict of interest
 - C. Justified
 - D. Improving cost variance
- 149.** Your project involves the research and development of a new food additive. You're ready to release the product to your customer when you discover that a minor reaction might occur in people with certain conditions. The reactions to date have been very minor, and no known long-lasting side effects have been noted. As project manager, what should you do?
- A. Do nothing because the reactions are so minor that very few people will be affected.
 - B. Inform the customer that you've discovered this condition and tell them you'll research it further to determine its impacts.
 - C. Inform your customer that there is no problem with the additive except for an extremely small percentage of the population and release the product to them.
 - D. Tell the customer you'll correct the reaction problems in the next batch, but you'll release the first batch of product to them now to begin using.
- 150.** Nicolas is the project manager of a project that has been described as revolutionizing the mobile fitness tracking industry. Recently, Nicolas completed a final report for the project, held a lessons learned meeting, and validated that all project objectives had been met successfully. What type of project ending is this?
- A. Addition
 - B. Extinction
 - C. Starvation
 - D. Integration
- 151.** While performing activities associated with controlling project and product scope, a project manager uncovers scope creep. The project manager learns that the scope creep was a result of a close friend, who is a prominent stakeholder of the project. What should the project manager do?
- A. Do nothing, since the scope creep is a result of a close friend and a prominent stakeholder.
 - B. Reverse the changes that yielded the scope creep since the scope was unapproved.
 - C. Bring the scope creep to light and address it with the change control board.
 - D. Do nothing, since scope creep can yield positive changes for the project.
- 152.** Antwon is the director of marketing for a midsize company. You run into him while heating coffee in the office kitchenette and ask him what he's up to. He notes that he's getting ready to kick off the implementation of a new system that will allow his designers to interact with the program from any device outside of the immediate network. He adds that the project would use in-house resources to keep the project budget to a minimum.

In a fit of nerves, you walk back quickly to your office, knowing that this means two of your most critical resources would be reassigned soon, leading to the early closure of your project. What type of project ending is this?

- A. Starvation
 - B. Integration
 - C. Extinction
 - D. Addition
- 153.** A project manager has just closed a procurement, performing activities associated with the Control Procurements process. What are they likely to do next in order to finalize closure activities for the contract?
- A. Archive all documentation and record lessons learned for the project.
 - B. Monitor the procurement relationship to ensure that all stakeholders are satisfied.
 - C. Obtain formal written notice that the contract has been completed.
 - D. Finalize open claims and confirm formal acceptance of the seller's work.
- 154.** As a value upheld by the project management community, respect entails which of the following?
- A. Ensuring integrity
 - B. Maintaining professional demeanor
 - C. Reporting ethics violations
 - D. Avoiding conflict of interest
- 155.** You are the project manager for a construction company that is building a new city and county office building in your city. To date, you've developed detailed plans, baselined the plans, and maintained tight control of changes. What type of project life cycle are you using?
- A. Iterative
 - B. Agile
 - C. Predictive
 - D. Incremental
- 156.** Ralph is a project manager for Storm Health. He has struggled since joining the company, and his manager has noticed multiple gaps in critical PM skills. During a recent meeting, Ralph incorrectly claimed that the project budget had been fully approved. As a result, multiple purchase orders were processed, which alerted his manager, who knew that the budget had not yet been approved. The manager decides to confront Ralph, who admits to intentionally giving misinformation in the hopes that the budget would be approved and that all would be OK. What core value has Ralph violated as a project management practitioner?
- A. Fairness
 - B. Honesty
 - C. Respect
 - D. Responsibility

- 157.** You have just prepared an RFP for release. Your project involves a substantial amount of contract work detailed in the RFP. Your favorite vendor drops by and offers to give you and your spouse the use of their company condo for your upcoming vacation. It's located in a beautiful resort community that happens to be one of your favorite places to go for a getaway. What is the most appropriate response?
- A.** Thank the vendor but decline the offer because you know this could be considered a conflict of interest.
 - B.** Thank the vendor and accept. This vendor is always offering you incentives like this, so this offer does not likely have anything to do with the recent RFP release.
 - C.** Thank the vendor, accept the offer, and immediately tell your project sponsor so they're aware of what you're doing.
 - D.** Thank the vendor but decline the offer because you've already made another arrangement for this vacation. Ask them whether you can take a rain check and arrange another time to use the condo.
- 158.** All of the following are true regarding the characteristics of project closure except for which one?
- A.** Risk of successfully completing the project is at its highest.
 - B.** Stakeholders have the least amount of influence.
 - C.** Project costs taper off as spending comes to an end.
 - D.** Likelihood of completing the project is at its highest.
- 159.** Cheryl is a procurement manager assigned to a project that implemented a new system patching service. Although she experienced a multitude of issues with the vendor, the project manager and sponsor decide to accept the vendor's result, and she then provides the vendor with formal written notice that the contract has been completed. What project management process has just been carried out?
- A.** Control Procurements
 - B.** Close Procurements
 - C.** Close Project or Phase
 - D.** Monitor Procurements
- 160.** The key function of the Close Project or Phase process is to perform which of the following?
- A.** Formalize lessons learned and distribute this information to project participants.
 - B.** Perform audits to verify the project results against the project requirements.
 - C.** Complete all the activities associated with closing out the project management processes in order to close out the project or phase.
 - D.** Review the scope baseline and other project documents to make certain the work reflected in the documents is complete and accurate.

Chapter 6



Full-Length Practice Exam



The process names, inputs, tools and techniques, outputs, and descriptions of the project management process groups and related materials and figures in this chapter are based on content from *A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Sixth Edition* (PMI®, 2017).

1. Which quality theorist is noted for his “fitness for use” premise?
 - A. Philip Crosby
 - B. Joseph Juran
 - C. W. Edwards Deming
 - D. Walter Shewhart
2. A project manager is in the process of developing the charter, alongside the project sponsor. While preparing a draft of the document, the project manager looks for information on the cost-benefit analysis. Which of the following inputs can the project manager reference for this information?
 - A. Business case
 - B. Benefits management plan
 - C. Agreements
 - D. Project scope statement
3. A project manager is in the process of allocating resources, managing their work, and addressing changes to the plan. Which of the following is a valid tool or technique to assist the project manager in performing these activities?
 - A. Data gathering
 - B. Project management information system
 - C. Data analysis
 - D. Decision-making
4. If earned value = 2,500, planned value = 2,300, and actual costs = 2,200, what is the schedule variance?
 - A. -200
 - B. -100
 - C. 200
 - D. 100
5. You are a senior project manager working at a manufacturing plant that produces components used by the aviation industry. You are in the process of implementing approved changes. What key information will you need to successfully complete the associated activities?
 - A. Lessons learned register
 - B. Change requests
 - C. Approved change requests
 - D. Project schedule

- 6.** Alyssa is a risk manager supporting multiple projects. As part of performing risk management activities for her largest project, she facilitates a working session to compare technical accomplishments to the schedule of technical achievements. What project management process is she performing?
- A.** Direct and Manage Project Work
 - B.** Control Quality
 - C.** Monitor Risks
 - D.** Monitor and Control Project Work
- 7.** A project manager brainstorms with the project sponsor the various approaches they could take to gather requirements. The sponsor advises that they use a trained facilitator to facilitate dialogue among their customer base to elicit requirements. Which of the following techniques brings together subject-matter experts in order for them to share feedback and expectations on a proposed product?
- A.** Benchmarking
 - B.** Interviews
 - C.** Focus groups
 - D.** Questionnaires
- 8.** Sally is managing a project that will build a new data center to host various devices for customers. Sally and the sponsor are currently working with the procurement team to secure a vendor that will manage tier 1 support after the data center goes live. To date, they have developed the procurement management plan, decided to use a fixed-price agreement, and published the request for proposal (RFP). What project management process will Sally and the team perform next?
- A.** Plan Procurement Management
 - B.** Develop Schedule
 - C.** Conduct Procurements
 - D.** Control Procurements
- 9.** Which of the following describes the key benefit of the Direct and Manage Project Work process?
- A.** It allows stakeholders to comprehend what actions need to be taken, based on the current state of the project.
 - B.** It improves project outcomes by leveraging and creating knowledge that is used by future projects or phases.
 - C.** It provides overall management of the project work and deliverables, thereby improving the probability of success.
 - D.** It addresses overall risk by considering changes in an integrated manner and allows for documented changes.

- 10.** All of the following are tools and techniques of the Manage Project Knowledge process except for which one?
- A.** Knowledge management
 - B.** Information management
 - C.** Interpersonal and team skills
 - D.** Lessons learned register
- 11.** Marysil prepares for an exciting day that involves a celebration with the project team for completing the final deliverable of the project. The project has already received recognition for completing major milestones on time and remaining under budget. Some of the resources, including vendors, will remain with the project during a transitional period in which ongoing support work will shift to the operations team. What document should Marysil reference to ensure that resources are released properly?
- A.** Project management plan
 - B.** Stakeholder engagement plan
 - C.** Communications management plan
 - D.** Resource management plan
- 12.** Bob is a project manager working on a multi-year project that will erect a new 10-acre mall. Bob has a reputation for being inclusive and considering all of the facts before making decisions. What leadership style does Bob use?
- A.** Laissez-faire
 - B.** Autocratic
 - C.** Democratic
 - D.** Transactional
- 13.** You are a project manager working on the production of a new book light for the consumer market. Which of the following do you know is true?
- A.** Project decisions now can impact cost of quality in the form of customer satisfaction and quality metrics and impact the quality baseline.
 - B.** Project decisions now can impact cost of quality in the form of returns, warranty claims, and recalls.
 - C.** Project decisions now can impact quality metrics, which are later used in the Perform Quality Assurance and Perform Quality Control processes.
 - D.** Project decisions now can impact the process improvement plan by determining how the process configuration and targets for improved performance will provide control over the status of processes.

- 14.** Using the values noted within the following table, identify the critical path:

Activity Name	Successor	Duration
A	B, C, D	2
B	E	6
C	F	4
D	F	7
E	F	3
F	G	2
G	None	5

- A.** A-B-E-F-G
B. A-C-F-G
C. A-D-F-G
D. A-B-E-F
- 15.** Mary Beth is nine months into a project that is estimated to complete within a one-year period. She is currently in the process of defining a new phase of the project, with plans to kick off the work of the new phase within a two-week period. What project management process group is this activity associated with?
- A.** Initiating
B. Planning
C. Executing
D. Monitoring and Controlling
- 16.** A project manager working within a global e-commerce company struggled to get team members to deliver consistent results. In her latest project, she began using her relationship with the president as leverage to get her team to prioritize work on her project. What type of power is does this describe?
- A.** Referent
B. Relational
C. Coercive
D. Expert

- 17.** A project manager is in the process of monitoring cost performance using the earned-value analysis technique to determine whether any existing variances against the plan are within the established tolerance levels. In addition to work performance data, what valid input can assist the project manager in performing this activity?
- A.** Work performance information
 - B.** Performance measurement baseline
 - C.** Project documents
 - D.** Organizational process assets
- 18.** Which of the following conflict resolution techniques require both parties to give up something to reach a solution?
- A.** Collaborate
 - B.** Avoid
 - C.** Problem-solve
 - D.** Reconcile
- 19.** During an annual planning meeting, a portfolio manager presents three competing projects to a steering committee. The first project has a payback period of six months and an NPV of 2, the second project has a payback period of nine months and an NPV of 1, and the third project has a payback period of five months and an NPV of -0.5. Which project should the steering committee choose, based solely on NPV?
- A.** First project
 - B.** Second project
 - C.** Third project
 - D.** None
- 20.** You know the following information: $BAC = 1,500$, $EAC = 1,700$, $PV = 475$, $EV = 500$, and $AC = 425$. Which of the following is the correct ETC given this information?
- A.** 1,275
 - B.** 200
 - C.** 1,200
 - D.** 1,025
- 21.** A project manager has just finished acquiring resources for the upcoming phase of a project. What process are they likely to perform next?
- A.** Develop Team
 - B.** Plan Resource Management
 - C.** Control Resources
 - D.** Estimate Activity Resources

- 22.** Ron knows that he can lean on his most senior engineer, John, to inspire a sense of camaraderie within the team. According to the Achievement Theory, what need motivates John?
- A. Achievement
 - B. Power
 - C. Belonging
 - D. Affiliation
- 23.** Which of the following contract types presents the greatest risk to the buyer?
- A. Time and material
 - B. Cost-reimbursable
 - C. Fixed price
 - D. Fixed price with economic price adjustments
- 24.** Which of the following project management processes involves determining the type and quantity of material, equipment, and supplies needed to perform the project work?
- A. Define Activities
 - B. Estimate Activity Durations
 - C. Estimate Activity Resources
 - D. Estimate Costs
- 25.** A project manager struggled to resolve an issue occurring between two team members who could not agree on a design for the device being built through the project. The project manager consulted with the sponsor, who insisted that the project manager continue facilitating discussions to tease out the facts in order to identify the right solution to the problem. What type of conflict resolution technique is the sponsor insisting be used?
- A. Collaborate
 - B. Reconcile
 - C. Withdraw
 - D. Compromise
- 26.** During a planning meeting, a group of project team members expressed concerns regarding requirements gathered to date, noting that the customer was not very clear on what they wanted. They urged the project manager to add in an additional preliminary phase that would allow them to get feedback early, before the team spent too much time developing the product. What is the project manager likely to do next?
- A. Continue moving forward according to the existing plan
 - B. Create a context diagram to generate a scope model
 - C. Hold a series of focus groups with the customer
 - D. Incorporate a prototype into the plan

- 27.** A project manager is carrying out activities associated with the Develop Team process. What result will these activities produce?
- A.** Physical resource assignments
 - B.** Team performance assessments
 - C.** Work performance information
 - D.** Resource requirements
- 28.** You are the project manager for Xylophone Phonics, which writes and develops children's software programs that teach basic reading and math skills. You are performing the Plan Quality Management process and have discovered that the customer requirements have not been satisfied. You go back to the team and realize you will need to scrap some of what was done and rewrite parts of the code. Which of the following does this describe?
- A.** Costs of poor quality associated with customer requirements that are not satisfied when the organization is still in control of the product
 - B.** Costs of poor quality associated with warranty work and additional customer service costs
 - C.** Cost to examine the product to make certain requirements are met
 - D.** Costs to keep the defects out of the hands of the customer
- 29.** A project manager expressed frustration to her sponsor after learning that her resources were being distributed to other projects. The sponsor then shared that a recent change to the enterprise priorities caused the immediate shift to occur and that her project was being cancelled. What type of ending did this project experience?
- A.** Integration
 - B.** Starvation
 - C.** Addition
 - D.** Extinction
- 30.** Which of the following processes is responsible for monitoring the planned versus actual utilization of physical resources and taking action as needed?
- A.** Acquire Resources
 - B.** Develop Team
 - C.** Manage Team
 - D.** Control Resources
- 31.** A project manager has worked closely with the project team to develop the subsidiary management plans identified as necessary. Using various estimating techniques and the guidance of experts, they have also carefully documented the scope and generated a project schedule and budget. What is the project manager likely to do next?
- A.** Begin execution of the work.
 - B.** Facilitate a kick-off meeting.
 - C.** Baseline the plan.
 - D.** Publish the plan.

- 32.** Pamela is a project manager who is deep into project execution. Currently, she is working on increasing stakeholder involvement and interaction within the project, utilizing the stakeholder engagement plan for guidance. What is the likely result of Pamela's efforts?
- A.** Change requests
 - B.** Lessons learned register
 - C.** Issue log
 - D.** Stakeholder register
- 33.** A project manager has recently communicated a complete performance index (TCPI) of 2.0 to the project sponsor. What does this mean?
- A.** The team must maintain their existing efficiency in order to complete the project according to the plan.
 - B.** The team must increase their existing efficiency in order to complete the project according to the plan.
 - C.** The team will not be able to complete the project according to the plan, no matter what the increase is to their efficiency.
 - D.** The team must reduce their existing efficiency in order to complete the project according to the plan.
- 34.** A project manager is in the process of allocating resources, managing the project team's work, and addressing changes to the plan. What output is the project manager looking to generate through these activities?
- A.** Project management plan
 - B.** Issue log
 - C.** Approved change requests
 - D.** Deliverables
- 35.** All of the following are tools and techniques of the Control Schedule process except for which one?
- A.** Critical path method
 - B.** Schedule compression
 - C.** Agile release planning
 - D.** Project management information system
- 36.** During a risk management meeting, Bob walks the project team through new risks added to the risk register. He highlights the risk of flooding at a new call center site their project is dependent on because of unexpected inclement weather. The team unanimously agrees that additional insurance should be purchased on the gear that would be installed at this location. What type of risk response strategy has the team used?
- A.** Accept
 - B.** Mitigate
 - C.** Avoid
 - D.** Transfer

- 37.** Ashley is a principal project manager working for a global tour company headquartered in Ireland. Recently, Ashley was formally tasked with leading the development of a new tour that would take customers across 10 countries in 10 days within South America. While Ashley is grabbing a coffee at the office café, a colleague from the marketing department approaches her, noting that she was excited to be joining Ashley as the marketing lead for the project. Ashley was unaware of any preassignments. Where can Ashley look to validate whether her colleague was preassigned to the project?
- A.** Project management plan
 - B.** Business case
 - C.** Project charter
 - D.** Contract
- 38.** Based on the following information, which project should be selected by the steering committee?
- Project A: payback period = 4 years; IRR = 5 percent
Project B: payback period = 3.5 years; IRR = 7 percent
Project C: payback period = 2 years; IRR = 3 percent
- A.** Project A
 - B.** Project B
 - C.** Project C
 - D.** None
- 39.** Ron is a project manager who has a reputation for motivating his team to deliver top performance. In his most recent project, he was able to obtain approval from the sponsor to provide a team-wide bonus if they hit an upcoming critical milestone. What motivational theory is Ron leveraging to motivate the team?
- A.** Achievement Theory
 - B.** Expectancy Theory
 - C.** Maslow's Hierarchy of Needs
 - D.** Hygiene Theory
- 40.** You are a project manager for Book Lovers' Exchange, a retail chain of bookstores. The company has recently decided to offer its titles on an Internet site and has asked you to head up this project. The project sponsor has told you that quality is a primary driver on this project. You are using techniques such as flowcharts, logical data model, and matrix diagrams to perform a Planning process. Which of the following is true?
- A.** These are used to design experiments, a tool and technique of the Plan Quality Management process.
 - B.** These are techniques used to produce the process improvement plan, which is an output of the Plan Quality Management process.
 - C.** These are data representation tools, a tool and technique of the Plan Quality Management process.
 - D.** These are planning tools used in the performance of quality audits, which is a tool and technique of the Plan Quality Management process.

- 41.** Judy works for the You Name It! gaming company, which specializes in games for young adults. As part of her latest project, Judy is working with a team to develop a game using virtual reality technology. To date, she has collected requirements and is now taking the team through a working session to identify the deliverables and acceptance criteria. Where will Judy document the results of the working session?
- A. Project scope statement
 - B. Requirements log
 - C. Work breakdown structure
 - D. Scope management plan
- 42.** A project manager is in the process of documenting how scope will be identified, decomposed, and monitored and controlled for her project. In what activity is the project manager engaged?
- A. Creating the project scope statement
 - B. Developing the scope management plan
 - C. Capturing project requirements
 - D. Creating a work breakdown structure
- 43.** A project management office (PMO) organization held a weekly staff meeting for project managers to remain up to date on interdependent projects. During this meeting, Jill shared that her project had closed, and she had moved on to another assignment. Roy immediately expressed concern about the news, since his own project was dependent on ongoing support that should have gone live for the system that was deployed through Jill's now closed project. He explained that he had not heard of this milestone occurring. What closure step did Jill miss?
- A. Archiving support documentation
 - B. Sending out a closure email
 - C. Transitioning to operations
 - D. Measuring stakeholder satisfaction
- 44.** All of the following are activities that occur as part of the Executing process group, except for which one?
- A. Coordinating resources and managing stakeholder engagement
 - B. Collecting project performance data and producing performance measures
 - C. Integrating and performing activities according to the plan
 - D. Implementing approved change requests and responses to identified risks
- 45.** Nicolas is a principal project manager managing a six-month project for his organization. This latest project pairs him with a project sponsor who is notorious for allowing scope creep to occur in her projects. For this reason, Nicolas is likely to place greater emphasis on what project management process?
- A. Plan Scope Management
 - B. Validate Scope
 - C. Control Scope
 - D. Control Quality

46. Sally is managing a project that will build a new data center to host various devices for customers. As part of selecting a vendor to manage tier 1 support, Sally schedules a series of meetings to answer questions from prospective vendors about the RFP published. Which of the following tools and techniques of the Conduct Procurements process does this describe?

- A.** Bidder conferences
- B.** Advertising
- C.** Request for proposal
- D.** Buyer conferences

47. Using the values noted within the following table, calculate the early start of activity D:

Activity Name	Successor	Duration
A	B, C, D	2
B	E	6
C	F	4
D	F	7
E	F	3
F	G	2
G	None	5

- A.** 3
- B.** 7
- C.** 9
- D.** 2

48. A project sponsor assigns a project manager and signs a formal document authorizing activities to begin on a project. What project management process is being carried out?

- A.** Develop Business Case
- B.** Develop Project Management Plan
- C.** Develop Project Charter
- D.** Develop Stakeholder Management Plan

49. A risk manager looking to simulate the possible impacts to the project schedule of the combined effects of individual project risks is likely to use what type of data analysis technique?

- A.** Sensitivity analysis
- B.** Decision tree analysis

- C. Monte Carlo analysis
 - D. Influence diagrams
50. Predictive, iterative, incremental, and adaptive are all examples of what?
- A. Phase gates
 - B. Phase life cycles
 - C. Development life cycles
 - D. Plan-Do-Check-Act cycle
51. Fernando is a consultant hired to lead a six-month renovation of an office complex. Currently, he is closely developing and managing the team as they work to produce a set of key deliverables. In parallel, Fernando is also working with the company's procurement team to identify a vendor that will design new landscaping. These activities are associated with which project management process group?
- A. Initiating
 - B. Planning
 - C. Executing
 - D. Monitoring and Controlling
52. Which of the following statements represents the Monitoring and Controlling process group?
- A. It is where the project management plan is put into action.
 - B. It is where approved changes to the project are implemented to stay on track.
 - C. It is where project goals are formulated and revised to create the plan.
 - D. It is where project performance measurements are taken and analyzed.
53. If you know that $EV=250$, $PV=300$, and $AC=250$, what are CPI and SPI, respectively?
- A. 1.0 and -1.2
 - B. 1.0 and 1.2
 - C. 1.0 and 0.83
 - D. 1.0 and -0.83
54. Project managers typically apply project management best practices and standards to increase the success of their projects. How should a good project manager go about applying these practices?
- A. Exactly as documented within formally published standards
 - B. As documented by the organization they work within
 - C. Tailoring them based on existing variables
 - D. Using the processes documented within the *PMBOK® Guide*

- 55.** Alfred, a project manager, pulled a peer aside to obtain advice on how to motivate his team to increase performance. Ron had a reputation for being able to get his team to deliver successfully. Alfred shared with Ron that he was recently able to get pay raises for most of his team, which helped performance for the first three weeks, but that it began faltering again. Ron advised that being paid fairly was an expectation of the team, not a motivator. Instead, he advised that Alfred find ways to challenge and develop team members individually to motivate them. What motivational theory is Ron advising that Alfred follow?
- A.** Achievement Theory
 - B.** Expectancy Theory
 - C.** Maslow's Hierarchy of Needs
 - D.** Hygiene Theory
- 56.** A project manager has developed and received sign-off of the scope, schedule, and cost baselines. To date, the project team has begun executing work and is now focused on ensuring that the work progresses according to the plan. What process is the team likely to perform next?
- A.** Manage Project Knowledge
 - B.** Control Schedule
 - C.** Acquire Resources
 - D.** Manage Communications
- 57.** A project manager has just received formal written notice that a large contract for their project has been completed. What activity is the project manager likely to perform next to wrap up the procurement?
- A.** Continue monitoring their project
 - B.** Perform administrative closure activities
 - C.** Re-baseline the schedule
 - D.** Send out a status report with the news
- 58.** A quality management team looking to ensure that the project is complying with organizational and project policies is likely to perform what activity?
- A.** Problem-solve
 - B.** Generate quality reports
 - C.** Create an affinity diagram
 - D.** Facilitate an audit
- 59.** Which of the following project management processes maintains or increases the efficiency and effectiveness of stakeholder engagement activities over time?
- A.** Monitor Stakeholder Engagement
 - B.** Manage Stakeholder Engagement
 - C.** Control Stakeholder Engagement
 - D.** Plan Stakeholder Engagement

- 60.** The change control board recently approved two changes. This decision was generated as a result of carrying out the Perform Integrated Change Control process. What project management process will the project manager likely carry out next as a follow-up to the meeting?
- A.** Manage Project Knowledge
 - B.** Direct and Manage Project Work
 - C.** Validate Scope
 - D.** Control Quality
- 61.** As part of managing communications, a project manager collects status from the project team. What key output are they hoping to generate?
- A.** Work performance reports
 - B.** Project communications
 - C.** Updates to the project management plan
 - D.** Change requests
- 62.** Through which process group are resources acquired?
- A.** Initiating
 - B.** Planning
 - C.** Executing
 - D.** Monitoring and Controlling
- 63.** At the conclusion of a planning meeting, a deployment manager stayed back and engaged in an animated conversation with the project manager, insisting that the work breakdown structure (WBS) that was shared during the meeting was incomplete. The deployment manager insisted that the WBS should reflect all activities of the project. What is the lowest level of the WBS?
- A.** Planning packages
 - B.** Work packages
 - C.** Control accounts
 - D.** Activities
- 64.** Sally is managing a project that will build a new data center to host various devices for customers. As part of this project, Sally has worked with the procurement team to procure several materials and services needed. A team member expressed concern regarding the management of an order of servers. What key input can Sally reference to confirm when these resources should be available and what other terms are associated with the order?
- A.** Schedule
 - B.** Cost baseline
 - C.** Agreement
 - D.** Project management plan

- 65.** A senior project manager is working on monitoring the progress of the schedule. To determine whether performance is getting better or worse, he analyzes project performance over time. What technique is the project manager using?
- A.** Trend analysis
 - B.** What-if scenario analysis
 - C.** Variance analysis
 - D.** Performance reviews
- 66.** A project manager gearing up for a large-scale go-live event meets with the project sponsor to brainstorm ways of ensuring a smooth event. The sponsor encourages the project manager to spare no expense and to fly in the most critical resources to the main site where activities will occur. What technique is the sponsor recommending that the project manager use?
- A.** Virtual teams
 - B.** Team building
 - C.** Colocation
 - D.** Conflict management
- 67.** Who developed the quality theory that asks whether the product satisfies a real need, is safe, and meets the quality expectation?
- A.** Crosby
 - B.** Kaizen
 - C.** Deming
 - D.** Juran
- 68.** A risk manager has developed a plan for identifying and managing risks, facilitated multiple workshops to identify risks, and assessed the likelihood and impact of risks occurring. What is the risk manager likely to do next?
- A.** Perform qualitative risk analysis
 - B.** Perform quantitative risk analysis
 - C.** Develop risk responses
 - D.** Monitor risks identified
- 69.** Which of the following set of needs sits at the top of Maslow's Hierarchy of Needs?
- A.** Self-esteem
 - B.** Safety and security
 - C.** Self-actualization
 - D.** Social

- 70.** The PMI Talent Triangle® focuses on three of the following key skill sets, except for which one?
- A.** Technical discipline
 - B.** Leadership
 - C.** Strategic and business management
 - D.** Technical project management
- 71.** You assume that cost efficiency will continue to be the same for the duration of the project. If $EV=600$, $PV=500$, $AC=550$, and $BAC=1,000$, what is the estimate at completion (EAC)?
- A.** 450
 - B.** 500
 - C.** 833
 - D.** 917
- 72.** Julie is a senior project manager who has successfully completed multiple projects for her organization. When asked by a colleague what her secret weapon is, Julie notes communication and that she places emphasis on actively listening to the team, getting in front of conflicts early, and being well prepared for all team meetings. Which tool and technique is Julie describing?
- A.** Emotional intelligence
 - B.** Communication methods
 - C.** Communication skills
 - D.** Interpersonal and team skills
- 73.** A project manager is in the process of tracking, reviewing, and reporting on overall progress of the project against the plan. All of the following are tools and techniques of the process this question refers to except for which one?
- A.** Information management
 - B.** Decision-making
 - C.** Variance analysis
 - D.** Meetings
- 74.** Using the earned-value analysis technique, a project manager calculates a schedule performance index of 0.75 and a cost performance index of 1.25. To bring the schedule back on track, the project manager decides to allocate additional resources to critical activities to complete them faster. What project management process is he performing?
- A.** Control Costs
 - B.** Control Schedule
 - C.** Develop Schedule
 - D.** Monitor Risks

- 75.** At the end of a project phase, Alfred facilitates a lessons-learned meeting to capture what went well and what could be improved. As an experienced project manager, Alfred has come to realize that capturing lessons learned throughout the project is important. What type of knowledge is Alfred capturing?
- A. Tacit
 - B. Explicit
 - C. Verbal
 - D. Formal
- 76.** Which of the following statements best describes the purpose of the Perform Integrated Change Control process?
- A. To track and monitor changes to the plan
 - B. To review and approve change requests submitted
 - C. To review, approve, and manage changes to the project
 - D. To evaluate performance and initiate changes as needed
- 77.** During a planning meeting, two architects debated which site should serve as a backup location, should the new solution fail. The project manager attempted to facilitate resolution, to no avail. As the conversation became heated, the project manager noted the time and moved on to the next agenda item. What conflict resolution technique did the project manager use?
- A. Compromise
 - B. Collaborate
 - C. Avoid
 - D. Smooth
- 78.** You are in the midst of performing the Sequence Activities process. You are currently identifying what the preferred and mandatory sequencing of activities are. What is this technique called?
- A. Dependency determination
 - B. Mandatory and discretionary dependencies
 - C. Precedence diagramming method
 - D. Arrow diagramming method
- 79.** Joan ran into a colleague at the office café and inquired about his project. Her colleague noted that, unfortunately, he and his sponsor had determined that the project had evolved into more of a support organization, and they had decided to close it out. He had since moved on to another project. What type of ending did Joan's colleague experience on his project?
- A. Integration
 - B. Starvation
 - C. Addition
 - D. Extinction

80. Using the values noted within the following table, calculate the late finish of activity F:

Activity Name	Successor	Duration
A	B, C, D	2
B	E	6
C	F	4
D	F	7
E	F	3
F	G	2
G	None	5

- A.** 18
 - B.** 2
 - C.** 13
 - D.** 12
- 81.** Which of the following statements best describes an individual project risk?
- A.** The effect of uncertainty on the project as a whole, arising from all sources of uncertainty
 - B.** An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives
 - C.** An event or condition that is certain that has a positive or negative effect on one or more project objectives
 - D.** An uncertain event or condition that, if it occurs, has a negative effect on a project objective
- 82.** You are a senior project manager working at a manufacturing plant that produces components used by the aviation industry. You are in the process of implementing approved changes. What process group do these process activities belong to?
- A.** Initiating
 - B.** Planning
 - C.** Executing
 - D.** Monitoring and Controlling
- 83.** Collect Requirements, Define Scope, and Create WBS are processes that belong to what project management Knowledge Area?
- A.** Project Integration Management
 - B.** Project Schedule Management
 - C.** Project Scope Management
 - D.** Project Stakeholder Management

- 84.** During a kick-off meeting for his project, Alfred had the project team members each share the city where they grew up as an icebreaker. His hope was to increase the comfort level of the team when interacting with each other. What stage of the team development model is the team currently in?
- A. Forming
 - B. Storming
 - C. Performing
 - D. Norming
- 85.** All of the following are true regarding the Monitor Communications process except for which one?
- A. It is the only communications-related process that belongs to the Monitoring and Controlling process group.
 - B. It is responsible for ensuring that the information needs of the project and its stakeholders are met.
 - C. It uses the stakeholder engagement assessment matrix to analyze the effectiveness of communication activities.
 - D. It generates work performance data to compare actual communication implemented against what was planned.
- 86.** A project manager is leading an effort to develop a new consumer device that is scheduled to go to market within the next six months. Recently, the team experienced a setback when a key set of stakeholders rejected a major deliverable. The primary complaint was that it did not meet the expectations discussed during the early stages of the project. What did the project manager fail to do in this scenario?
- A. Engage stakeholders
 - B. Control quality
 - C. Control scope
 - D. Control schedule
- 87.** A project manager is coordinating data center upgrades across five different locations dispersed around the globe. This involves sending team members to different locations and exposing them to various cultures that they may not be familiar with. The project manager therefore decides to hold cultural awareness and training for all team members involved in the project prior to scheduled travel. Which core value listed in the *PMI Code of Ethics and Professional Conduct* is the project manager addressing?
- A. Responsibility
 - B. Respect
 - C. Fairness
 - D. Honesty

- 88.** A junior project manager sought out advice from a senior project manager after receiving concerning performance-based feedback from his manager. The junior project manager noted that team members had recently expressed that they did not feel up to date on the status of the project. The senior project manager asked if he had been measuring the effectiveness of communication activities. The junior project manager responded in the negative. What process did he fail to perform?
- A. Plan Communications Management
 - B. Manage Communications
 - C. Monitor Communications
 - D. Monitor and Control Project Work
- 89.** You will consider factors such as the availability of resources, skill levels, training needs, and other elements when developing which of the following?
- A. Resource management plan
 - B. Staffing plan
 - C. Human resource management plan
 - D. Project staff assignments
- 90.** A project manager is in the process of capturing new information and knowledge in the hopes of benefiting the project in future phases, as well as contributing to the overall organizational learning. What key output will the project manager generate as a result of these activities?
- A. Knowledge management
 - B. Networking
 - C. Lessons learned register
 - D. Information management
- 91.** During a status meeting, the project sponsor expresses concern in ensuring that the team complete the project according to plan. He stresses that it is important that the team remain within the \$55,000 budget. The sponsor then asks the project manager for a measure of cost performance that would be required in order for the team to meet his goal, assuming that current performance continues. In addition to the budget, the project manager already knows that the cumulative earned value is 30,000 and that they have spent 35,000 to date. What value will the project manager communicate to the sponsor?
- A. 1.00
 - B. 1.25
 - C. 0.75
 - D. 0.80

- 92.** All of the following are characteristics of a project-based organization except for which one?
- A.** A project manager's authority is low.
 - B.** It is a temporary structure put into place to perform the work of a project.
 - C.** Project resources are released at the conclusion of the project.
 - D.** A project manager may have direct reports.
- 93.** You work as a project manager for a large manufacturing company that produces dental supplies. Your latest project involves the installation of a new machine that will automate part of the manufacturing process. Currently, you are working with the project team to decompose identified deliverables into smaller components of work. What Knowledge Area does this activity belong to?
- A.** Project Quality Management
 - B.** Project Resource Management
 - C.** Project Integration Management
 - D.** Project Scope Management
- 94.** A project management office (PMO) organization held a weekly staff meeting for project managers to remain up to date on interdependent projects. During the meeting, Jill noticed that Ronald appeared withdrawn and quiet. She later learned that he was experiencing a high degree of stress, along with his team, as a result of his project closing. Which organizational structure does Ronald likely work in?
- A.** Functional
 - B.** Balanced Matrix
 - C.** Project-oriented
 - D.** Hybrid
- 95.** A project manager works closely with the organization's procurement manager for all services acquired externally for her project. Which process will they perform to manage the procurement relationships?
- A.** Plan Procurement Management
 - B.** Conduct Procurements
 - C.** Control Procurements
 - D.** Control Resources
- 96.** Ross is six months into a multi-year project. Since his assignment as project manager, he began the habit of periodically working with his project's leadership team to assess and analyze changes to the list of project stakeholders. This activity is associated with what project management process?
- A.** Plan Stakeholder Engagement
 - B.** Manage Stakeholder Engagement

- C. Plan Resource Management
 - D. Identify Stakeholders
- 97.** All of the following statements about the final closing stages of a project are true except for which one?
- A. Costs and staffing taper off at this stage.
 - B. Overall project risk is at the lowest during this stage.
 - C. Stakeholders have the greatest influence at this stage.
 - D. The likelihood that the project will complete is highest at this stage.
- 98.** Midway through the delivery of development services, a customer requested that new requirements be incorporated. Because of the size and impact of the request, a change request was submitted and approved to the contract. What project management process will the approved changes be implemented in?
- A. Plan Procurement Management
 - B. Conduct Procurements
 - C. Perform Integrated Change Control
 - D. Control Procurements
- 99.** Using the following values, calculate estimate to complete (ETC), assuming that the work is progressing as planned: estimate at completion = 55,000, actual cost = 45,000, earned value = 40,000, planned value = 42,000.
- A. 15,000
 - B. 10,000
 - C. 13,000
 - D. 12,000
- 100.** What output of the Manage Team process includes updates made to the human resource management policies?
- A. Organizational process assets updates
 - B. Project management plan updates
 - C. Enterprise environmental factors updates
 - D. Project documents updates
- 101.** This person developed statistical tools to examine when a corrective action must be applied to a process. He invented control chart techniques and was also the inventor of the Plan-Do-Check-Act cycle.
- A. Juran
 - B. Deming
 - C. Feigenbaum
 - D. Shewhart

- 102.** A risk manager convened with the project manager to discuss the progress of the project. The risk manager shared concerns about feedback received regarding the low likelihood that the team would achieve their go-live date successfully. What activity is the project manager likely to perform next?
- A.** Submit a change request in the form of corrective action.
 - B.** Work with the risk manager to apply immediate changes to the plan.
 - C.** Nothing, since a new issue or risk has not been officially raised.
 - D.** Submit a change request in the form of preventive action.
- 103.** Project management closure activities occur through which of the following project management Knowledge Areas?
- A.** Project Integration Management
 - B.** Project Scope Management
 - C.** Project Procurement Management
 - D.** Project Quality Management
- 104.** A project manager is working with the team to compare actual project performance against the plan and assessing whether any corrective or preventive actions are needed. These activities are associated with what process group?
- A.** Initiating
 - B.** Planning
 - C.** Executing
 - D.** Monitoring and Controlling
- 105.** Based on the information presented in the following table, which of the projects should a project selection committee choose when using a weighted scoring model?

Criteria	Weight	Project A score*	Project B score*	Project C score*
Profit potential	5	2	5	1
Marketability	3	5	2	2
Ease to produce/support	1	1	2	5
Weighted score	—		—	—

*5=highest

- A.** Project A
- B.** Project B

- C. Project C
 - D. None
- 106.** A quality manager stresses the importance of managing quality to the project team during a planning meeting. The quality manager then performs a training session on various tools and techniques they will use, including Design for X, audits, and various diagrams. All of the following are true regarding activities associated with Manage Quality except for which one?
- A. Managing quality generates quality reports and test and evaluation documents.
 - B. Managing quality should occur throughout the project.
 - C. Managing quality occurs as part of monitoring and controlling the project.
 - D. Affinity diagrams, matrix diagrams, and scatter diagrams are all examples of tools used to manage quality.
- 107.** Alice is a junior project manager who has struggled in her first job in this role. She has studied avidly and can recite the *PMBOK® Guide* processes but struggles when linking and speaking to how her projects realize the goals of the organization. What key skill set does Alice need to further develop?
- A. Technical discipline
 - B. Technical project management
 - C. Strategic and business management
 - D. Leadership
- 108.** Midway through the delivery of development services, a customer requested that new requirements be incorporated. When asked to submit a change request to modify the terms of the contract, the customer refused and insisted that the changes be implemented at no cost. After multiple discussions, neither party changed their stance on the situation. What tool and technique will the project manager likely use to address this situation?
- A. Claims administration
 - B. Alternative dispute resolution
 - C. Inspection
 - D. Conflict management
- 109.** All of the following processes belong to the Project Integration Management Knowledge Area except for which one?
- A. Manage Project Knowledge
 - B. Direct and Manage Project Work
 - C. Collect Requirements
 - D. Develop Project Management Plan

- 110.** Using the values noted within the following table, calculate the total float of activity C:

Activity Name	Successor	Duration
A	B, C, D	2
B	E	6
C	F	4
D	F	7
E	F	3
F	G	2
G	None	5

- A.** 0
B. 4
C. 2
D. 5
- 111.** During a weekly project management luncheon, a project manager confides to the group that he is struggling with the most critical stakeholders on his project. With the busy season underway, his greatest challenge has been getting engagement from the core group of leaders that he relies on to acquire resources. When asked if he had thought through and captured strategies for engaging his stakeholders, he admits that he has not completed that task. What did the project manager fail to do?
- A.** Create a stakeholder register
B. Perform stakeholder analysis
C. Develop a communications management plan
D. Develop a stakeholder engagement plan
- 112.** A project manager is in the process of developing the project management plan. What is a valid tool and technique that the project manager can use to bring various stakeholders into alignment on the various aspects of the plan?
- A.** Data gathering
B. Interpersonal and team skills
C. Expert judgment
D. Meetings

- 113.** You are a project manager for a web-based retail company. A deployment manager challenges your choice of project management methodologies. As the conversation heats up, you stress that your choice stems from having managed two similar large-scale projects in the past year. The deployment manager relents as a result and accepts your approach. What type of power did you use?
- A. Punishment
 - B. Legitimate
 - C. Expert
 - D. Referent
- 114.** All of the following statements are true about types of project endings except which one?
- A. Addition is where a project evolves into ongoing operations.
 - B. Starvation can occur when a key resource quits.
 - C. Extinction can occur as a result of budget reduction.
 - D. Integration often occurs when resources are redistributed.
- 115.** A project sponsor called the project manager to express concern over not seeing the latest weekly update on the progress of the project. What key output is the sponsor looking for?
- A. Work performance data
 - B. Work performance report
 - C. Work performance information
 - D. Communications management plan
- 116.** Judy works for the You Name It! gaming company, which specializes in games for young adults. As part of her latest project, Judy is working with a team to develop a game using virtual reality technology. Judy and the team are now in the process of breaking down deliverables into smaller components of work, which will be used to estimate against. What valid input will Judy use to help her and the team get started?
- A. Requirements log
 - B. Requirements traceability matrix
 - C. Rolling wave planning
 - D. Scope baseline
- 117.** All of the following are true regarding the Control Scope process except for which one?
- A. It is the process responsible for the formal acceptance of deliverables.
 - B. It belongs to the Monitoring and Controlling process group.
 - C. It generates work performance information and change requests.
 - D. It ensures that the project completes no more and no less than the planned scope.

- 118.** Using the following values, calculate cost variance (CV), and identify whether the project is over or under budget: earned value = 7,000, planned value = 6,000, actual cost = 5,000.
- A. 1,000 under budget
 - B. 2,000 under budget
 - C. 2,000 over budget
 - D. 1,000 over budget
- 119.** A project manager has just carried out quality control activities to verify the correctness of a series of deliverables produced. What project management process is the project manager likely to perform next?
- A. Validate Scope
 - B. Control Quality
 - C. Manage Quality
 - D. Control Scope
- 120.** A project manager is in the process of confirming formal acceptance of the seller's work, finalizing open claims, and archiving lessons learned recently captured about the seller's performance. What project management process is the project manager performing?
- A. Conduct Procurements
 - B. Monitor and Control Project Work
 - C. Control Procurements
 - D. Close Project or Phase
- 121.** Nicolas is in the process of overseeing the implementation of risk responses for risks that are being mitigated. As part of his approach, he references the plan that outlines the roles and responsibilities of team members for risk management. What document did Nicolas reference to get this information?
- A. Project management plan
 - B. Risk report
 - C. Risk register
 - D. Risk management plan
- 122.** Which of the following processes will the project manager perform to verify the correctness of a completed deliverable?
- A. Validate Scope
 - B. Control Quality
 - C. Manage Quality
 - D. Control Scope

- 123.** Alice is a junior project manager reporting to the development editor of a large publishing organization. In addition to her project management responsibilities, she is responsible for maintaining the department's finances. What type of organization structure does Alice work in?
- A. Project-oriented
 - B. Functional
 - C. Strong matrix
 - D. Balanced matrix
- 124.** The Project Integration Management Knowledge Area is concerned with which of the following?
- A. Ensuring timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and ultimate disposition of project information
 - B. Identifying, combining, unifying, and coordinating the various processes and project management activities
 - C. Identifying the people, groups, or organizations that could impact or be impacted by the project to analyze stakeholder expectations and their impact on the project
 - D. Ensuring the project includes all the work required, and only the work required, to complete the project successfully
- 125.** Nicolas is a principal project manager managing a six-month project for his organization. During a status meeting, the director of development notes that he would like to see two additional features added to the project's deliverable. Nicolas hesitates and points out that the additional features are not in the scope for the project. The director waves him off and states that he could cover the costs if needed. Which of the following processes addresses this situation?
- A. Plan Scope Management
 - B. Validate Scope
 - C. Control Scope
 - D. Control Quality
- 126.** During a change control meeting, the project manager summarizes the latest request submitted and reviews analysis and alternatives provided by the team. The sponsor, who had already reviewed the information prior to the meeting, notes that he approves the change request and the committee can move on to the next submission. What type of decision-making technique did the change control board use?
- A. Democratic
 - B. Unanimity
 - C. Plurality
 - D. Autocratic

- 127.** All of the following are true, except for which one?
- A.** Mandatory dependencies are also known as hard logic or hard dependencies.
 - B.** There are four types of logical relationships between activities: finish-to-finish, finish-to-start, start-to-start, and start-to-finish.
 - C.** Start-to-finish is the most commonly used logical relationship between activities.
 - D.** Precedence diagramming is the most commonly used diagramming method, and arrow diagramming the least.
- 128.** New risks are identified primarily through which of the following processes?
- A.** Identify Risks
 - B.** Identify Risks and Monitor Risks
 - C.** Monitor Risks
 - D.** Identify Risks and Perform Qualitative Risk Analysis
- 129.** Brad works as a project manager for a prominent law firm. His latest project involves an office move that will accommodate a 10 percent growth in staff over the next two years. Because of an unexpected increase in infrastructure costs, he calculates that he will be \$2,000 over budget. What document can Brad reference to determine whether this falls within the allowable threshold for budget overages?
- A.** Cost baseline
 - B.** Cost management plan
 - C.** Contingency reserve
 - D.** Project funding requirements
- 130.** All of the following are components that together form the scope baseline, except for which one?
- A.** Work breakdown structure
 - B.** Project scope statement
 - C.** Work breakdown structure dictionary
 - D.** Requirements log
- 131.** Using the earned value analysis technique, a project manager calculates a schedule performance index of 0.75 and a cost performance index of 1.25. To bring the schedule back on track, the project manager decides to allocate additional resources to critical activities in order to complete them faster. What technique are they using to control the schedule?
- A.** Fast tracking
 - B.** Leads and lags
 - C.** Crashing
 - D.** Resource optimization

- 132.** Elaine is a project manager juggling three projects at once. She struggles to stay on top of the many moving pieces, including communicating appropriately with such a large group. Not counting herself, Elaine's largest project has a total of 65 active stakeholders. How many communication channels exist in Elaine's largest project?
- A. 2,080
 - B. 2,113
 - C. 130
 - D. 1,387
- 133.** Which of the following project management documents contains the risk responses implemented as part of execution activities?
- A. Project management plan
 - B. Risk report
 - C. Risk register
 - D. Risk management plan
- 134.** Which theorist suggested that humans have five basic needs arranged in hierarchical order?
- A. Frederick Herzberg
 - B. Abraham Maslow
 - C. Victor Vroom
 - D. David McClelland
- 135.** A project manager facilitates the voting process for decision-makers who have convened to review a major deliverable that has been completed. The intent of the meeting is to vote on whether to approve and accept the deliverable. What key input will the committee need to reference to vote?
- A. Deliverables
 - B. Accepted deliverables
 - C. Verified deliverables
 - D. Work performance information
- 136.** Recalls and project decisions can impact which of the following tools and techniques of the Plan Quality Management process?
- A. Seven Basic Quality Tools
 - B. Cost of quality
 - C. Cost-benefit analysis
 - D. Quality control measurements

- 137.** Which environmental factor should you pay close attention to when carrying out the Develop Project Management Plan process?
- A.** Project management plan templates
 - B.** Organizational structure, culture, and management practices
 - C.** Historical information and lessons learned repository
 - D.** Change control procedures
- 138.** According to the *PMBOK® Guide*, this output of the Identify Risks process is used when implementing risk responses because it contains the overall project risk exposure, as well as the agreed-upon risk response strategy.
- A.** Project management plan
 - B.** Risk report
 - C.** Risk register
 - D.** Risk management plan
- 139.** You are working on a project and are in the Plan Quality Management process. You know that if the customer requirements are not satisfied while the product is still under the control of the organization, it might result in corrective action, rework, scrapping, and downtime. Which of the following statements is true regarding the cost of quality?
- A.** Cost of quality is an output of this process, and this is an internal failure cost.
 - B.** Cost of quality is a tool and technique of this process, and this is a prevention cost.
 - C.** Cost of quality is an output of this process, and this is a prevention cost.
 - D.** Cost of quality is a tool and technique of this process, and this is an internal failure cost.
- 140.** All of the following are tools and techniques of the Identify Stakeholders process except for which one?
- A.** Interpersonal skills
 - B.** Expert judgment
 - C.** Data gathering
 - D.** Meetings
- 141.** Alfred leaned back and watched proudly as the team reported progress seamlessly during the daily standup meeting. Over the past two weeks, the team has been functioning as one entity. Which stage of the Tuckman team development ladder is the team currently in?
- A.** Forming
 - B.** Storming
 - C.** Norming
 - D.** Performing

- 142.** Using the estimates provided, calculate the triangular distribution: most likely estimate (ML)=72, optimistic estimate (O)=55, pessimistic estimate (P)=85. *Round to one decimal point.*
- A. 70.0
 - B. 70.7
 - C. 71.3
 - D. 72
- 143.** During a status meeting, the project sponsor requests an update on how much over or under budget the project is estimated to complete. On hand, you have the following information: BAC=25,000, EAC=32,000, ETC=8,000. What value will you respond with?
- A. 24,000
 - B. 17,000
 - C. 33,000
 - D. -7,000
- 144.** A project manager is in the process of carrying out activities associated with the Manage Quality process. What is the project manager hoping to achieve?
- A. To incorporate the organization's quality policies into the project and to translate the quality management plan into executable quality activities
 - B. To identify quality requirements and/or standards for the project and its deliverables and to document how the project will demonstrate compliance
 - C. To monitor and record the results of executing quality management activities
 - D. To manage quality activities of the project by assessing performance and ensuring outputs conform to customer expectations
- 145.** Which of the following documents identifies 12 principles that are the focus of the Agile approach?
- A. Agile Credo
 - B. Agile Manifesto
 - C. Agile Practice Guide
 - D. Agile Standard
- 146.** Jason is a well-liked project manager. Team members note that his positive attitude is contagious and his instinct for getting in front of issues is strong. As a result, individuals tend to vie for roles within Jason's projects. What type of power does Jason have in this scenario?
- A. Referent
 - B. Legitimate
 - C. Expert
 - D. Punishment

- 147.** Which of the following core values listed in the *PMI Code of Ethics and Professional Conduct* addresses conflict of interest?
- A.** Responsibility
 - B.** Respect
 - C.** Fairness
 - D.** Honesty
- 148.** All of the following are tools and techniques of the Plan Communications Management process except for which one?
- A.** Communication requirements analysis
 - B.** Communication technology
 - C.** Interpersonal and team skills
 - D.** Project management information system
- 149.** All of the following are stages of the Tuckman-Jensen team development model except for which one?
- A.** Adjourning
 - B.** Acting
 - C.** Storming
 - D.** Forming
- 150.** Alyssa is managing a software development project with a compressed timeline. To compress the project work, she has opted to leverage a development team based in the United States, as well as another based in Vietnam. Although the team does not spend time meeting face to face, the benefits yield a 24-hour workday. What tool or technique is Alyssa using?
- A.** Sensitivity analysis
 - B.** Virtual team
 - C.** Dependency determination
 - D.** Interpersonal and team skills
- 151.** A project sponsor calls the project manager to request a summary of project performance against objectives for the phase that was just completed. The project manager assures the sponsor that they are already in the process of putting the report together and that it will be provided by end of week. What project management process is the project manager performing?
- A.** Direct and Manage Project Work
 - B.** Monitor and Control Project Work
 - C.** Manage Project Knowledge
 - D.** Close Project or Phase

- 152.** All of the following are true regarding the Conduct Procurements process except for which one?
- A.** It is part of the Executing process group.
 - B.** It belongs to the Procurement Management Knowledge Area.
 - C.** A key output of the process is seller proposals.
 - D.** Advertising is used to increase the list of potential sellers.
- 153.** Sue is in the process of monitoring the progress of the project, which kicked off six months prior. Based on the latest work performance reports, she knows that the schedule performance index is 0.85 and the cost performance index is 0.70. To compress the schedule, what options can Sue consider?
- A.** Crash critical activities.
 - B.** Fast-track critical activities.
 - C.** Fast-track and crash critical activities.
 - D.** Fast-track activities on the short network path.
- 154.** A project manager facilitates the voting process for decision-makers who have convened to review a major deliverable that has been completed. The intent of the meeting is to vote on whether to approve and accept the deliverable. What project management process are they performing?
- A.** Validate Scope
 - B.** Control Scope
 - C.** Plan Scope Management
 - D.** Manage Quality
- 155.** Which of the following describes how a project or product attribute will be measured and verified?
- A.** Quality management plan
 - B.** Quality reports
 - C.** Quality metric
 - D.** Quality control measurements
- 156.** A decision-making technique that is based on the largest block of votes within the group is known as what?
- A.** Unanimity
 - B.** Majority
 - C.** Plurality
 - D.** Autocratic

- 157.** Which of the following types of power stems from an individual's position?
- A. Referent
 - B. Legitimate
 - C. Expert
 - D. Punishment
- 158.** A project manager is in the process of monitoring cost performance to determine whether any existing variances found against the plan are within the established tolerance levels. What technique can the project manager use to achieve the desired outcome?
- A. Reserve analysis
 - B. Trend analysis
 - C. Variance analysis
 - D. Earned-value analysis
- 159.** A project manager performing activities associated with the Manage Quality process is utilizing the root-cause analysis technique. Which of the following best describes this technique?
- A. A technique that identifies options in order to select which quality approach is the most appropriate
 - B. A technique that determines the basic underlying reasons that result in a variance, defect, or risk
 - C. A technique that analyzes documents produced to identify processes that may be out of control
 - D. A technique that identifies opportunities for process improvements
- 160.** During a tense meeting, a project manager had to step in and halt a conversation occurring between two engineers. The engineers were heatedly debating what technology to use, both insinuating a lack of trust in each other. Which stage of the Tuckman team development ladder is the team currently in?
- A. Forming
 - B. Storming
 - C. Norming
 - D. Performing
- 161.** Which of the following best describes the scope of programs?
- A. To produce benefits to an organization by ensuring the outcomes of its components are delivered in a coordinated and complementary manner
 - B. To produce defined objectives that can be progressively elaborated throughout the project life cycle
 - C. To deliver strategic objectives of the organization, which may change and evolve over time
 - D. To produce the documented benefits of a project by ensuring the outcomes are delivered in a coordinated and complementary manner

- 162.** A project sponsor calls the project manager to request a summary of project performance against objectives for the phase that was just completed. What is the sponsor requesting?
- A. Work performance report
 - B. Final report
 - C. Status report
 - D. Quality report
- 163.** Grant hesitantly knocks on his project sponsor's door to notify her of a budget overage that has occurred. Because of a vendor error, he shared that a critical piece of equipment would cost \$30,000 more than originally estimated. Fortunately for Grant, the sponsor understood the situation and approved the use of funds set aside for unexpected events. From where will Grant pull the funds to cover the equipment?
- A. Management reserves
 - B. Contingency reserves
 - C. Funding limit reconciliation
 - D. Cost baseline
- 164.** Rhonda is a hands-on project sponsor who enjoys partnering with her project managers to motivate teams to deliver strong results. With her most seasoned project managers, Rhonda provides ideas and suggestions, while with her most junior project managers, she facilitates development sessions. What leadership theory does Rhonda subscribe to?
- A. Continuum Theory
 - B. Situational Leadership Theory
 - C. Contingency Theory
 - D. Theory Z
- 165.** Which of the following represents the best type of project ending?
- A. Integration
 - B. Starvation
 - C. Addition
 - D. Extinction
- 166.** The *forcing* conflict management technique is also known as what?
- A. Collaborating
 - B. Directing
 - C. Avoiding
 - D. Compromising

- 167.** Which of the following represents a benefit of using an Agile approach to manage projects?
- A.** Changes can be closely monitored and controlled.
 - B.** A project team can adjust processes in order to meet new or modified requirements.
 - C.** Risks can be identified, reduced, or eliminated early on in the project life cycle.
 - D.** The team is not distracted by planning activities and can focus on execution.
- 168.** During a status meeting, a senior architect expressed concern about a recent change made to the functionality of the product being designed. As a member of the change control board, he did not have a chance to weigh in on the decision. The project manager noted that she would investigate the situation. What went wrong in this scenario?
- A.** The change control board must have held an ad hoc meeting.
 - B.** The change did not follow the change control process.
 - C.** The senior architect is not up to speed on the project.
 - D.** The project manager is not up to speed on the project.
- 169.** A project manager has structured his project in a way that will allow for the planning of the project to occur during the early phases of the life cycle, with minimal changes thereafter. This approach is associated with which development life cycle?
- A.** Iterative
 - B.** Predictive
 - C.** Adaptive
 - D.** Incremental
- 170.** Sue is in the process of monitoring the progress of a project, which kicked off six months prior. The sponsor of Sue's project requests an update on the expected total cost of completing the work. What information is the sponsor requesting?
- A.** Estimate at completion
 - B.** Estimate to complete
 - C.** Budget at completion
 - D.** To complete performance index
- 171.** Which of the following diagrams used to control quality demonstrates total number of defects by source?
- A.** Histograms
 - B.** Control charts
 - C.** Scatter diagrams
 - D.** Cause-and-effect diagrams
- 172.** Which quality theorist promoted the concept of doing it right the first time?
- A.** Philip Crosby
 - B.** Joseph Juran
 - C.** Walter Shewhart
 - D.** W. Edwards Deming

- 173.** Which of the following is a valid input that a project manager can use to cultivate appropriate stakeholder involvement and interaction?
- A. Work performance data
 - B. Agreements
 - C. Communications management plan
 - D. Stakeholder engagement plan
- 174.** A project manager is in the process of making changes to team assignments to optimize project performance. What activity is the project manager engaged in?
- A. Developing the team
 - B. Estimating resource requirements
 - C. Controlling resources
 - D. Managing the team
- 175.** At the end of a project phase, Alfred facilitates a lessons-learned meeting to capture what went well and what could be improved. As an experienced project manager, Alfred has come to realize that capturing lessons learned throughout the project is important. During the meeting, one of the architects shares that he felt he had an “a-ha” moment but couldn’t quite articulate the concept. What type of knowledge is the architect attempting to share?
- A. Tacit
 - B. Explicit
 - C. Verbal
 - D. Formal
- 176.** A risk manager is preparing to perform a risk audit. As part of this activity, the risk manager requests the status of risk responses implemented and updates on identified risks. Which input of the Monitor Risks process is the risk manager requesting?
- A. Technical performance analysis
 - B. Work performance reports
 - C. Work performance information
 - D. Work performance data
- 177.** Which of the following are the tools and techniques of the Plan Quality Management process?
- A. Expert judgment, data gathering, data analysis, decision-making, data representation, test and inspection planning, and meetings
 - B. Cost of quality, Seven Basic Quality Tools, benchmarking, design of experiments, additional quality planning tools, and meetings
 - C. Cost of quality, Seven Basic Quality Tools, design of experiments, statistical sampling, additional quality planning tools, and meetings
 - D. Cost-benefit analysis, cost of quality, Seven Basic Quality Tools, additional planning tools, and meetings

- 178.** Which of the following estimate ranges represents a rough order of magnitude?
- A. –5% to +10%
 - B. –50% to +50%
 - C. –25% to +75%
 - D. –10% to +25%
- 179.** A project manager is working with the project team to estimate durations for the identified project activities. The team is looking to achieve the most accurate estimate possible. What estimating technique can they use to generate the desired result?
- A. Parametric estimating
 - B. Analogous estimating
 - C. Bottom-up estimating
 - D. Three-point estimating
- 180.** Which of the following leadership theories places emphasis on the well-being of employees both at work and outside of work and encourages steady employment?
- A. Theory X and Y
 - B. Situational Leadership Theory
 - C. Theory Z
 - D. Contingency Theory
- 181.** During a change control meeting, the project sponsor takes suggestions and recommendations on the latest change request from the other three committee members, who all voted to accept the change request. The sponsor votes to reject the change, which is accepted as the final decision. What type of leadership style does the sponsor use?
- A. Laissez-faire
 - B. Autocratic
 - C. Democratic
 - D. Transactional
- 182.** A project manager is tasked with managing a project that aims to achieve ISO compliance for their information security management system. Compliance lends the organization credibility mandated by enterprise user groups. Which of the following needs and demands represent the reason that the project came about?
- A. Legal requirement
 - B. Stakeholder demands
 - C. Technological advance
 - D. Business process improvement
- 183.** All of the following are true regarding power types except for which one?
- A. Legitimate power is also known as formal, positional, or authoritative power.
 - B. Expert power is derived through one's knowledge, credentials, and/or education.

- C. Using one's connections, alliances, and networking as a form of power is known as relational.
- D. The use of punishment power should be avoided and never used.
- 184.** A frequent sponsor of projects within a technology organization enjoyed a reputation for generating strong productivity from her team. She attributed these results to having a genuine concern about her team members and entrusting them with the responsibility of delivering results through limited supervision. According to Douglas McGregor, what management profile does this sponsor reflect?
- A. Theory X
- B. Theory Y
- C. Theory Z
- D. Theory XY
- 185.** Which of the following measurements reflects the value of the work completed to date as it compares to the authorized budgeted amount assigned to the work component?
- A. Actual cost
- B. Planned value
- C. Earned value
- D. Budget at completion
- 186.** All of the following make up the three key dimensions developed and monitored through earned value management except for which one?
- A. Planned value
- B. Earned value
- C. Actual cost
- D. Budget at completion
- 187.** As part of managing the project, a project manager carries out activities meant to ensure that project information is collected, disseminated, and stored in an effective and timely manner. What project management process is the project manager performing?
- A. Plan Communications Management
- B. Monitor Communications
- C. Manage Communications
- D. Control Communications
- 188.** Which leadership style reflects a leader that allows the team to drive decisions?
- A. Laissez-faire
- B. Autocratic
- C. Democratic
- D. Transactional

- 189.** Thomas is responsible for coordinating activities that will deploy 10 new servers into an existing data center that his organization manages. Last year, he developed standards on how deployments should be handled. This will be his 10th deployment this month. Which of the following best describes Thomas's work?
- A. Project
 - B. Operations
 - C. Program
 - D. Portfolio
- 190.** Brad works as a project manager for a prominent law firm. His latest project involves an office move that will accommodate a 10 percent growth in staff over the next two years. Because of an unexpected increase in infrastructure costs, a risk accepted by the team, he calculates that he will be \$2,000 over budget. After consulting with the project sponsor, Brad decides to dip into additional funding set aside to account for risks that have materialized. Where will Brad obtain these funds?
- A. Management reserves
 - B. Contingency reserves
 - C. Funding limit reconciliation
 - D. Cost baseline
- 191.** A project manager is addressing issues occurring among team members related to the execution of the work. What project management process is the project manager performing?
- A. Develop Team
 - B. Plan Resource Management
 - C. Manage Team
 - D. Control Resources
- 192.** Which of the following contract types presents the greatest risk to the seller?
- A. Time and material
 - B. Cost-reimbursable
 - C. Fixed price
 - D. Fixed price with economic price adjustments
- 193.** A quality manager is inspecting a subset of deliverables produced in order to measure controls and verify quality. Which of the following is a valid tool or technique to assist the project manager in performing this activity?
- A. Statistical sampling
 - B. Root-cause analysis
 - C. Questionnaires and surveys
 - D. Check sheets

- 194.** You are a project manager working on manufacturing a new product. The operational process is very detailed. One of the components of the product must measure 1 centimeter by 1 centimeter. Reliability is measured using a machine that samples one part in every hundred to assure the measurements are correct. Which of the following does this question describe?
- A. This is statistical sampling, which is a tool and technique of the Control Quality process.
 - B. This describes a quality baseline, which is an output of the Plan Quality Management process.
 - C. This describes a quality audit, which is a tool and technique of the Plan Quality Management process.
 - D. This is a prevention cost, which is a tool and technique of the Plan Quality Management process.
- 195.** Which of the following motivational theorists suggested that individuals are motivated by two factors: hygiene factors and motivators?
- A. Frederick Herzberg
 - B. Abraham Maslow
 - C. Victor Vroom
 - D. David McClelland
- 196.** You know the following information: $BAC = 300$, $PV = 200$, $EV = 250$, and $AC = 250$. Which of the following is the correct expected total cost at completion if CPI and SPI influence the remaining work?
- A. 290
 - B. 300
 - C. 250
 - D. 340
- 197.** Ron's latest project pairs him with the most tenured development director in the company as his project sponsor. Ron knew this would be a challenging project based on the director's reputation for punitive action when individual team members didn't deliver, regardless of the reason. Based on McGregor's Theory of X and Y, which style of leadership does the director practice?
- A. Theory X
 - B. Theory Y
 - C. Theory Z
 - D. Theory X and Y

- 198.** An advertising firm recently hired a project manager to lead integration efforts in a recent acquisition made by the company. The acquisition earned the advertising firm recognition as the largest firm operating within their respective region. Which of the following needs and demands represent the reason that the project came about?
- A. Competitive Forces
 - B. Political Changes
 - C. Strategic Opportunity
 - D. Business Process Improvement
- 199.** Using the estimates provided, calculate the beta distribution: Most likely estimate (ML) = 72, optimistic estimate (O) = 55, pessimistic estimate (P) = 85. *Round to one decimal point.*
- A. 70.0
 - B. 70.7
 - C. 71.3
 - D. 72
- 200.** During a project kick-off meeting, the project manager reviews the project management plan with the project team, signaling the start of execution activities. What is the significance of the project management plan?
- A. It captures, tracks, and addresses project benefits identified in the benefits management plan.
 - B. It authorizes the use of the approved budget and contingency reserves.
 - C. It authorizes the assignment of resources to activities identified in the schedule.
 - D. It defines how the project is executed, monitored and controlled, and closed.

A black and white photograph of a lighthouse situated on a rocky coastline. The lighthouse is white with a dark lantern room and sits atop a stone pier. To its left is a large, multi-story keeper's house with a prominent gabled roof. The foreground is filled with large, light-colored, layered rock formations. The ocean waves are visible crashing against the rocks at the base of the pier. The sky above is filled with heavy, textured clouds.

Answers Appendix

Chapter 1: Initiating (Domain 1.0)

1. B. The business case is an economic feasibility study used to understand the business need for the project and determine whether the investment is worthwhile. In short, it justifies the need for the project and contains information such as the project description, high-level description of scope, analysis of the problem, financial analysis, and success factors.
2. B. Linear, multi-objective programming, and nonlinear are all examples of constrained optimization methods, not benefit measurement methods. Benefit measurement methods include benefit-cost ratio analysis, scoring models, and benefit contribution methods.
3. B. Carina is in the process of carrying out the Identify Stakeholders process. Although the project has been active for three months, it is customary to perform this process iteratively, especially at the start of a phase.
4. A. The scenario describes the early stages of a project, which has just been selected and a project manager assigned. This occurs in the Initiating process group.
5. A. The Plan-Do-Check-Act cycle was developed by Shewhart and later refined by Deming. It reflects the iterative, results oriented, and interactive nature of the project process groups.
6. B. According to the *PMBOK® Guide*, the three types of PMOs are directive, supportive, and controlling.
7. C. The Agile Manifesto identifies 12 principles that describe the Agile approach. It came about through a group of software developers who came together in 2001 to formalize the Agile approach.
8. D. Agreements is an input, not a tool or technique, of the Identify Stakeholders process. Tools and techniques include the following: expert judgment, data gathering (questionnaires and surveys and brainstorming), data analysis (stakeholder analysis, document analysis), data representation (stakeholder mapping/representation), and meetings.
9. B. Stakeholders have the greatest chance of influence over the project and the characteristics of the product, service, or results of the project in the early phases of the project, not the end. All other statements are true.
10. A. In a weak-matrix organization, the project manager has a low degree of authority, which can be viewed as a disadvantage.
11. C. According to PMI, a good project manager spends up to 90 percent of his time communicating. Communication skills are essential for a successful project manager.
12. B. The scenario describes activities associated with the Acquire Resources and Conduct Procurements processes, which are processes that belong to the Executing process group.
13. B. Carina is performing activities associated with the Planning process group.

14. B. Phase endings are characterized by the completion, review, and approval of a deliverable.
15. D. Problem-solving involves asking questions to separate the causes of the problem from the symptoms. Decision-making involves considering alternative solutions to the problem. Choices are made from among the alternatives. Timing is important in decision-making, because good decisions made too soon or too late can turn into inferior solutions.
16. A. The *PMBOK® Guide* describes 49 project management processes that can be grouped in five process groups, which are as follows: Initiating, Planning, Executing, Monitoring and Controlling, and Closing.
17. B. Remember that all questions on the exam will refer to specific terminology used in the *PMBOK® Guide*. Although the other options presented may seem correct, the *PMBOK® Guide* calls this process *stage gates, phase reviews, phase exit, or kill points*.
18. C. Sue is describing organizational project management (OPM). The *PMBOK® Guide* defines OPM as a framework in which portfolio, program, and project management are integrated with organizational enablers to achieve strategic objectives.
19. B. Direct and Manage Project Work, Manage Quality, and Conduct Procurements are three of the ten processes that make up the Executing process group.
20. A. The *PMBOK® Guide* defines a stakeholder as “an individual, group, or organization that may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project.”
21. C. Joe is correct. The project manager is responsible for managing and performing activities relating to Project Integration Management.
22. A. Hybrid organizations are a combination of various organizational types and typically involve a project-oriented structure coexisting within a functional organization.
23. A. A megaproject is defined as a large multi-year project that costs more than \$1 billion and affects 1 million or more people.
24. A. Within a project-oriented organization, the project manager has a high degree of authority, and projects are treated with priority. A project manager has high to almost total resource access/availability, since team members are often dedicated to the project.
25. D. The project charter authorizes the project to begin. Once approved, it gives the project manager authority to apply resources to the project.
26. C. The project manager is utilizing their strategic and business management skills, which is one of three categories of skill set that make up the PMI Talent Triangle®. The other two are technical project management and leadership.
27. C. Negotiation is working with others to come to an agreement. Arbitration and mediation are two forms of negotiation.

- 28.** B. Carina is concluding major activities associated with the Planning process group and is getting ready to enter into Executing. At this point in the project life cycle, costs are typically low.
- 29.** B. Project management is defined as the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.
- 30.** C. The Monitoring and Controlling process group is where project performance measurements are taken and analyzed to determine whether the project is progressing according to the plan.
- 31.** B. The project manager has performed activities associated with the Define Activities process and is now performing activities from the Sequence Activities process. Both of these processes belong to the Project Schedule Management Knowledge Area.
- 32.** D. The Closing process group encompasses only one process, not Initiating. Initiating has a total of 2 processes, Planning a total of 24, Executing a total of 10, and Monitoring and Controlling a total of 12.
- 33.** C. Organizational structures are the forms that an organization can take and their influence on projects. They describe the style, culture, and way of communicating that influence how project work is performed.
- 34.** D. The project manager is in the process of carrying out stakeholder analysis and is evaluating the level of interest and influence of stakeholders. In this scenario, the project manager is carrying out the Identify Stakeholders process.
- 35.** B. General management skills are likely to affect project outcomes. Estimating Costs is part of the Planning process group, and Control Costs is part of the Monitoring and Controlling process group. PMI requires either a degree or a certain number of years of experience in project management to sit for the exam, along with other requirements.
- 36.** D. The scenario presented describes the Plan Resource Management process, which belongs to the Project Resource Management Knowledge Area. Other processes belonging to this Knowledge Area include Estimate Activity Resources, Acquire Resources, Develop Team, Manage Team, and Control Resources.
- 37.** C. The project charter not only authorizes the existence of a project but also provides the project manager with authority to begin applying organizational resources to project activities.
- 38.** C. The collective phases a project progresses through are known as the project life cycle.
- 39.** A. There are three categories of skill sets that make up the PMI Talent Triangle®: business management and strategic skills, technical project management skills, and leadership skills. Business management and strategic skills encompass a project manager being able to describe the business needs of the project and how they align with the organization's goals.

- 40.** A. Project A has the highest score based on the values provided. To calculate the score for each project, multiply the score of each criterion against the weight of the criteria and then add up all of the scores. See the following table for the calculations:

Criterion	Weight score	Project A totals	Project B score	Project B totals	Project C score	Project C totals
Profit potential	5	5	25	2	10	1
Marketability	1	1	1	5	5	3
Ease of use	3	2	6	3	9	5
Weighted score	—	—	32	—	24	—
						23

- 41.** D. Influencing entails the ability to get things done using power and politics. Power is the ability to get people to do things they wouldn't ordinarily do, and it's the ability to change minds and influence outcomes. Politics involve getting groups of people with diverse interests to cooperate creatively, even in the midst of conflict and disorder.
- 42.** B. Tailoring concerns determining which project management processes to use when managing and conducting the project.
- 43.** B. Examples of enterprise environmental factors that are used in the Identify Stakeholders process are company culture, organizational structure, governmental or industry standards, global trends, and geographic locations of resources and facilities. The other options included are organizational process assets.
- 44.** B. The question describes a hybrid organizational type, likely a mixture of a weak and a strong matrix. A clue is that your title is project manager, which does not typically exist in a purely functional organization; another is that the functional manager manages the project budget, which is not typical in a project-oriented or PMO organizational type.
- 45.** B. Enterprise environmental factors are the factors both internal and external to the organization that can influence the project. Marketplace conditions is one example, as are organizational culture, structure, and governance. Enterprise environmental factors is a frequent input of the project management processes.
- 46.** A. The Initiating processes are characterized by low costs, low staffing levels, decreased chances for a successful completion, high risk, and the greatest amount of stakeholder influence concerning the characteristics of the product or service of the project. Initiating acknowledges that the project or next phase of the project should begin and authorizes the assignment of resources.
- 47.** B. Projects with NPV greater than 0 should be recommended; the key determining factor in selecting Project Fun is that the NPV is positive. Had both NPVs been positive, then the determining factor would have been the greater NPV number, since the scenario notes that funding exists for only one project.
- Payback period is considered the least precise selection method and is not typically the sole determining factor.

- 48.** B. The salience model uses three elements in analyzing stakeholders: power, urgency, and legitimacy. This is a data representation technique of the Identify Stakeholders process.
- 49.** C. Plan Schedule Management, Estimate Activity Durations, and Control Schedule are processes that belong to the Project Schedule Management Knowledge Area. Other processes belonging to this Knowledge Area include Define Activities, Sequence Activities, and Develop Schedule.
- 50.** A. There are three categories of skill set that make up the PMI Talent Triangle®: business management and strategic skills, technical project management skills, and leadership skills.
- 51.** D. Project phases generally produce at least one deliverable by the end of the phase.
- 52.** C. There are four development life cycles: predictive, iterative, incremental, and hybrid. The incremental development life cycle uses predetermined periods of time called *iterations* to complete the deliverable (not to be confused with the iterative development life cycle).
- 53.** A. While PMOs may facilitate the selection of projects that support a company's strategic objectives, they are not typically responsible for establishing the objectives and selecting projects. All other options describe the types of support that a PMO typically offers within an organization.
- 54.** C. The Project Scope Management Knowledge Area has six processes that cover the Planning and Monitoring and Controlling process groups.
- 55.** D. The project manager is in the process of carrying out the Identify Stakeholders process. The stakeholder register, the primary output, captures the list of stakeholders and documents information about them, including any assessment information.
- 56.** A. Change-drive life cycles are also known as Agile or adaptive life cycles.
- 57.** A. Since you are in the early stages of the project and have just kicked off the Identify Stakeholders process, the stakeholder register would not yet be available; instead, you are in the process of developing the register. Agreements and business case, on the other hand, are both inputs to the Identify Stakeholders process (the business case through “business documents” input) and is the best choice.
- 58.** D. During the Planning phase of the project life cycle, stakeholder influence tends to be high, although it is highest during Initiating; costs, staffing, and chances for successful project completion tend to be low during Planning.
- 59.** D. Since the marketing company where Bill works is a customer of Reasons to Lyv, the project being managed within his organization is a result of a customer request.
- 60.** A. The title Project Coordinator indicates this is a weak matrix organization and that you are working within one of the business units rather than under the PMO (as you would if you were in a strong matrix organization). The question also states that the work of the project has begun, so you are in the Executing phase of the project.

- 61.** C. As the project progresses, you should use different techniques to perform these processes, including using different techniques to motivate, lead, and coach. The techniques you'll use will depend on the makeup of the project team and the stakeholders involved in that stage. The processes in this Knowledge Area concern human and material resources, and they consist of Plan Resource Management, Acquire Resources, Develop Team, Manage Team, and Control Resources.
- 62.** D. Fast-tracking is the best answer in this scenario. Budget was the original constraint on this project, so it's highly unlikely the project manager would get more resources to assist with the project. The next best thing is to compress phases to shorten the project duration.
- 63.** B. The Project Cost Management Knowledge Area technique used when evaluating various alternatives is called *life-cycle costing*. This technique considers acquisition, operating, and disposal costs.
- 64.** C. Answer C is stated backwards. IRR is the discount rate when NPV equals zero.
- 65.** D. Project selection methods include benefit measurement methods and mathematical models (also known as *constrained optimization methods*). Benefit measurement methods might include cost-benefit analysis and cash flow analysis.
- 66.** C. According to the *PMBOK® Guide*, projects are initiated by business leaders because of the following categories or factors: regulatory compliance, legal requirements, or social requirements; stakeholder needs and requests; changing technology needs of the organization; create or improve processes, services, or products.
- 67.** A. A positive value for NPV means the project will earn a return at least equal to or greater than the cost of capital. Since NPV for Alternative A is positive, this alternative will earn at least a 12 percent return.
- 68.** B. Project selection methods are used prior to the Develop Project Charter process to choose which projects the organization should undertake or to choose among alternative ways of doing a project. According to the *PMBOK® Guide*, the project manager is not involved in project selection.
- 69.** B. Project Scope Management is concerned with product scope and project scope. Product scope is concerned with the characteristics of the product or service of the project and is measured against the project requirements. Project scope is concerned with the work of the project and is measured against the project plan.
- 70.** B. Identify Stakeholders belongs to the Project Stakeholder Management Knowledge Area. The Project Integration Management Knowledge Area contains the following processes: Develop Project Charter, Develop Project Management Plan, Direct and Manage Project Work, Manage Project Knowledge, Monitor and Control Project Work, Perform Integrated Change Control, Close Project or Phase.
- 71.** C. Payback period is the least precise of all cash flow calculations, so you shouldn't give this a lot of consideration if NPV is positive and IRR is greater than 0. Since Project B and Project D both have a negative NPV, they shouldn't be chosen. Project C has a higher IRR value than Project A and should be the project you choose, even though its payback period is longer than that of Project A.

- 72.** D. Portfolio management groups projects, programs, portfolios, and other work that is similar in scope and weighs the value of each project against the business's strategic objectives. Portfolio management also monitors projects to make certain they adhere to the objectives and make efficient use of resources. Portfolio management is usually handled by a senior manager with many years of experience in project and program management.
- 73.** D. NPV and IRR will generally bring you to the same accept/reject decision.
- 74.** A. The new series is unique and hasn't been done before. There is a definite end date—sweeps week in November—and the beginning date was the start of the project creation. After the series has started, the project itself is over, and the series becomes an ongoing operation.
- 75.** A. The Project Stakeholder Management Knowledge Area is concerned with identifying all of the stakeholders, analyzing their expectations, assessing how they can be impacted or are impacted by the project, and developing strategies to effectively engage them.
- 76.** C. The producer is the project sponsor because the question states that he is the final decision-maker for all questions that arise on the project. He also created the budget, implying he has the authority to spend money on the project.
- 77.** C. Antwon is performing portfolio management activities. Portfolio management is defined as the centralized management of one or more portfolios to achieve strategic objectives; it involves guiding the investment decisions of the organization to meet the organization's strategic goals.
- 78.** A. Although the lessons learned register is a tempting choice and is an artifact of the project, the correct answer is organizational process assets. Organizational process assets are the organization's policies, guidelines, processes, procedures, plans, approaches, and standards for conducting work, including project work. They are a frequent input to the project management processes.
- 79.** A. Estimate Activity Resources is a process that belongs to the Project Resource Management Knowledge Area. All other statements are true.
- 80.** C. Weighted scoring models use the weight of the criteria multiplied by the score to derive an overall score. Project 1's score is 47, Project 2's score is 45, and Project 3's score is 42. Based on this information, Project 1 is the best choice.
- 81.** C. Directive PMOs tend to have a high degree of control over projects, with project managers assigned by and directly reporting to the PMO. The PMO typically controls and manages projects directly.
- 82.** A. Economic models are an example of a benefit measurement method, not a constrained optimization method. These are project selection techniques that can be used to measure the advantages or merits of the product of the project.
- 83.** D. Benefit-cost ratio can be referred to as cost-benefit analysis. It is a common benefit measurement method that compares the cost to produce the product, service, or result of the project to the benefit that the organization will receive after executing the project.

84. D. Projects are temporary endeavors undertaken to produce a unique product, service, or result. Operations, on the other hand, are ongoing and repetitive and do not have an ending date.
85. B. Project Communications Management involves every member of the project team, including all the stakeholders. Everyone involved in the project will send or receive project information or both. Project Resources involve all the human and physical resources assigned to the work of the project. Although all the folks working on the project are involved, only the project manager and perhaps a few others are involved in performing the processes within this Knowledge Area.
86. C. Roshoud and Sally are performing the Plan Resource Management process, where roles and responsibilities are identified and documented, which is a process that belongs to the Project Resource Management Knowledge Area.
87. B. The formula for present value is $PV = FV / (1 + i)^n$. Plugging in the information from the question, the formula becomes $\$8,000 / (1 + .07)^3 = \$6,530$.
88. A. Brainstorming is a form of data gathering, a technique of the Develop Project Charter process. Other examples of data gathering include focus groups and interviews.
89. D. The project manager and project team together are responsible for determining how best to tailor the project management processes, based on the needs of the project.
90. A. According to the *PMBOK® Guide*, phase reviews are also called *phase gate*, *phase entrance*, *phase exit*, *stage gate*, and *kill point*. Phase reviews typically serve as checkpoints at the end of a phase where performance or progress is evaluated against the project charter or plan. Once completed, the project progresses to the next phase.
91. A. This came about because of a business need. Staff members were spending unproductive hours converting information, causing the company loss. The time the employees spent converting the information could have been spent doing something more productive.
92. B. According to the *PMBOK® Guide*, there are three ways project life cycle phases could be performed: sequential, iterative, and overlapping.
93. D. As a project manager, it is important for you to establish relationships with the stakeholders. Project Stakeholder Management is concerned with identifying all of the stakeholders on the project and assessing their needs, expectations, and involvement on the project.
94. B. This question requires discounted cash flow analysis to compare the value of Alternative A to Alternative B. Applying the present value formula to Alternative A, the formula is calculated this way: $\$21,000,000 / (1 + .05)^2 = \$19,047,619$. Alternative B is calculated this way: $\$29,000,000 / (1 + .05)^3 = \$25,051,831$.
95. B. The 10 project management Knowledge Areas bring processes together that have commonalities. For example, the Project Quality Management Knowledge Area includes the Plan Quality Management, Manage Quality, and Control Quality processes.

- 96.** D. The project charter identifies the purpose of the project and the project or product description. It includes a summary budget and summary milestone schedule. A detailed project schedule is not part of the project charter.
- 97.** A. IRR is the discount rate when the present value of the cash inflows equals the original investment. Project C's original investment equals the present value of its cash inflows at a discount rate of 7 percent. Therefore, Project A has the highest IRR and should be chosen above the other two.
- 98.** C. The project will recoup its investment by month 18. To calculate, simply total the cash inflow for every quarter as indicated; payback is reached when you hit the amount of total investment.
- 99.** D. There isn't enough information in this question to determine an answer. Payback period is the least precise of cash flow analysis techniques, but in this question, the payback periods are all the same. Initial investment isn't enough information to help choose among the projects.
- 100.** B. Iterations are also known as sprints. Iterations or sprints are always time-bound and can be any short period of time defined and agreed upon by the team.
- 101.** B. A highly predictive (Waterfall) life cycle typically has detailed specifications, while a highly adaptive life cycle (Agile) has requirements that are progressively elaborated. All other statements are true.
- 102.** C. The project manager is using a highly adaptive (Agile) life cycle, where Closing activities involve addressing the highest business value items first, versus closing out the project or phase as in a highly predictive life cycle.
- 103.** B. The project is being driven by legal requirements. New projects can occur as a result of laws passed, as in the case seen in this scenario.
- 104.** B. The question describes activities associated with risk management. Kaylee and Alyssa are determining how best to address a positive risk (opportunity) that has been identified.
- 105.** C. Agile project management is a method of managing projects in small, incremental portions of work that can be easily assigned, easily managed, and completed within a short period of time.
- 106.** B. In an Agile life cycle, Planning activities involve the progressive elaboration of scope, based on continuous feedback from stakeholders.
- 107.** D. The business analyst and the project manager have carried out activities relating to the following processes: Collect Requirements, Define Scope, and Create WBS. These processes belong to the Project Scope Management Knowledge Area. Project Requirements Management is not an official Knowledge Area.
- 108.** A. There are three series of project life cycles within the basic framework for managing projects: sequential, iterative, and overlapping. In a sequential life cycle, one phase must finish before the next phase can begin.

- 109.** C. The product owner speaks on behalf of the business unit, customer, or end user, and is therefore considered to be the voice of the customer. The product owner represents the stakeholders and is the liaison between stakeholders, the scrum master, and the development team.
- 110.** A. Ron is a scrum master. In Agile project management, the scrum master coordinates the work of the sprint and runs interference between the team and any distractions that may keep them from the work at hand. They also support the product owner in maintaining the backlog, prioritizing work, and defining when work is done.
- 111.** B. In a highly adaptive life cycle, changes are welcome. Feedback is continuously obtained from stakeholders.
- 112.** C. Progressive elaboration is not necessarily a deferral in planning; it refers to progressively determining the characteristics of the product, service, or result incrementally, as more detail becomes available.
- 113.** A. Payback period is considered to be the least precise project selection method.
- 114.** C. A burn-down chart shows the time remaining for the sprint and displays the time period of the sprint on the horizontal axis and the backlog items on the vertical axis.
- 115.** A. Supportive PMOs tend to have a low degree of control over projects and play more of a consultative role to projects. Typically, a supportive PMO provides best practices, templates, training, and other resources to support projects.
- 116.** C. Costs are highest during the Executing phase of the project life cycle, when resource usage is at its highest.
- 117.** C. Because Reasons to Lyv is attempting to exploit new GPS technology that is available, the project is a result of technological advance.
- 118.** D. Agile project management is a methodology that manages projects through iterations of work; it allows the team to quickly adapt to new requirements and allows for continual assessment of goals, deliverables, and functionality of the product, service, or result of the project.
- 119.** A. Project Requirements Management is not a formal Knowledge Area. The following represent the 10 project management Knowledge Areas: Project Integration Management, Project Scope Management, Project Schedule Management, Project Cost Management, Project Quality Management, Project Resource Management, Project Communications Management, Project Risk Management, Project Procurement Management, and Project Stakeholder Management.
- 120.** C. Fast-tracking refers to compressing or shortening the project schedule. In this scenario, you are attempting to compress the phase.
- 121.** C. Project Integration, Scope, and Cost Management are examples of project management Knowledge Areas. There are a total of 10 Knowledge Areas described within the *PMBOK® Guide*.

- 122.** B. Waterfall, Agile, and PRINCE2 are examples of methodologies used to manage projects.
- 123.** A. Stakeholders often have conflicting interests, which can generate conflict. It is the project manager's responsibility to understand these conflicts and try to resolve them.
- 124.** D. The question describes a daily stand-up, also referred to as a daily scrum meeting. These meetings are typically held at the same time and place every day and are time boxed to typically no more than 15 minutes. The purpose is to keep the team informed and alert the scrum master of any obstacles in the way of completing tasks.
- 125.** D. Within the Agile methodology, a sprint or iteration refers to a short, time-bound period of work, which always starts with a sprint-planning meeting. It is also known as an iteration.
- 126.** B. Project management Knowledge Areas bring together processes that have characteristics in common, such as processes that relate to the topic of risk management, which would form the Project Risk Management Knowledge Area.
- 127.** B. Sue is referring to leadership skills, which is one of the categories of skill set that make up the PMI Talent Triangle®. The *PMBOK® Guide* describes leadership as the knowledge, skills, and behaviors needed to guide, motivate, and direct a team to help an organization achieve its business goals.
- 128.** D. Project 1's payback period is 19 months. Year 1 inflows are \$528,000. Year 2 inflows are \$39,000 per month-making the total payback period 19 months. Project 2's payback period is 16 months. Year 1 inflows are \$72,000. Year 2 inflows are \$45,000 per month, which makes the payback period 16 months.
- 129.** B. The question describes a sprint retrospective meeting, which helps the team plan for the next sprint and determine overall progress.
- 130.** D. A project is considered successful when it achieves its objectives and stakeholder needs and expectations are met.
- 131.** D. The project life cycle refers to all of the collective phases that the project progresses through, from start to finish. Project life cycles are the same for all projects, despite their complexity or size.
- 132.** D. The best answer to this question is D. This is a high-risk project, and a feasibility study should be conducted as a separate project because the outcome is unknown.
- 133.** A. Information included within the project charter is high level versus detailed. While the charter may include a list of high-level risks, it is unlikely that a detailed list can be compiled at this early stage of the project.
- 134.** B. There are four development life cycles: predictive, iterative, incremental, and hybrid. The iterative development life cycle defines project deliverables early in the development life cycle and progressively elaborates them as the project or life cycle progresses.

135. A. The project manager has performed the Define Activities, Sequence Activities, and Estimate Activity Resources processes. Next, she is likely to perform the Estimate Activity Durations process to determine how long each activity will take.
136. A. Yasmin is using a Waterfall approach, which involves a greater level of up-front planning during the early stages of the project life cycle. In this approach, changes to requirements tend to follow a change control process.
137. A. The PMI Talent Triangle® consists of the following three categories of skill set: technical project management, leadership, and strategic and business management. With the project being over budget and behind schedule, Nancy is most likely lacking in formal project management training and knowledge.
138. A. Robert is correct in stating that project managers should consider all project management processes as they are managing projects. This does not mean that all project management processes must be carried out, but they must be evaluated and considered for their applicability.
139. D. The weighted score of Project C is 23. To calculate the score for each project, multiply the score of each criterion against the weight of the criteria and then add up all of the scores. See the following table for the calculation of Project C:

Criterion	Weight	Project A score	Project A totals	Project B score	Project B totals	Project C score	Project C totals
Profit potential	5	5	25	2	10	1	5
Marketability	1	1	1	5	5	3	3
Ease of use	3	2	6	3	9	5	15
Weighted score	—	—	32	—	24	—	23

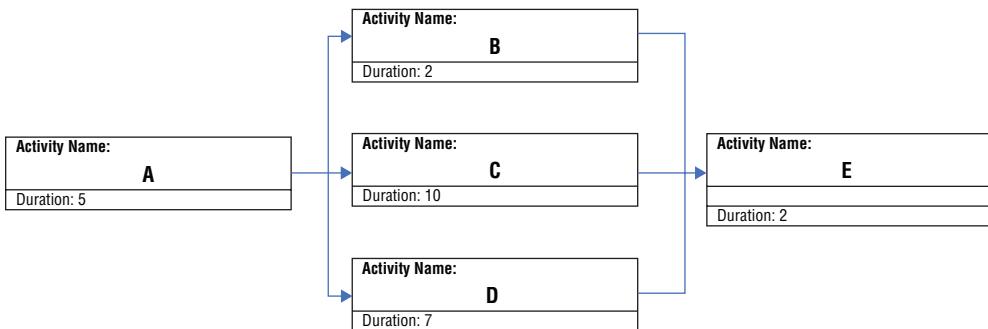
140. C. Payback period is the length of time it takes the company to recoup the initial costs of producing the product, service, or result of the project. It is considered to be the least precise of all cash flow calculations.
141. B. Projects exist to create a unique product, service, or result. What the director in the scenario describes is shifting the back end of an existing app to technology that also already exists within the company. This would reflect operations, which are considered to be ongoing and repetitive.
142. C. Identify Stakeholders is a process that belongs to the Project Stakeholder Management Knowledge Area. The Project Integration Management Knowledge Area has a total of seven processes, which are as follows: Develop Project Charter, Develop Project Management Plan, Direct and Manage Project Work, Manage Project Knowledge, Monitor and Control Project Work, Perform Integrated Change Control, and Close Project or Phase.

- 143.** D. In a functional organization, the role of project manager typically does not exist. Instead, it may be a part-time role or a similar role such as a project coordinator.
- 144.** B. A program is defined as related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available when managing them individually. The other options provide the definition of a project, progressive elaboration, and product life cycle.
- 145.** A. The chances for successful completion during the Executing phase are medium to high. Since the project is nearing the end of execution and the project is currently on track, the likelihood of success is high.
- 146.** D. While the project sponsor is typically accountable for the project, it is the project manager who assumes responsibility for the overall success of the project.
- 147.** D. According to the *PMBOK® Guide*, most projects fit one of seven needs and demands that result in their creation: market demand, organizational need, customer request, technological advance, legal requirement, ecological impacts, or social need.
- 148.** C. Initiating, Planning, Executing, Monitoring and Controlling, and Closing make up the five project management process groups.
- 149.** D. Since payback period is the least precise cash flow analysis technique, IRR values have a higher priority in determining go or no-go project decisions.
- 150.** D. The Project Management Institute (PMI) is the industry-recognized standard for project management practices. PMI is active and recognized around the globe, although it is headquartered within the United States.
- 151.** D. This project came about as a result of social need. Social need is one of seven typical reasons that trigger the need for a project, as noted by the *PMBOK® Guide*.
- 152.** B. According to the *PMBOK® Guide*, assumptions are factors in the planning process considered to be true, real, or certain, without proof or demonstration. They are factors expected to be in place or to be in evidence.
- 153.** B. Based on the little information provided in the scenario, you can conclude that Antwon is the project sponsor through his title. A project sponsor is typically an executive in the organization with authority to assign resources and enforce decisions regarding the project. As a marketing associate, Lewis is least likely to be the sponsor, although it is possible that he may play an important role within the project.
- 154.** D. The question describes technical project management skills, which is one of three categories of skill set that make up the PMI Talent Triangle®. The *PMBOK® Guide* defines technical project management skills as the knowledge, skills, and behaviors related to specific domains of project, program, and portfolio management.

155. D. The assumption log contains both assumptions and constraints and is first created during the Develop Project Charter process.
156. B. The portfolio manager will recommend Project B, since it has the highest internal rate of return (IRR). IRR is the discount rate when the present value of the cash inflows equals the original investment.
157. A. During the early stages of a project, risk probability of occurrence is at its highest; uncertainty is greatest during the Initiating phase of the project.
158. C. Project management processes are often revisited several times as the project is refined throughout its life, and are therefore performed in an iterative fashion throughout the project's life cycle.
159. C. Since the project manager and sponsor are meeting for the first time to discuss the overall project, you know that it is likely early on in the project's life cycle. Also, they are discussing the project as a whole, meaning that it is for a broad purpose versus a more detailed one like some of the other options presented. The most likely answer is that they are putting together the project charter.
160. B. The project manager is responsible for understanding the interests of stakeholders and getting in front of any potential conflict that may arise as a result of their personal interests.

Chapter 2: Planning (Domain 2.0)

1. A. Meetings are one of the four sets of tools and techniques of the Develop Project Management Plan process. The other tools and techniques include the following: expert judgment, data gathering (brainstorming, checklists, focus groups, interviews), and interpersonal and team skills (conflict management, facilitation, meeting management). The other options listed are inputs to the process.
2. D. According to the *PMBOK® Guide*, decomposition of the total project work into work packages involves the following five steps: 1) identifying and analyzing the deliverables, 2) structuring and organizing the WBS, 3) decomposing the WBS into lower-level components, 4) developing and assigning the identification codes, and 5) verifying the degree of decomposition of the deliverables.
3. B. Organizational process assets include historical documents from past projects, along with templates. Templates, in particular, can help expedite the preparation of network diagrams.
4. B. There are three network paths: A-B-E, A-C-E, and A-D-E. Figure 2.1 shows the network diagram for the information displayed within the table of the question. The duration value is not needed to calculate the answer.

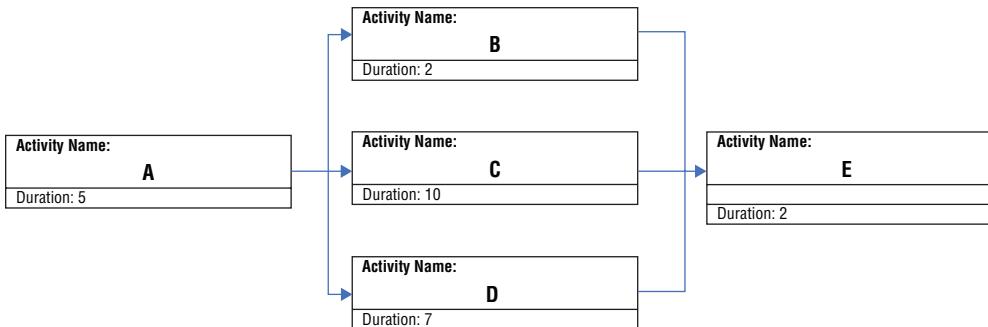
FIGURE 2.1 Network diagram: network path calculation

- 5.** B. To calculate the critical path (which is the longest path through the network diagram), add the duration of activities that fall within each network path. The path with the greatest duration is the critical path. Figure 2.2 shows the network diagram, based on the information provided within the table. The duration of each network path is as follows:

A-B-E: 9

A-C-E: 17

A-D-E: 14

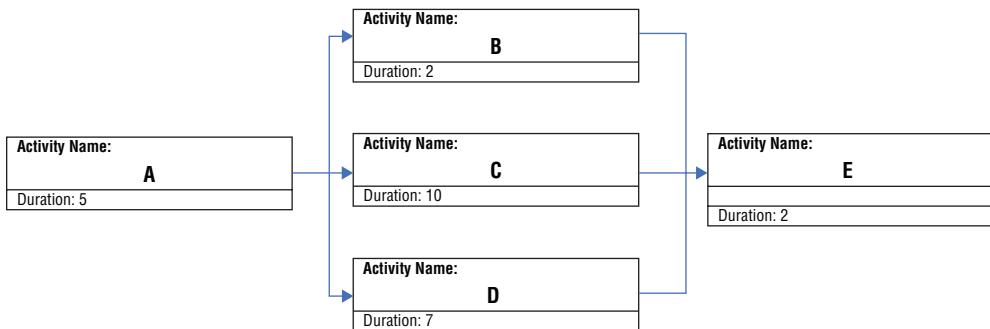
FIGURE 2.2 Network diagram: critical path calculation

- 6.** C. To calculate the near critical path (which is the second longest path through the network diagram), add the duration of activities that fall within each network path. The path with the second greatest duration is the near critical path. Figure 2.3 shows the network diagram, based on the information provided within the table. The duration of each network path is as follows:

A-B-E: 9

A-C-E: 17

A-D-E: 14

FIGURE 2.3 Network diagram: near critical path calculation.

7. B. ADM only uses the finish-to-start dependency. Precedence diagramming method (PDM), on the other hand, uses all dependency types.
8. A. The project scope statement contains a list of the project deliverables, their requirements, and the measurable criteria used to determine project completion. The project scope statement is an output of the Define Scope process and is used as an input to the Create WBS process.
9. D. Purchasing insurance is an example of the transfer risk response. This involves shifting ownership of a threat to a third party to manage the risk and to own the impact if the threat occurs.
10. D. Develop Project Management Plan is the first process in the Planning process group, but it belongs to the Project Integration Management Knowledge Area.
11. B. The beta distribution formula using the three-point estimating technique is $(\text{Optimistic} + (4 \times \text{Most Likely}) + \text{Pessimistic}) \div 6$. Plugging in the values provided yields the following: $(\$2,500 + (4 \times \$3,500) + \$7,200 \div 6 = \$3,950)$.
12. C. The project scope statement includes the product scope description, deliverables, acceptance criteria, and project exclusions. The project requirements are considered to be part of the requirements documentation.
13. D. The WBS is a decomposition of the total scope of work to be carried out by the project team. As is implied, it represents 100 percent of the project's scope, as well as objectives to be accomplished to produce the required deliverables.
14. C. Total float refers to the amount of time you can delay the earliest start of an activity without delaying the ending of the project. To calculate total float, subtract either the early start from the late start or the early finish from the late finish (both give you the same answer).
15. A. The tools and techniques of the Plan Risk Management process are expert judgment, data analysis, and meetings.

16. A. The inputs of the Define Scope process include project management plan, project charter, project documents, enterprise environmental factors, and organizational process assets. Organizational process assets include historical information and product descriptions (which describes option D). Project management information system is not part of this process.
17. A. There are two types of risk acceptance in which no proactive risk response strategy is selected: passive and active acceptance. Passive acceptance means that no action will be taken other than to periodically monitor the risk.
18. A. Requirements are the specifications of the deliverables and tell you how you know the deliverable was completed successfully.
19. A. Market research can be used to examine industry and seller capabilities. Information can be obtained in places such as conferences, online reviews, and other sources available in the market.
20. C. Defining the requirements and obtaining sign-off on the requirements will help you to ensure customer satisfaction. When stakeholders are aware of and agree to the requirements, they know exactly what the project is expected to deliver as well as what is not part of the deliverables.
21. C. Roles and responsibilities, training needs, and recognition and rewards are all elements documented in the resource management plan. Other elements covered in the plan are the list of methods for identifying resources, acquiring resources, project organizational charts, project team resource management, team development, and resource control.
22. B. The changes to the project management plan (and subsidiary plans within it) are dispositioned and managed through the Perform Integrated Change Control process.
23. B. Alyssa is carrying out the Plan Scope Management process and is using the expert judgment technique to help produce the scope management plan.
24. C. Alyssa is performing the Develop Project Management Plan process. The only output of this process is the project management plan.
25. C. Precedence diagramming method (PDM) is the most frequently used diagramming method. PDM uses boxes to represent activities and connects the activities with arrows—showing the dependencies between them. PDM is also known as *activity on node* (AON).
26. A. The triangular distribution formula using the three-point estimating technique is $(\text{Optimistic} + \text{Most Likely} + \text{Pessimistic}) \div 3$. Plugging in the values provided yields the following: $(\$2,500 + \$3,500 + \$7,200) \div 3 = \$4,400$.
27. A. Carina will update risks identified and information about the risks within the risk register. While project documents is technically a correct answer (since the risk register is a project document), risk register is more specific and therefore a better choice. Her findings may also find their way into the risk report, although, again, that is a secondary choice.

- 28.** D. The initial project organization is a component of the Plan Resource Management process.
- 29.** C. The project objectives should include quantifiable criteria that can be used to help measure project success. Project objectives should include schedule, cost, and quality measurements.
- 30.** D. Analogous estimating is also referred to as *top-down estimating*. This technique uses the actual duration of a similar activity completed on a previous project to determine the duration of a current activity.
- 31.** D. Facilitated workshops are not a tool and technique of this process. Expert judgment, data analysis, and meetings are the tools and techniques of the Plan Scope Management process.
- 32.** A. Alyssa is carrying out the Plan Scope Management process. The purpose of this process is to create a scope management plan that documents how the project and product scope will be defined, validated, and controlled.
- 33.** C. The project manager is putting together the cost management plan, which is an activity carried out through the Plan Cost Management process. The cost management plan documents the rules of performance measurement, level of precision and accuracy, units of measure, organizational procedures links, control thresholds, reporting formats, process descriptions, and other budget-related details necessary to develop, manage, and control the budget.
- 34.** B. The five steps of decomposition are to identify major deliverables, organize the WBS, decompose the WBS components into lower-level components, assign identification codes, and validate the WBS. No mention was made in the question of assigning identification codes or validating the correctness of decomposition, so A is not correct. The first three steps of the decomposition process for the Design deliverable have been performed.
- 35.** B. Plan Risk Responses belongs to the Planning process group, while Implement Risk Responses belongs in Executing.
- 36.** B. Appraisal costs are associated with the cost of quality and are the costs expended to examine the product or process and make certain the requirements are being met. Inspection and testing are examples of appraisal costs.
- 37.** A. The project scope statement contains the project scope description, project deliverables, acceptance criteria, and project exclusions.
- 38.** C. According to the *PMBOK® Guide*, the purpose of the Plan Communications Management process is to develop an appropriate approach and plan for project communications activities based on the information needs of each stakeholder or group, the available organizational assets, and the needs of the project.
- 39.** B. Lateral thinking is a form of alternatives analysis which is part of the data analysis tool and technique of the Define Scope process.

- 40.** B. Marysil will need to add a lag between the activities. A lag occurs when time must elapse between two activities, where the delay is added to the successor activity. A lead, on the other hand, speeds up the successor activity.
- 41.** C. The purpose of the Perform Qualitative Risk Analysis process is to prioritize individual project risks for further analysis or action by assessing their probability of occurrence and impact as well as other characteristics.
- 42.** B. Alyssa is performing the Develop Project Management Plan process. The purpose of this process is to define, prepare, and coordinate all plan components and consolidate them into an integrated project management plan.
- 43.** A. This Knowledge Area is responsible for both human and physical resources.
- 44.** B. The best answer is the communications management plan, which is a subsidiary of the project management plan. While project management plan is also a correct answer, the communications management plan is a more specific choice and therefore a better answer. Stakeholder communication requirements, escalation processes, and methods for receiving/obtaining information are all elements addressed within the communications management plan.
- 45.** C. The product scope defines the features and characteristics that describe the product, service, or result of the project.
- 46.** A. Activity attributes describe the characteristics of the activities and are considered an extension of the activity list. They change over the life of the project as more information is known.
- 47.** A. The product scope description is a component of the project charter and of the project scope statement, but it is not an input to this process.
- 48.** D. Deliverables are measurable outcomes, measurable results, or specific items that must be produced before the project or project phase is considered complete. Requirements are the specifications of the deliverables and tell you how you know the deliverables were completed successfully.
- 49.** C. This statement does describe some objectives but *not* adequately. Objectives are quantifiable criteria used to measure project success and should include schedule, cost, and quality metrics. There are no measures of time, cost, or quality mentioned in this statement. Requirements describe the specifications of the objectives and typically wouldn't be mixed into an objective statement. The objective should be clear and concise.
- 50.** D. Interpersonal and team skills are part of the tools and techniques of the Develop Project Management Plan process. All other options listed are correct inputs.
- 51.** C. An organization breakdown structure is a form of organization chart that shows the departments, work units, or teams within an organization and their respective work packages.
- 52.** B. Bottom-up estimating is carried out by obtaining individual estimates for each project activity and then adding all of them up together to come up with a total estimate for the

work package or the project. It is generally an accurate means of estimating, although it's more time-consuming and costly to perform.

53. B. Risk strategy, methodology, and risk-related roles and responsibilities are all elements of the risk management plan. Other areas covered by the plan include the following: risk-related funding, timing, risk categories, stakeholder risk appetite, definitions of risk probability and impacts, probability and impact matrix, reporting formats, and tracking.
54. A. Resource calendars are an input to the Estimate Activity Resources process through the project documents input, not a tool and technique.
55. C. Analogous estimating is less time-consuming than other estimating techniques and can be used to estimate time for different phases on the project. Analogous estimating is not as accurate as other estimating techniques.
56. B. While all of the documents listed are useful inputs to the process, the risk register is essential, as it contains the list of identified risks that they will analyze.
57. C. The project manager is carrying out activities associated with the Sequence Activities process. The purpose of this process is to identify and document relationships among the project activities.
58. D. The formula for calculating lines of communication is as follows, where n represents the total number of stakeholders (you are already assumed to have been included in the number):
$$n(n - 1)/2$$

Plug in the numbers to get the following: $\$35(35 - 1)/2 = \595 .

59. A. Completion of the product scope is measured against the product requirements, whereas completion of the project scope is measured against the project management plan. Although requirements documentation is technically a correct answer, product requirements is a far more specific answer.
60. B. According to the *PMBOK® Guide*, a definitive range of estimates is -5 percent to +10 percent.
61. B. Late finish is calculated by subtracting the duration of the last activity (activity 4) from its start date. Since it is one day, that means the late finish is 6/4. Late start is 7 days prior to 6/4, which is 5/29.
62. C. As part of carrying out the Perform Quantitative Risk Analysis process, updates are made to the risk register. Among the updates are an assessment of overall project risk exposure and detailed probabilistic analysis of the project.
63. C. To calculate the early start and early finish for activity 4, you need to perform a forward pass. This is done by adding the duration of activity 4 to the early finish date of activity 3.
64. B. To determine the total duration of the project, you add up the expected value for each activity. Note, you calculate expected value only for activities that have zero float.

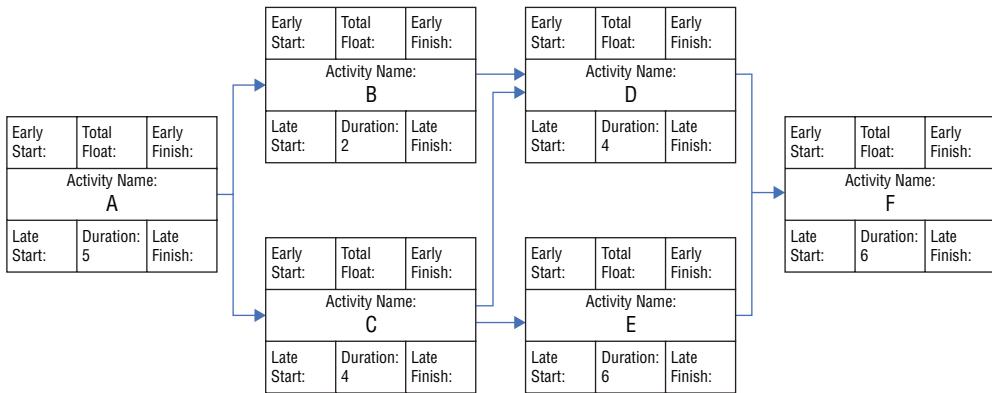
- 65.** B. Resource leveling is used when resources are overallocated, available only at certain times, or assigned to more than one activity at a time. This is part of resource optimization techniques and a tool and technique of the Develop Schedule process.
- 66.** A. First you need to calculate the standard deviation for this activity, which is 1.67. That is, $(\text{Pessimistic} - \text{Optimistic}) \div 6$. A 95.44 percent confidence factor is 3 standard deviations. That is, $1.67 \times 3 = 5.01$. The expected value is 23 days, so you have a 95.44 percent chance of completing the activity within between 18 and 28 days.
- 67.** B. Resource calendars are an input, not an output, of the Develop Schedule process as one of the project documents utilized.
- 68.** A. The formula for calculating lines of communication is as follows, where n represents the total number of stakeholders (you are already assumed to have been included in the number):
$$n(n - 1) \div 2$$
- Plug in the numbers to get the following: $\$12(12 - 1) \div 2 = \66 .
- 69.** B. Carina is performing the Identify Risks process. The purpose of the process is to identify individual project risks, as well as sources of overall project risk, and document their characteristics.
- 70.** C. Discretionary dependencies can create arbitrary total float values.
- 71.** A. Philip Crosby is the quality theorist behind the Zero Defects practice, which promotes doing it right the first time.
- 72.** B. The project team is using the product analysis technique to define the scope of the process (part of the Define Scope process).
- 73.** B. The team is engaged in the Estimate Costs process. The purpose of this process is to develop an approximation of the cost of resources needed to complete project work.
- 74.** D. Carrie used the analogous estimating technique, which is a form of expert judgment. It is a tool and technique of the Estimate Activity Durations process. Analogous estimating bases estimates on previous activities that are similar in fact, and they require the person estimating them to have expertise in the activity. Analogous estimating techniques are typically used to estimate project duration when there is a limited amount of information about the project.
- 75.** A. Low-priority risks are added to a watch list within the risk register, where they will be monitored for possible changes.
- 76.** D. Expected value can be calculated using a triangular distribution (simple average) or beta distribution (weighted average). The three-point estimating formula that uses a triangular distribution is as follows: $(\text{Optimistic} + \text{Pessimistic} + \text{Most Likely}) \div 3$. Plug in the values provided to calculate the following: $(\$25 + \$50 + \$35) \div 3 = \36.7 , or 37 when rounded to the nearest whole number.

- 77.** B. There are two possible answers listed: schedule and project management plan. The schedule management plan documents the schedule model, accuracy levels, units of measure, control thresholds, and performance measurement rules. Because the schedule management plan is a component of the project management plan, the project management plan was another good answer, although not as specific as schedule management plan.
- 78.** A. Trudy and Roy are using the stakeholder engagement assessment matrix tool, which is part of the data representation tool and technique of the Plan Stakeholder Engagement process. This matrix classifies stakeholders in five ways: unaware, resistant, neutral, supportive, or leading.
- 79.** B. The project manager has carried out the Develop Project Charter and Identify Stakeholders processes. He will likely begin to assemble the project management plan as a next step, by performing activities outlined within the Develop Project Management Plan process.
- 80.** B. Email is a form of push communication, which is one-way and refers to sending information to the intended receivers.
- 81.** C. The team is using bottom-up estimating. This technique estimates costs associated with every activity individually and then rolls them up to derive either a more accurate activity-level estimate or a total project estimate.
- 82.** D. Functional requirements describe the behaviors of the product, including actions, processes, data, and interactions that the product should execute.
- 83.** B. Schedule network analysis is a tool and technique of the Develop Schedule process that's used in conjunction with other tools and techniques, including the critical path method, to produce the project schedule.
- 84.** C. Three-point estimates are an average of the three estimates (most likely, optimistic, and pessimistic), not a weighted average. The PERT calculation is a weighted average technique.
- 85.** C. Schedule compression shortens the project schedule without changing the project scope. Crashing doesn't always give you a good alternative and typically increases project costs. Fast-tracking typically increases risk and necessitates rework.
- 86.** A. Expected value is calculated as follows: $(\text{Optimistic} + \text{Pessimistic} + (4 \times \text{Most Likely})) \div 6$. The formula is as follows: $(\$75 + \$250 + (4 \times \$100)) \div 6 = \120.83 .
- 87.** A. Kaylee and Alyssa are using the Monte Carlo analysis, which simulates the combined effects of individual project risks and other sources of uncertainty to determine their potential impact on the project objectives.
- 88.** B. Expected value can be calculated using a triangular distribution (simple average) or beta distribution (weighted average). The three-point estimating formula that uses a beta distribution is: $(\text{Optimistic} + \text{Pessimistic} + (4 \times \text{Most Likely})) \div 6$. Plug in the values provided to calculate the following: $(\$25 + \$50 + (\$35 \times 4)) \div 6 = \35.8 , or 36 when rounded to the nearest whole number.

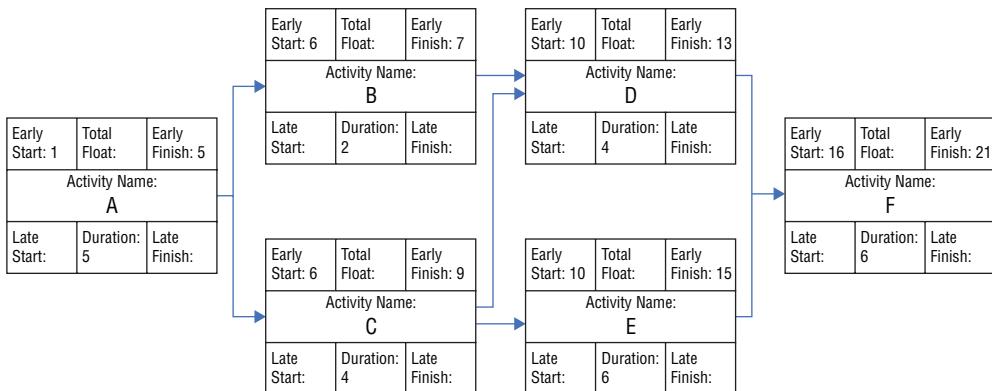
- 89.** B. Trudy and Roy are carrying out activities associated with the Plan Stakeholder Engagement process. The activity will yield the stakeholder engagement plan.
- 90.** C. The schedule management plan documents the method and approach for developing, managing, and controlling the project schedule.
- 91.** A. A phone conversation where a dialogue exchange occurs is a form of interactive communication. This type of communication involves multidirectional communication where two or more parties exchange thoughts or ideas.
- 92.** A. Alternatives analysis is part of the data analysis tool and technique, used in the Plan Scope Management process. This helps to consider the various ways of collecting requirements, elaborating on the scope, creating the product, and then validating and controlling the scope as work is carried out.
- 93.** B. Communications requirements analysis examines the information needs of the project stakeholders and considers the number of channels of communication. The communication technology tool and technique looks at methodologies for transferring information among stakeholders.
- 94.** B. The inputs of the Plan Communications Management process that the *PMBOK® Guide* notes as particularly important are lessons learned and historical information, which are part of the organizational process assets input.
- 95.** D. Communications requirements analysis, a tool and technique of the Plan Communications Management process, considers things such as company and departmental organization charts, stakeholder relationships, all the departments and disciplines involved in the project, the number of people associated with the project and their location, and any external needs like the media, government, or industry organizations requiring communication updates.
- 96.** A. There are 10 channels of communication, which is taken into consideration when using the communications requirement analysis tool and technique of the Plan Communications Management process. The formula for this is $5(5 - 1) \div 2$.
- 97.** B. The greatest expense for most projects is resources, both human and material and supplies.
- 98.** C. Cost baselines and schedule baselines are used to measure performance in the Executing and Monitoring and Controlling processes.
- 99.** B. According to the *PMBOK® Guide*, there are two levels of risk: individual project risk and overall project risk. An individual project risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives.
- 100.** C. Parametric estimating is a quantitatively based estimating method that multiplies the quantity of work by the rate or uses an algorithm in conjunction with historical data to determine cost, budget, or duration estimates. When the information is reliable, it yields an estimate that is high in accuracy.

101. C. You are performing the Determine Budget process. The purpose of this process is to aggregate the estimated costs of individual activities or work packages to establish an authorized cost baseline.
102. B. Outputs of the Define Activities process include the activity list, activity attributors, milestone list, change requests, and project management plan updates. The question has already indicated that the activity list has already been created, and the milestone list is the only viable option.
103. B. Kaylee has just carried out the Collect Requirements process and is likely to carry out the Define Scope process next.
104. C. The Determine Budget process establishes the cost baseline for the project and is an output of this process.
105. D. Warranty period costs are part of the Estimate Costs process, not Determine Budget.
106. D. According to the *PMBOK® Guide*, the purpose of the Plan Stakeholder Engagement process is to develop approaches to involve project stakeholders based on their needs, expectations, interests, and potential impacts on the project. This is the second process of the Project Stakeholder Management Knowledge Area.
107. D. Level of accuracy describes your rounding precision, and units of measure describes how you will measure resources, for example, days, weeks, months.
108. B. While the project management plan—the output of the Develop Project Management Plan process—may outline the approach to collecting the requirements, it does not contain the list of requirements themselves. Requirements are listed within the requirements documentation. All other statements are true.
109. B. The WBS serves as the basis for estimating costs. It is an input to the Estimate Costs process through the scope baseline, which is part of the project management plan. It contains all the project deliverables and the control accounts associated with work package elements.
110. B. Three-point estimating is the technique to use when you want to improve your estimates and account for risk and estimation uncertainty.
111. D. Walter Shewhart is considered to be the grandfather of TQM; he developed statistical tools to examine when a corrective action must be applied to a process.
112. C. According to the *PMBOK® Guide*, there are two levels of risk: individual project risk and overall project risk. An overall project risk is the effect of uncertainty on the project as a whole, arising from all sources of uncertainty.
113. D. You are carrying out the Create WBS process. The purpose of the process is to subdivide the project deliverables and project work into smaller, more manageable components.

- 114.** B. The Determine Budget process yields the cost baseline, project funding requirements, and updates to project documents. The project funding requirements represent the total funding requirements and periodic funding requirements of the project.
- 115.** A. You have documented the basis of estimates, which includes a description of how the estimates were derived, the range of possible results, constraints, and assumptions.
- 116.** A. The basis of estimates and project documents updates are both outputs of the Estimate Costs process.
- 117.** A. The performance measurement baseline is another term for the cost baseline when you're using earned value management techniques to determine costs.
- 118.** B. The funding requirements are derived from the cost baseline. Management reserve is released in increments throughout the project, and the funding requirements are an output of the Determine Budget process.
- 119.** D. The duration of a milestone is zero, marking a significant point in time—typically the start or completion of a major deliverable. Therefore, “Finish GUI” is not a milestone.
- 120.** C. The project budget includes the cost baseline. Option C has it backwards.
- 121.** B. Plan Stakeholder Engagement is concerned with effectively engaging stakeholders, understanding their needs and interests, understanding the good and bad things they bring to the project, and understanding how the project will impact them.
- 122.** D. You should develop a mitigation plan for installation and setup to reduce the probability and/or impact of this risk to the project. Option A is not correct because the sharing response strategy is a strategy for positive risks. This is a negative risk to the project.
- 123.** B. The activities list is a key element of the project schedule that will form the schedule baseline. According to the *PMBOK® Guide*, the scope baseline consists of the following: the project scope statement, WBS, work packages, planning packages, and WBS dictionary.
- 124.** A. Since you've identified the risks, you've completed the Identify Risks process.
- 125.** B. The risk probability and impact assessment tool and technique is used to determine the likelihood the risk will occur and the potential effects on project objectives. After performing the assessment, you'll determine risk scores or conditions (red, yellow, green) using the probability and impact matrix.
- 126.** D. The probability and impact matrix is not an input to the Perform Quantitative Risk Analysis process. It is used to prioritize risks, it's defined in the risk management plan, and it's used as a tool and technique in the Perform Qualitative Risk Analysis process.
- 127.** C. To calculate the critical path, you must first draw out the network diagram and then add the duration of each activity that falls within the individual network paths. Figure 2.4 shows the network diagram and the three network paths that exist within it. The following is the duration of each of those paths: A-B-D-F = 17, A-C-D-F = 19, A-C-E-F = 21.

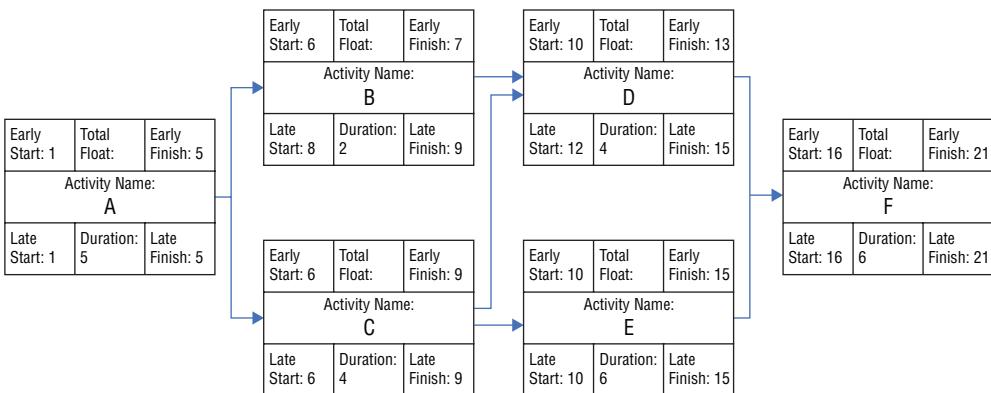
FIGURE 2.4 Network diagram: critical path

- 128.** C. To calculate the early finish of activity D, you would first need to perform a forward pass. To calculate forward pass, draw the network diagram and then follow these steps: 1. Begin with the first activity. 2. The calculation of the first activity begins with an early start date of 1. Add the duration of the activity and then subtract 1 to determine the early finish. This is based on the concept of calendar days. 3. The early start date of the next activity is the early finish date of the previous activity plus 1. Continue calculating the early start and early finish dates forward through all the network paths while following the existing dependencies. 4. When an activity has two connecting predecessors, the early start date would be the early finish of the predecessor that finishes last, plus 1. Figure 2.5 shows the network diagram with early start and early finish dates calculated.

FIGURE 2.5 Network diagram: forward pass

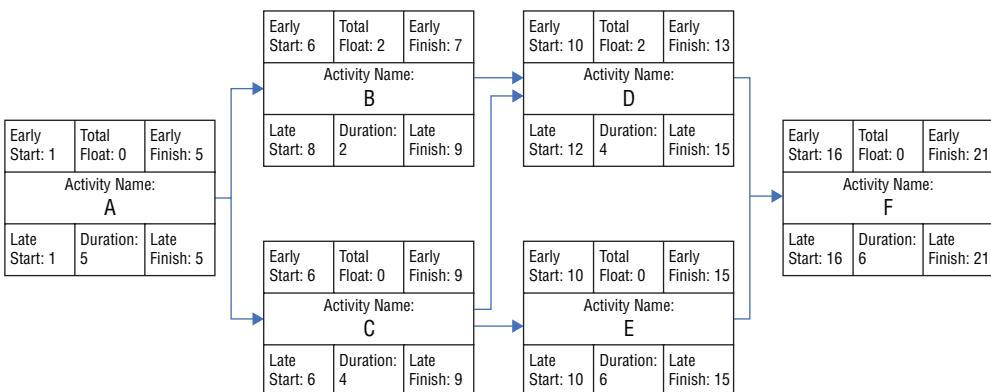
- 129.** A. To calculate the late start of activity C, you would first need to perform a forward pass and a backward pass. To calculate backward pass, draw the network diagram and perform a forward pass and then follow these steps: 1. Begin with the last activity. The late finish will be the same as the early finish date. 2. Subtract the duration of the activity from the end date and add 1 to calculate late start. Take this number and subtract 1 to calculate the late finish of its predecessors. 3. Continue calculating the latest start and latest finish dates, moving backward through all of the network paths. 4. When an activity has two connecting predecessors, the late finish date would be the late start minus 1 of the activity that follows. Figure 2.6 shows the network diagram with early start and early finish dates calculated.

FIGURE 2.6 Network diagram: backward pass



- 130.** A. Total float refers to the amount of time you can delay the earliest start of an activity without delaying the ending of the project. To calculate total float, you would first need to draw the network diagram and then perform a forward pass and a backward pass. Next, subtract either the early start from the late start or the early finish from the late finish (both should give you the same answer). Figure 2.7 shows the network diagram with total float calculated.

FIGURE 2.7 Network diagram: float



- 131.** A. Cost-reimbursable contracts go by various names, depending on certain terms used. They include: cost plus incentive fee, cost plus award fee, cost plus percentage of cost, and cost plus fixed fee.
- 132.** C. The Identify Risks process has data-gathering techniques that include brainstorming, checklists, and interviewing.
- 133.** A. The Estimate Costs process, not the Determine Budget process, utilizes several estimating techniques.
- 134.** D. Assessing risk probability is difficult because it relies on expert judgment; the other options listed are not used during this process.
- 135.** B. Mandatory dependencies are also known as hard logic or hard dependencies. In a mandatory dependency, the nature of the work itself dictates the order in which activities should be performed.
- 136.** B. You are in the process of carrying out the Collect Requirements process, which is part of the Planning process group.
- 137.** B. The lowest level of the WBS is the work package. Work packages are later decomposed further into activities as part of developing the schedule. Activities, however, are not considered to be part of the WBS.
- 138.** C. A fixed-price contract can either set a specific, firm price for the goods or services rendered or include incentives for meeting or exceeding certain contract deliverables. There are three types of fixed-price contracts: firm fixed-price, fixed-price incentive fee, and fixed-price with economic price adjustment.
- 139.** C. Tracking includes a description of how you'll document the history of the risk activities for the current project and how the risk processes will be audited. This section of the risk management plan is also helpful for lessons learned.
- 140.** D. Make-or-buy analysis is a tool and technique of the Plan Procurement Management process.
- 141.** C. Monte Carlo analysis examines risk from the perspective of the project as a whole.
- 142.** C. The procurement SOW can be prepared by either the buyer or the seller, but it is progressively elaborated throughout the procurement processes and will likely change prior to contract award.
- 143.** B. The analogous estimating technique is a form of expert judgment, which uses the actual duration of a similar activity completed on a previous project to determine the duration of the current activity. This means that Alyssa would rely on feedback from the subject-matter expert who noted that in a past similar project it took 13 hours to complete a similar activity.
- 144.** D. Data analysis is a tool and technique of the Estimate Costs process. There are several techniques that are part of data analysis, such as alternatives analysis. Other techniques include reserve analysis and cost of quality.

- 145.** A. A fallback plan, also referred to as a contingency plan, is a risk response strategy that is used when the initial response is not fully effective.
- 146.** C. The organizational breakdown structure, bill of materials, risk breakdown structure, and resource breakdown structure all present project information in a hierarchical fashion. The resource assignment matrix does not.
- 147.** A. Fixed-price incentive fee contracts are the best option when you need a well-defined set of deliverables for a set price and are including a bonus or incentive for early completion or exceeding expectations.
- 148.** D. According to the *PMBOK® Guide*, the requirements traceability matrix is a grid that links product requirements from their origin to the deliverables that satisfy them.
- 149.** B. The cost plus fixed fee contract reimburses the seller for his or her allowable costs and includes a fixed fee for completing the project as outlined in the terms of the contract.
- 150.** D. The RAM and RACI charts, which are included as a component of Organization Charts and Position Descriptions tool and technique, are a matrix-based chart.
- 151.** C. When using price alone as a criterion for selection, there should be more than one vendor who can supply the goods or services you are procuring. However, that doesn't mean you can't use additional criteria for source selection. You should include costs such as delivery and setup in the purchase price criterion.
- 152.** C. Fixed-price with economic price adjustment contracts are used for projects that are expected to span several years and allows for adjustments because of inflation, cost increases, and so on.
- 153.** A. RACI charts are part of the organization charts and position descriptions tool and technique of the Plan Resource Management process. They are matrix-based charts, but matrix-based charts are part of the organization charts and position descriptions tool and technique.
- 154.** A. The project team is participating in bottom-up estimating, which will produce activity cost estimates. This activity is associated with the Estimate Costs process. Basis of estimates may also be generated through this session; cost estimates, however, are the primary end outcome of the activity.
- 155.** B. There are two types of risk acceptance where no proactive risk response strategy is selected: passive and active acceptance. Active acceptance means that a contingency reserve will be set aside (whether time, money, or resources) to be used to address the consequences of the risk, if needed.
- 156.** B. The Plan Procurement Management process can influence the project schedule (and vice versa). The Estimate Activity Resources process, make-or-buy decisions, and the organization's business cycle may have an impact on the Plan Procurement Management process.
- 157.** A. This describes the cost-benefit analysis tool and technique of the Plan Quality Management process.

- 158.** A. According to the *PMBOK® Guide*, the project management plan describes how the project will be executed, monitored, controlled, and closed. It brings together all of the subsidiary management plans and baselines, as well as other information, to manage the project.
- 159.** D. Parametric estimating is a quantitatively based estimating method that multiplies the quantity of work by the rate or uses an algorithm in conjunction with historical data to determine cost, budget, or duration estimates. Based on this definition, take 1,320 and divide by 110 to get 12.
- 160.** C. The processes belonging to the Project Scope Management Knowledge Area include the following: Plan Scope Management, Collect Requirements, Define Scope, Create WBS, Validate Scope, and Control Scope.

Chapter 3: Executing (Domain 3.0)

- 1.** B. The project manager is currently performing the Direct and Manage Project Work process. Of the options provided, project management information system (PMIS) is the only tool or technique listed. The change log and approved change requests are inputs to the process, while work performance data is an output.
- 2.** B. The tools and techniques of the Develop Team process are colocation, virtual teams, communication technology, interpersonal and team skills (conflict management, influencing, motivation, negotiation, team building), recognition and rewards, training, individual and team assessments, and meetings. Emotional intelligence is a tool and technique of the Manage Teams process.
- 3.** C. This question describes the Manage Communications and Manage Stakeholder Engagement processes, respectively. There is no process called Information Distribution.
- 4.** A. Recognition and rewards are a tool and technique of the Develop Team process. Rewards should be in proportion to the achievement and linked to the performance. If you reward the same team members over and over again, it could be a morale killer for other team members.
- 5.** B. The solicitation stage is where vendors respond to the RFP.
- 6.** B. Information management systems are ways of distributing project information to the team. Electronic files are a method to store files and are not a distribution method.
- 7.** C. Expert power occurs when someone has a considerable amount of knowledge about a subject or has special abilities.
- 8.** D. All the options are part of the organizational process assets updates output of this process. Feedback from stakeholders can be used on the current project as well as future projects.

9. A. The organizational process assets output in this process consist of the following: stakeholder notifications, project reports, project presentations, project records, lessons learned documentation, and feedback from stakeholders.
10. A. The project manager and team are likely to execute the work associated with the approved change requests. These approved change requests are implemented through the Direct and Manage Project Work process.
11. B. According to the PMBOK® Guide, work performance data refers to the raw observations and measurements identified during activities being performed to carry out the project work. This occurs as a result of processes belonging to the Executing process group.
12. D. The Manage Communications process is concerned with ensuring timely and appropriate collection, creation, distribution, storage, retrieval, management, monitoring, and the ultimate disposition of project information.
13. B. The best response is transformational and legitimate. This leader is focusing on collaborating and influencing. She listens to your responses and then offers suggestions of her own. The situational style of leadership could have been a correct response to this question, but it wasn't an option. Her power of leadership is legitimate because of the position she holds.
14. B. This is describing a weighting system technique. Vendor B had a final score of 37, and vendor A had a final score of 26. For each vendor, multiply each score by its weight, and add the results to obtain that vendor's final score.
15. D. You must consider the characteristics of potential project team members, whether they're from inside or outside the organization. This question describes the enterprise environmental factors that should be considered as an input to Acquire Resources.
16. A. The Achievement Theory is attributed to David McClelland and says people are motivated by the need for power, achievement, and affiliation. Vroom introduced the Expectancy Theory, Herzberg introduced the Hygiene Theory, and McGregor is known for Theory X and Theory Y.
17. C. Proposal evaluation techniques are a tool and technique of this process. It is also an example of source selection criteria, which are an input to this process and may also include financial capacity and technical capability.
18. A. You are in the Executing processes, so therefore you are in the Manage Stakeholder Engagement process. This question describes interpersonal and team skills tool and technique for this process.
19. C. The project manager is performing the Manage Stakeholder Engagement process. This process includes activities such as engaging stakeholders at appropriate stages, managing their expectations through negotiation and communication, addressing risks or potential concerns related to their management and anticipating future issues, and clarifying and resolving issues identified.

20. B. Teams are made up of individuals, and individual development is a factor critical to project success.
21. C. The Manage Project Knowledge process, like most processes, is performed iteratively throughout the project's life cycle.
22. C. The project manager is performing activities related to the Manage Stakeholder Engagement process. Interpersonal and team skills, a tool and technique of this process, involves cultural awareness.
23. C. Implementing approved changes occurs as part of the Direct and Manage Project Work process, which is part of the Executing process group.
24. A. Colocation is also known as a tight matrix. These terms refer to placing many or all of the project team members physically together in the same place.
25. A. Directing, also referred to as forcing, is a conflict resolution technique where one's viewpoint is pushed at the expense of others. This is typically a win-lose solution.
26. A. Screening systems use predefined performance criteria or a set of defined minimum requirements to screen out unsuitable vendors.
27. A. The purpose of the Develop Team process is to improve competencies, team member interaction, and the overall team environment to enhance project performance.
28. D. Good leaders use referent power, which is inferred to them by their subordinates. They are visionaries and are concerned with the big picture, or strategic direction and plans. A project manager's primary goal is to satisfy stakeholder needs.
29. D. The negotiated draft contract is required as part of the selected sellers output.
30. B. According to the *PMBOK® Guide*, the issue log is used to promote communication with stakeholders. The issue log is part of the project documents updates output of this process.
31. C. The Executing process group has a total of 10 project management processes, and they are as follows: Direct and Manage Project Work, Acquire Resources, Develop Team, Manage Team, Implement Risk Responses, Manage Project Knowledge, Manage Quality, Manage Communications, Conduct Procurements, and Manage Stakeholder Engagement.
32. B. The lessons learned register, created out of the Manage Project Knowledge process, records information about situations that have occurred within the project, including recording challenges, problems, realized risks and opportunities, and other information relevant for future reference. While "project documents" is a technically accurate answer, "lessons learned register" is a more specific answer.
33. B. Nicolas used the stakeholder engagement plan as part of carrying out the Manage Stakeholder Engagement process activities. The stakeholder engagement plan is a key input to this process, and it documents identified strategies and actions required to promote productive involvement of stakeholders.

- 34.** B. Expert power occurs when the person being influenced believes the person doing the influencing, typically because they are knowledgeable about the subject or have special abilities that make them an expert.
- 35.** D. Quality improvements come about as a result of quality audits, which are a tool and technique of the Manage Quality process. Quality improvements are implemented by submitting change requests and/or taking corrective action.
- 36.** A. These team members are confrontational with each other and are trying to find their position within the team and their standing with you. This describes the storming stage of team development.
- 37.** A. The Manage Stakeholder Engagement process has three outputs: change requests, project management plan updates, and project documents updates. The issue log is a project document and is updated as part of the project documents updates output of this process.
- 38.** A. Work performance data involves gathering, documenting, and recording the status of project activities, including those noted in this question.
- 39.** D. This question describes the enterprise environmental factors input of the Acquire Resources process and refers to the Responsibility section of the *PMI Code of Ethics and Professional Conduct*. Responsibility is concerned with making decisions that are for the good of the organization.
- 40.** C. Referent power refers to power that is inferred to the influencer by their subordinates. For example, project team members may have a high level of regard for their project manager and therefore willingly go along with a decision that the PM makes. Formal power is also known as legitimate power, not referent power.
- 41.** A. Deliverables are an input, not an output, of the Manage Project Knowledge process. The remaining options represent all outputs of the process.
- 42.** C. One of the most important criteria for evaluating sellers is to determine whether they have a clear understanding of what you're asking them to do or perform. Information such as past performance, financial records, and predetermined performance criteria are also important, but only after you are sure they have a clear understanding of what you're asking them to do.
- 43.** D. It is the processes within the Monitoring and Controlling process group that track, review, and regulate the progress and performance of the project, not the Executing processes.
- 44.** D. The project team members, project manager, and the stakeholders are all equally responsible for the quality assurance of the project.
- 45.** A. Corrective actions are taken as a result of comparing and monitoring project performance against the baseline. The baseline is the project management plan. Deviations that are discovered during the course of the project may or may not require corrective actions. Preventive actions are taken to reduce the probability of negative consequences, and defect repairs are submitted to correct product defects.

- 46.** C. The Expectancy Theory proposes that the expectation of a positive outcome drives motivation. Motivation may drive negative behaviors as well as positive ones. The Responsibility domain covers several elements including the following: ensuring integrity, accepting assignments, laws and regulations compliance, and confidential information. Accepting assignments concerns being honest about your qualifications, and fudging your experience is dishonest.
- 47.** A. Legitimate power, also known as formal power, comes about as a result of the influencer's position. For example, team members may agree to go along with an executive simply as a result of their position.
- 48.** C. The stages of team development are as follows: forming, storming, norming, and performing. This model was developed by Tuckman-Jensen, and whenever a new member is added, the team reverts to the forming stage of development.
- 49.** B. The requisition stage is where the procurement documents are prepared (not the responses to them) and is associated with the Plan Procurement Management process. The two outputs that become inputs are procurement documentation and source selection criteria.
- 50.** A. Flowcharts, a tool and technique of the Manage Quality process, show a series of steps that lead to a defect. Flowcharts are part of data representation.
- 51.** B. The Contingency Theory proposes that people are motivated to achieve levels of competency and will continue to be motivated even after the competency is reached. The area of the role delineation study this question refers to is contributing to the project management knowledge base.
- 52.** D. The team is currently in the storming phase of Tuckman's team development model. In this phase, the team members begin to address the project work and are not yet collaborative or open with each other.
- 53.** D. According to the *PMBOK® Guide*, quality is everyone's activities, including the project manager, project team, project sponsor, and organization's management.
- 54.** C. The Acquire Resources process is concerned with all resources for the project, both existing staff members and consultants or external staff. The procurement processes are used to obtain the staff members, and the Acquire Resources process involves attaining and assigning resources.
- 55.** C. Quality assurance may be provided by a third party from outside the organization, by an internal QA department, or by the project team. There is no general rule that it is generally provided by outside sources. According to the *PMBOK® Guide*, project managers have the greatest impact on quality during this process.
- 56.** C. This question describes a transactional leadership style. Transactional leaders are autocratic, activity focused, and autonomous; they use contingent reward systems and manage by exception.

- 57.** A. This question describes a manager, not a leader. The Responsibility domain covers the concept of confidential information.
- 58.** D. Quality reports, an output of the Manage Quality process, typically include quality management issues escalated; recommendations for process, project, and product improvements; corrective actions recommendations; and summary of quality control findings.
- 59.** A. The organizational process assets input for the Acquire Resources process considers things such as the organization's recruitment procedures and processes. You hired your friend on the spot, so important steps in the process could have been missed. Pre-assignment is when resources are assigned prior to the project start.
- 60.** A. The tools and techniques of the Manage Stakeholder Engagement process are the following: expert judgment, communication skills (feedback), interpersonal and team skills (conflict management, cultural awareness, negotiation, observation/conversation, political awareness), ground rules, and meetings. Communication skills, while valuable, are a tool and technique used in the Monitor Stakeholder Engagement process.
- 61.** B. Within a project environment, conflict is inevitable. The key is how conflict is dealt with and managed.
- 62.** A. This process is used only if you are obtaining goods and services outside the organization.
- 63.** B. Kaylee and Alyssa used the collaborate technique, also referred to as problem-solving. This technique involves getting multiple viewpoints from differing perspectives and reaching consensus and commitment after having an open dialogue. It is considered a win-win conflict-resolution technique.
- 64.** A. Virtual teams may not work in the same location, but they all share the goals of the project and have a role to fulfill.
- 65.** A. According to the *PMBOK® Guide*, quality assurance is most concerned with using project processes effectively. This includes assuring stakeholders that the end result of the project will meet their needs and expectations.
- 66.** C. In the performing phase, the team members reach the point where they are performing as a well-organized unit; they are interdependent, and they work well through the issues. Other options describe the forming, storming, and norming phases.
- 67.** D. Theory Y managers believe that people will give you their best if they know what's expected of them and they have the proper motivation.
- 68.** B. This question describes inputs and tools and techniques of the Manage Quality process. All of these options are correct, but the most important point to remember about this process is that the quality processes you use will help make certain the project satisfies the quality standards as outlined in the project management plan.
- 69.** D. Composite resource calendars are a type of resource calendar and are an output of the Acquire Resources process that includes availability and skills and abilities.

70. C. The question describes the Develop Team process, and that's also where the stages of team development are described.
71. C. According to the *PMBOK® Guide*, project teams spend effort in identifying and analyzing risks and developing risk responses but then take no action in managing the risk.
72. C. The Direct and Manage Project Work process is responsible for implementing approved change requests, not approving them. Change requests are processed through the Perform Integrated Change Control process.
73. A. Conduct Procurements is the process where proposal evaluation (through the data analysis tool and technique) is used to choose a seller and award a contract.
74. A. The project management plan is a compilation of plans and baselines and is considered to represent the project baseline. Once work is executed, progress will be measured against this plan.
75. C. The Executing process group is where you should compare and monitor project performance against the baseline in order to implement corrective actions at the right time. The primary focus of the Monitoring and Controlling process group is to take measurements and perform inspections to find out whether there are variances in the plan.
76. C. Of the options presented, the Implement Risk Responses process is the best option of those presented. While some risk responses are implemented when risk triggers occur, others are implemented immediately to avoid or exploit a risk.
77. B. Team performance assessments are an output of Develop Team process, not Acquire Resources.
78. A. This question refers to the data analysis tools and techniques in the Manage Quality process.
79. D. This question describes the Direct and Manage Project Work process. Approved changes are one of the inputs of this process. The daydream involves a conflict-of-interest situation. Thank goodness it was only a dream.
80. A. Smoothing, also known as accommodating, emphasizes areas of agreement rather than areas of difference.
81. B. Manage Communications is concerned with ensuring the timely and appropriate collection, creation, distribution, storage, retrieval, management, monitoring, and ultimate disposition of project information. In this scenario, the project manager is utilizing communication skills.
82. C. This question describes the affinity diagram, which is a data representation tool and technique. Affinity diagrams pinpoint which areas should get the most focus by grouping related potential causes of defects.

- 83.** B. You are in the Manage Quality process and have performed a quality audit. Quality audits are performed to determine inefficient or ineffective processes, policies, procedures, and guidelines and, when performed correctly, determine if the product is fit for use, if applicable laws and standards are followed, if corrective actions are necessary, and more.
- 84.** D. According to the *PMBOK® Guide*, corrective action is an intentional activity that realigns the performance of the project work with the project management plan; in other words, it's work that brings the project back in line with the plan.
- 85.** B. Approved change requests are an input to the Direct and Manage Project Work process. This process will be repeated in order to implement the change. Approved change requests come about as a result of the approved change requests output of the Perform Integrated Change Control process. There is not enough information in the question to determine if the scope has increased, so neither C nor D is correct.
- 86.** C. The tools and techniques of the Acquire Resources process are: pre-assignment, interpersonal and team skills (negotiation), virtual teams, and decision-making (multicriterion decision analysis). Resource calendars are an output of this process.
- 87.** C. The matrix diagrams tool includes two-dimensional and three-dimensional diagrams. It is a part of the data representation tools and techniques of the Manage Quality process.
- 88.** B. The risk register contains the list of identified risks and all information documented about them, including the risk response plans. As risk triggers occur, they will need to refer to the risk register for information about the risk response plans.
- 89.** B. This question describes the Acquire Resources process because it states you will be hiring virtual team members from across the globe. Virtual teams are a tool and technique of this process. Because of the diversity of the team, you should pay particular attention to cultural awareness and perhaps provide diversity training.
- 90.** C. Conflict resolution techniques include the following: withdraw/avoid, smooth/accommodate, compromise/reconcile, force/direct, collaborate/problem-solve.
- 91.** B. Advertising is a tool and technique of the Conduct Procurements process. It helps to expand the list of possible sellers that the team can choose from. The end result is, ideally, a decision about which sellers will be selected to provide the needed goods or services. All other options provided in the question are outputs of the Plan Procurement Management process.
- 92.** A. Since the question states you are meeting to discuss details of the contract, you are using the procurement negotiation tool and technique, which is part of interpersonal and team skills. Proposal evaluation is used prior to deciding among multiple responses. Procurement negotiations are used to come to agreement on the contract.
- 93.** A. Change requests are typically a means of taking corrective or preventive actions or performing defect repairs. Updates to project documents will typically occur as a result of implementing a change request.

94. D. The scenario notes that two critical activities are already delayed, meaning that an issue has been identified and must be addressed. While updates to the plan are likely, they will be the result of corrective action taken.
95. B. Rewards and recognition systems are formal ways of promoting desirable behavior.
96. C. This team member seems to have a problem with interpersonal skills, which is a tool and technique of the Develop Team process.
97. C. Managing quality is sometimes referred to as quality assurance. Manage Quality is a process within the Project Quality Management Knowledge Area. According to the *PMBOK® Guide*, the term *manage quality* is meant to encompass a broader meaning, including representing non-project work.
98. B. Alyssa is in the process of performing the Develop Team process. This process is concerned with improving competencies, team member interaction, and the overall team environment to enhance project performance.
99. B. Completing a quality audit may lead you to the conclusion that a change request is needed, but you must submit a change request and/or take corrective action to implement the quality improvement.
100. D. The primary input of the Conduct Procurements process is procurement documentation. Procurement documentation contains responses to RFPs, RFIs, and so on, and the responses are prepared by the seller of the product or services. This is an output of the Plan Procurement Management process.
101. D. This question describes the Conduct Procurements process. Make-or-buy decisions is one of the inputs of this process, and bidder conferences and proposal evaluation techniques are two of the tools and techniques of this process. Since you know the vendor, even though you haven't seen this person recently, you should be concerned about a conflict-of-interest situation.
102. B. Theory Z was developed by Dr. William Ouchi. This theory is concerned with increasing employee loyalty to their organizations. This theory results in increased productivity, it puts an emphasis on the well-being of the employees both at work and outside of work, it encourages steady employment, and it leads to high employee satisfaction and morale.
103. A. An agreement is a mutually binding agreement that obligates the seller to provide a specific set of products, services, or results. It typically contains a lot of information, such as the procurement statement of work or major deliverables, when the goods or services will be produced, reporting, associated terms, and other relevant information. Agreements are an output of the Conduct Procurements process.
104. A. This team member is describing the self-actualization level of Maslow's Hierarchy of Needs.
105. B. While the project management plan is technically a correct answer, the question specifically refers to the resource management plan (a component of the project management plan).

- 106.** A. This describes the adjourning stage of team development.
- 107.** A. As a project manager, it is your responsibility to contribute to the project management knowledge base, which includes educating others on project management practices. Independent estimates is a tool and technique of the Plan Procurement Management.
- 108.** D. This question describes the process analysis tool and technique. Process analysis looks at process improvements from an organizational and technical perspective. It examines problems and constraints experienced while conducting the work of the project, and it identifies inefficient and ineffective processes.
- 109.** A. Withdrawal happens when one of the parties leaves and/or refuses to discuss the conflict. This is a lose-lose conflict-resolution technique and never results in a resolution.
- 110.** A. The Expectancy Theory, proposed by Victor Vroom, states that the expectation of a positive outcome drives motivation. In other words, people will behave in certain ways if they think there will be good rewards for doing so.
- 111.** B. This question references the Manage Communications process, which is responsible for ensuring the timely distribution of project information. Project management plan, project documents, work performance reports, enterprise environmental factors, and organizational process assets are all inputs of the process. The remaining options presented are tools and techniques of the process, not inputs.
- 112.** A. Collaborate is also called problem-solving and should be the technique most commonly used by project managers.
- 113.** C. The team is currently in the norming stage, where they are working together well and where team members adjust their work habits and behaviors to support the team.
- 114.** B. You are in the Manage Quality process. This process is responsible for translating the quality management plan into executable-quality activities that incorporate the organization's quality policies into the project.
- 115.** D. You could conduct a team celebration, thank your team members for their contributions, and guide them through a closure process.
- 116.** C. Receivers are the ones who filter information they receive through their knowledge of the subject, cultural influences, language, emotions, attitudes, and geographic locations. Senders should keep this in mind when preparing their messages. Senders are responsible for communicating the information clearly and concisely, and receivers are responsible for understanding the information correctly.
- 117.** A. Enterprise environmental factors are both internal and external factors that can influence or impact a project. In the Acquire Resources process, enterprise environmental factors is a key input that represents existing information on organizational resources, such as availability, experience levels, interests, costs, and competence levels.
- 118.** D. Activities such as team building, motivating, and recognition and rewards are a means of improving teamwork, motivating employees, reducing attrition, and improving overall project performance.

- 119.** A. The question describes two different levels of Maslow's Hierarchy of Needs: social needs and self-esteem needs.
- 120.** C. You should always maintain respect and professional demeanor when interacting with others. You can't control their actions, but you can control your own. This question refers to the Conduct Procurements process. Procurement negotiation is a tool and technique of this process.
- 121.** C. Rianna is currently performing the Manage Team process. This process is concerned with tracking team member performance, providing feedback, resolving issues, and managing team changes to optimize project performance.
- 122.** B. The Hygiene Theory states that hygiene and motivators are the two factors that contribute to motivators. Hygiene factors deal with work environment issues. Motivators deal with the substance of the work itself and the satisfaction one derives from performing the functions of the job.
- 123.** C. Douglas McGregor defined two models of worker behavior, Theory X and Theory Y, that attempt to explain how different managers deal with their team members. Theory X managers believe most people do not like work and will try to steer clear of it; they believe people have little to no ambition, need constant supervision, and won't actually perform the duties of their job unless threatened.
- 124.** B. This question describes the characteristics of an effective team.
- 125.** D. This question describes the collaborate/problem-solve style of conflict resolution. This style allows for discussion of multiple viewpoints and the examination of all perspectives of the issue.
- 126.** B. The Tuckman ladder, developed by Bruce Tuckman, is a team development model that identifies the various stages of development that a team goes through together.
- 127.** C. According to the *PMBOK® Guide*, virtual teams can be defined as groups of people with a shared goal who fulfill their roles with little or no time spent meeting face to face.
- 128.** D. The best answer to this question is Theory Y. Theory Y managers believe people are interested in performing at their best, given the right motivation and proper expectation. They support their teams, are concerned about team members, and are good listeners.
- 129.** A. This question lists all the outputs of the Manage Stakeholder Engagement process. The issue log is used more like an action item log in this process.
- 130.** A. This question describes expert power on the part of the brilliant teammate and a democratic leadership style because team members were asked for input before a decision was made.
- 131.** A. Rianna is currently performing the Manage Team process, which includes managing conflict. This process is concerned with tracking team member performance, providing feedback, resolving issues, and managing team changes to optimize project performance.

- 132.** A. The question refers to the Direct and Manage Project Work process, which is responsible for leading and performing the work defined in the project management plan and implementing any changes that have been approved. This is where the project manager provides the overall management of the work being executed. Inputs to this process include the project management plan, project documents, approved change requests, enterprise environmental factors, and organizational process assets. Expert judgment is a tool and technique, while issue log and work performance data are outputs of the process.
- 133.** B. According to the *PMI Code of Ethics and Professional Conduct*, you should always report the truth regarding project status. This question refers to the Manage Communications process. All of the tools and techniques of this process are listed in the opening of the question.
- 134.** A. This question describes the deliverables output of the Direct and Manage Project Work process.
- 135.** B. Knowledge can be split into explicit or tacit knowledge. Tacit knowledge refers to knowledge that is difficult to express, such as insights, experience, beliefs, and know-how.
- 136.** D. Most conflicts in the Manage Team process come about as a result of scheduling issues, availability of resources, or personal work habits.
- 137.** C. The Contingency Theory is a combination of Theory Y and the Hygiene Theory. It states that people are motivated to achieve levels of competency even after competency is reached.
- 138.** C. Manage communications outputs include project communications, project management plan updates, project documents updates, and organizational process assets updates.
- 139.** B. You have just performed the Acquire Resources process, which is a process belonging to the Project Resource Management Knowledge Area. The process that is likely to follow, based on the options provided, is the Develop Team process.
- 140.** B. Direct and Manage Project Work is where the work of the project is performed. Activities are clarified, the work is authorized to begin, and resources are committed to the project and the work performed.
- 141.** C. The Conduct Procurements process results in selected sellers, agreements, change requests, and updates to the project documents and project management plan. The Acquire Resources process is responsible for acquiring internal resources, while the Conduct Procurements process focuses on acquiring external ones.
- 142.** A. The Role Delineation Study covered in the *PMI Code of Ethics and Professional Conduct* covers four areas, including promoting interaction among team members and other stakeholders. This question describes the purpose of the Manage Stakeholder Engagement process.

143. C. Maslow's Hierarchy of Needs notes that there are five sets of needs that must be met in the following hierarchical order: basic physical needs, safety and security needs, social needs, self-esteem needs, self-actualization. The idea is that these needs must be met before the person can move to the next level of needs in the hierarchy.
144. A. Legitimate, or formal, power comes as a result of the influencer's position.
145. D. A purchase order, memorandum of understanding, agreement, and subcontract are all terms for a contract according to the *PMBOK® Guide*.
146. A. The Tuckman ladder, developed by Bruce Tuckman, is a team development model that identifies the various stages of development that a team goes through together.
147. D. The communications management plan is implemented during the Manage Communications process, which is the process this question describes.
148. B. The Manage Team process has several inputs, including the following: resource management plan (through the project management plan), project documents (issue log, lessons learned register, project team assignments, team charter), team performance assessments, work performance reports, enterprise environmental factors, and organizational process assets. Project management information system is a tool and technique of this process.
149. B. McClelland is behind the Achievement Theory, which states that people are motivated by achievement, power, and affiliation.
150. C. The elements of communication involve senders, receivers, and messages. The communication model, a tool and technique of the Manage Communications process, includes encoding, decoding, acknowledging, and feedback/response. Verbal and written are forms of communication.
151. D. Project team assignments are an output of the Acquire Resources process, not an input. All other options presented are inputs of the process.
152. A. Team performance assessments are an output of this process and involve determining and documenting a team's effectiveness.
153. D. Face-to-face meetings are effective, but this statement is not true regarding status review meetings.
154. B. This describes the interpersonal and team skills tool and technique of the Acquire Resources process, which encompasses negotiation.
155. D. Maslow's Hierarchy of Needs notes that there are five sets of needs that must be met in the following hierarchical order: basic physical needs, safety and security needs, social needs, self-esteem needs, self-actualization. The idea is that these needs must be met before the person can move to the next level of needs in the hierarchy.
156. A. Knowledge can be split into explicit or tacit knowledge. Explicit knowledge refers to knowledge that can be codified using pictures, numbers, or words.

- 157.** A. The Manage Team process has two tools and techniques: interpersonal and team skills and project management information system.
- 158.** D. A project manager or other stakeholders may use various types of power to get work done. Punishment, expert, legitimate, and referent are all types of power.
- 159.** A. You have just performed a quality audit and identified a need for a corrective action.
- 160.** C. The Manage Team process is concerned with individual team members and their performance. Manage Resource Plan is not a valid process.
- 161.** C. The question refers to a key input of the Direct and Manage Project Work process, which is a process that provides overall management of the project work and deliverables. While several inputs are important, without the approved change requests, you cannot complete the activities referenced in the question.

Chapter 4: Monitoring and Controlling (Domain 4.0)

- 1.** A. Change control systems are a subset of the configuration management system. Configuration management systems are a subset of the project management information system.
- 2.** C. The Direct and Manage Project Work process—part of the Executing process group—is responsible for the execution of the work, not the Monitor and Control Project Work process.
- 3.** C. This question describes the Validate Scope process. The tools and techniques of this process are inspection and decision-making.
- 4.** A. The question describes the Monitor Communications and Monitor Stakeholder Engagement processes. Both processes evaluate the results of communication and stakeholder engagement activities and compare them against the desired outcomes. Based on the comparison, adjustments to these activities may be made.
- 5.** A. To calculate schedule variance, subtract planned value from earned value ($SV = EV - PV$): $\$500 - \$700 = -\$200$. A negative schedule variance means that the project is behind schedule.
- 6.** B. Claims administration involves documenting, monitoring, and managing contested changes. Contested changes are resolved using alternative dispute resolution processes, such as arbitration, when parties cannot reach an agreement.
- 7.** B. Work performance information is a key input that the project manager needs to evaluate performance against the plan (another key input in and of itself). Work performance data, on the other hand, represents raw data that is used in executing the work; it later becomes information as it is analyzed against baselines through other

processes that belong to the Monitor and Control process group. The remaining two options are tools and techniques of the process, not inputs.

8. A. ETC when variances are atypical is BAC – EV.
9. D. The tools and techniques of the Perform Integrated Change Control process are expert judgment, change control tools, data analysis, decision-making, and meetings.
10. B. A TCPI of 1.0 means that the project must continue performing at its current level of efficiency to complete within specified targets.
11. A. The purpose of the Control Costs process is to monitor the status of the project to update the project costs and manage changes to the cost baseline. It is the Determine Budget process, not Control Costs, which aggregates estimates to establish an authorized cost baseline.
12. A. The formula for CPI is $EV \div AC$; therefore, $\$114 \div \$103 = 1.1$. The formula for SPI is $EV \div PV$; therefore, $\$114 \div \$120 = .95$.
13. D. The project manager has just completed the Direct and Manage Project Work process, eliminating this as the best option. Although the Executing and Monitoring and Controlling processes are iterative and overlap, the best choice of those presented is the Monitor and Control Project Work process. This process is responsible for tracking, reviewing, and reporting overall progress against the plan. In this case, results and performance of the deliverable produced will be evaluated against the plan. While it is possible that change control is another process that will be performed (many times on any given project), you do not have sufficient information to select this as the best option.
14. B. Carina is using the earned value analysis technique of the Control Costs process. Earned value analysis compares the performance measurement baseline against actual performance, such as actual schedule progress and costs.
15. B. David is currently performing the Validate Scope process. This process is responsible for formalizing the acceptance of the completed project deliverables.
16. D. The most common formula for EAC is $AC + \text{bottom-up ETC}$. Plugging in the numbers from the question, you get $\$138 + \$62 = \$200$.
17. D. Inspection may involve a simple or physical review of the work performed by a contractor. It is structured in nature and is meant to ensure that a mutual understanding exists of the work in progress.
18. D. LaFawnduh is performing the Monitor Stakeholder Engagement process. Specifically, she is using the multicriteria decision analysis tool, which is a subset of the decision-making tool and technique of the process.
19. C. The Monitoring and Controlling process group has a total of 12 processes. Note that the majority of these processes have either the word *Control* or *Monitor* within their names, providing a helpful hint if asked this question on the exam. Other processes belonging to this process group include the following: Control Scope, Control Schedule, Control Costs, Control Quality, Control Resources, Monitor Communications, Monitor Risks, Control Procurements, and Monitor Stakeholder Engagement.

- 20.** B. Approved change requests are an output of the Perform Integrated Change Control process.
- 21.** B. Sally failed to keep Roshoud, as the project sponsor, informed and up to date. The scenario notes that he heard of the resource gaps and had to approach Sally to get clarification.
- 22.** D. Since EAC is based on actual costs to date, and assuming ETC work will be completed at the budgeted rate, the equation to use for EAC is $EAC = AC + (BAC - EV)$. In this case, your formula looks like this: $\$425 + (\$900 - \$475) = \850 .
- 23.** A. The outputs of the Validate Scope process are accepted deliverables, work performance information, change requests, and project documents updates. Deliverables are verified as part of the Control Quality process.
- 24.** A. Claims administration is a tool and technique of the Control Procurements process. This involves documenting, monitoring, and managing contested changes to the contract. Specifically, the project manager in this scenario is using arbitration, which involves bringing all parties to the table with a third, disinterested party who is not a participant in the contract to try to reach an agreement.
- 25.** C. The formula for TCPI when targeting EAC is as follows: $TCPI = (BAC - EV) \div (EAC - AC)$. Plug in the values to get the following: $(\$15,000 - \$10,000) \div (\$17,000 - \$12,000) = \$1.0$.
- 26.** A. This is the estimate to complete (ETC) calculation, which will estimate the remaining work of the project. The ETC calculation is part of the forecasting tool and technique of the Control Costs process.
- 27.** D. This question describes the project documents updates output of this process. In addition to the documents stated in the question, this output updates supporting schedules and approved and unapproved changes.
- 28.** D. Cost forecasts is an output of the Control Costs process, not a tool and technique. Tools and techniques of the process include the following: expert judgment, data analysis (earned value analysis, variance analysis, trend analysis, reserve analysis), to-complete performance index, and project management information system.
- 29.** B. The Control Procurements process is responsible for managing procurement relationships, monitoring contract performance, making changes and corrections as appropriate, and closing out contracts. Once changes are processed through the change control board (via the Perform Change Control Process), they are applied through the Control Procurements process.
- 30.** C. The to-complete performance index (TCPI) is the projected cost performance the remaining work of the project must achieve in order to meet the BAC or EAC.
- 31.** C. The change control board is officially chartered and given the authority to approve or deny change requests as defined by the organization and as outlined within the project management plan. The authority level (including exception or emergency process) should be detailed within the project management plan.

- 32.** B. Earned value (EV) is the value of the work that's actually been completed. Planned value (PV) is the budgeted amount planned for work to be completed during a given time period, and actual cost (AC) is the cost of work completed during a given time period. EAC is a forecasting technique that is an estimate of the expected total cost of a work component.
- 33.** D. The purpose of the Monitor Risks process is to monitor risk response plans, track identified risks, identify and analyze new risks, and evaluate the effectiveness of the risk processes. As part of carrying out this process, risk review meetings may be held to examine and document the effectiveness of risk responses in dealing with overall project risks and individual project risks.
- 34.** D. The procurement documentation contains a variety of useful information relating to the agreement signed with a vendor, including the statement of work, payment information, performance information, and any other correspondence with the vendor. While the project management plan and agreement are two other key inputs, they alone do not provide sufficient information for the meeting with Nicolas. This type of discussion and analysis occurs as part of performing the Control Procurements process, and procurement documentation is a key input of the process.
- 35.** B. The change control board (CCB) is responsible for reviewing all change requests and approving them or denying them. They are sometimes also known as a *technical assessment board*, *technical review board*, or *engineering review board*.
- 36.** B. The performance measurement baseline consists of the schedule, scope, and cost baseline. The cost baseline does not include management reserves; therefore, the PMB does not include them.
- 37.** A. This question describes the Monitor Stakeholder Engagement process. Keeping stakeholders engaged will help overall project success, and it will keep them up to date on issues and status.
- 38.** C. This describes a risk review, which is a tool and technique used within the Monitor Risks process, as part of “meetings” held. According to the *PMBOK® Guide*, risk reviews are scheduled regularly and should evaluate and capture whether risk responses implemented are effective in dealing with identified project and individual risks.
- 39.** B. There are several viable options included, most notably Control Schedule and Control Resources. Since the project manager is presently negotiating for resources, the best option is the Control Resources process. As part of this process, the project manager uses their interpersonal and team skills to influence and negotiate for resources.
- 40.** D. Trend analysis is a mathematical formula used to forecast future outcomes and predict project trends. It is not a tool for analyzing how problems occur. It is part of the data analysis tool and technique of the Control Costs process.
- 41.** B. Trend analysis is part of the data analysis tool and technique. It is used to determine whether project performance is improving or worsening over time.

- 42.** D. Control Procurements is the third and last of the processes that belong to the Procurement Management Knowledge Area.
- 43.** D. You are currently performing activities associated with the Control Schedule process, which is part of the Monitoring and Controlling process group.
- 44.** D. While Monitor and Control Project Work represents another great option, David is likely to place extra emphasis on the Control Scope process. This process ensures that the approved scope, and only the approved scope, is completed. Any changes are managed according to the formal change control process.
- 45.** C. Scope changes might affect the schedule, cost, quality, and other processes and should be thoroughly integrated with all the Monitoring and Controlling processes. Scope changes may reduce the project requirements and thus reduce the number or hours needed to complete the project. This, in turn, could cause a reduction in the project budget.
- 46.** C. Inspection is an important tool and technique of the Validate Scope process. The purpose is to inspect work and deliverables to ensure that they meet requirements and product acceptance criteria. If the deliverables pass inspection and receive sign-off, they are formally considered accepted deliverables—a major output of this process.
- 47.** C. This question describes the Monitor Stakeholder Engagement process. The tools and techniques of this process are data analysis, decision-making, data representation, communication skills, interpersonal and team skills, and meetings. Ground rules are a tool and technique of the Manage Stakeholder Engagement process.
- 48.** A. Leads and lags are adjusted during the Control Schedule process and are typically not established here for the first time. Leads and lags are first considered as part of performing the Sequence Activities process and again later in the Develop Schedule process.
- 49.** C. The main purpose of the Control Quality process tools and techniques is to examine the product, service, or result as well as the project processes for conformity to standards. They are used with the Plan-Do-Check-Act cycle to help identify and resolve problems related to quality defects.
- 50.** D. Both processes are responsible for carrying out closure activities when it comes to procurements. The closed procurements output is a result of Control Procurements, where completed requirements are validated against the contract; administrative closure of procurements occurs through the Close Project or Phase process, including archiving related documentation.
- 51.** B. Attributes sampling is an inspection measurement technique with only two possibilities: conforming or nonconforming. In other words, the measurements conform (meet the requirement), or they do not conform. This can also be considered a pass/fail or go/no-go decision.
- 52.** D. To calculate schedule variance, subtract planned value from earned value ($CV = EV - AC$): $\$500 - \$450 = \$50$. A positive cost variance means that the project is under budget.

53. B. To calculate EAC when the future work will be accomplished at the planned rate, use the following formula: AC + BAC – EV. Plug in the values provided in the question to arrive at the following: $\$15,000 + \$20,000 - \$18,000 = \$17,000$.
54. D. Configuration status accounting is an activity that is associated with the configuration management system. This activity documents and stores the status of changes and the information needed to effectively manage product information.
55. C. According to the *PMBOK® Guide*, the purpose of the Control Schedule process is to monitor the status of the project to update the project schedule and manage changes to the schedule baseline.
56. A. Technical performance analysis compares the technical accomplishments of project milestones completed during the Executing process to the technical milestones defined in the project Planning process. This type of analysis is a tool and technique of the Monitor Risks process.
57. B. This question describes the change control tools tool and technique of this process. Change control tools help in managing this process by tracking and recording change requests, recording decisions regarding their disposition, and distributing the change request decisions to appropriate stakeholders.
58. A. The tools and techniques of the Monitor Communications process include expert judgment, project management information system, data representation, interpersonal and team skills, and meetings. The other options are used to carry out the other two communications-related processes.
59. C. The project manager is responsible for ensuring that changes are managed properly throughout the project's life cycle and that the organization's change control policies are followed.
60. B. Common causes of variances are the result of random variances, known or predictable variances, or variances that are always present in the process.
61. D. To calculate variance at completion, subtract the estimate at completion from the budget at completion (BAC – EAC): $\$550,000 - \$525,000 = \$25,000$.
62. B. Work performance information includes information regarding the status of risks (in the case of the Monitor Risks process), the status of change requests, and more. Work performance data and work performance reports are both inputs to this process.
63. D. The Control Procurements process is responsible for managing procurement relationships, monitoring contract performance, making changes and corrections as appropriate, and closing out contracts.
64. B. Reporting templates, communication policies, communication technologies, and security issues surrounding data, communicating methods, and records retention policies are all part of the organizational process assets input of the Monitor Communications process, not the project communications input.

- 65.** B. The question describes the Monitor Communications process. This process involves ensuring the information needs of the project and its stakeholders are met; the project manager determines whether the communications planned are achieving the desired results.
- 66.** B. Change requests may take the form of preventive or corrective actions or workarounds. It's not too late to take preventive action in the Monitoring and Controlling process group.
- 67.** A. Kaylee has just performed the Implement Risk Responses process and is likely to carry out activities associated with the Monitor Risks process next. Risk reviews are a tool and technique used to evaluate the effectiveness of risk responses that have been implemented.
- 68.** C. When projects end prematurely, the Validate Scope process is where the level of detail concerning the amount of work completed should be documented.
- 69.** A. To determine performance against the budget, you must first calculate variance at completion. To calculate variance at completion, subtract the estimate at completion from the budget at completion ($BAC - EAC$): $\$550,000 - \$525,000 = \$25,000$. A positive VAC means that the project is performing under the planned costs.
- 70.** A. The project management plan updates involve any updates to the schedule baseline, the schedule management plan, and/or the cost baseline.
- 71.** C. Generating status reports is an activity that belongs to the Monitor and Control Project Work process, which is part of the Monitoring and Controlling process group. The key output of this process is work performance reports.
- 72.** B. Control Quality includes verifying that approved changes have been implemented correctly. This may involve carrying out additional activities—such as retesting.
- 73.** C. The configuration management system, used in the Perform Integrated Change Control process, documents the physical characteristics of the product of the project and ensures that the description is accurate and complete.
- 74.** A. According to the *PMBOK® Guide*, scope creep refers to the uncontrolled expansion of product or project scope without adjustments to time, cost, and resources; in other words, it is scope that has not been approved.
- 75.** C. Schedule variance tells you whether the schedule is ahead or behind what was planned for this period and is calculated by subtracting PV from EV. In this case, the formula looks like this: $95 - 85 = 10$. The resulting number is positive, which means the project is ahead of schedule for this time period.
- 76.** A. A histogram is a form of bar chart that can be used to show the number of defects by source or component.
- 77.** C. The formula for ETC when variances are expected to continue is $ETC = (BAC - EV) \div CPI$. First you need to calculate CPI, which is $\$925 \div \$925 = 1$. Now you can plug in the numbers: $(\$1,400 - \$925) \div 1 = \$475$.

78. C. The project manager will need to analyze the impact of the scope change and what options exist, such as whether to undo what has been completed or analyze whether the scope change should be approved. This should occur through the formal change control process via a change request.
79. B. If the critical path tasks have variances, your schedule is at risk. You will use corrective actions at this point (not preventive actions) to get the project back on track, such as adjusting the amount of buffer. Significant delays to noncritical-path tasks can make them become part of the critical path.
80. B. Status reports are an example of a work performance report, an output of the Monitor and Control Project Work process. Work performance reports may be simple or highly detailed, depending on the nature of what is being reported.
81. C. Variance at completion reflects a projection of the amount of budget deficit or surplus, calculated as the difference between the budget at completion and the estimate at completion.
82. B. Cost variance tells you whether costs are above or below what was planned for this period and are calculated by subtracting AC from EV. In this case, the formula looks like this: $\$95 - \$100 = -\$5$. The resulting number is negative, which means the project costs are lower than what was planned for this time period.
83. A. Scope changes will cause schedule revisions, but schedule revisions do not change the project scope. Project requirements are part of the project scope statement, and therefore option D is one of the correct responses.
84. A. The project manager has asked Yazzi to calculate estimate to complete (ETC). When the work is proceeding as planned, use the following ETC formula: EAC – AC. Plug in the values to get the following: $\$75,000 - \$50,000 = \$25,000$.
85. C. Only critical path activities will cause schedule delays unless one or more of the noncritical-path activities have used up all their float time. This question doesn't specify that a noncritical-path activity has used all its float time.
86. C. VAC is calculated this way: VAC = BAC – EAC. Therefore, $\$600 - \$560 = \$40$.
87. B. Data analysis is a tool and technique used within the Perform Integrated Change Control process, where change requests are evaluated by the change control board. As part of performing data analysis, alternatives are considered, and a cost-benefit analysis is performed to determine whether the changes proposed are worth the associated costs.
88. D. The Monitor and Control Project Work process involves all of the activities identified in the question. Monitor Communications, Monitor Risks, and Perform Integrated Change Control each have some of these activities too, but Monitor and Control Project Work is the only process that incorporates all of the activities listed.
89. D. As part of performing activities associated with the Control Quality process, root-cause analysis is a technique used to identify the source of defects.
90. B. The formula for TCPI when using BAC is $(BAC - EV) \div (BAC - AC)$. For this question, the formula is as follows: $(\$1,800 - \$1,680) \div (\$1,800 - \$1,700) = 1.2$.

- 91.** A. The EAC formula for this question is $BAC \div CPI$. First, calculate CPI, which is $EV \div AC$: $\$145 \div \$138 = \$1.05$. Plugging in the numbers from the question, you get $\$200 \div \$1.05 = \$190$.
- 92.** A. Options C and D are not viable responses because the question is asking for an estimate at completion, not an estimate to complete. When changes in performance or risks occur on the project, it may cause BAC to no longer make sense. When that is the case, switch to the EAC to project the cost at completion.
- 93.** A. To calculate CPI, use the following formula: $CPI = EV \div AC$. Plug in the values to calculate the following: $\$1,700 \div \$1,950 = 0.87$. A CPI of less than 1 means that the project is performing over budget.
- 94.** B. When the schedule baseline is no longer achievable, the project manager must evaluate what corrective options exist to get the project back on track. This may include having to re-baseline the schedule so that targets are achievable; changes to a baseline, however, should go through a formal change request process.
- 95.** D. Data analysis is a tool and technique of the Control Costs process and determines variances in cost using earned value formulas.
- 96.** A. The Validate Scope process is concerned with acceptance of work results, while the Control Quality process is concerned with the correctness of the work.
- 97.** C. An iteration burndown chart is a data analysis tool and technique of the Control Schedule process. This chart is used to track the remaining work to be completed against the backlog.
- 98.** D. The EAC formula for this question is $AC + [(BAC - EV) \div (CPI \times SPI)]$. First, calculate CPI, which is $EV \div AC$: therefore, $\$145 \div \$148 = .98$. SPI is $EV \div PV$; therefore, $\$145 \div \$162 = .90$. Plugging in the numbers from the question, you get $\$148 + [(\$200 - \$145) \div (.98 \times .90)] = \210 .
- 99.** C. Reserve analysis is a data analysis technique of the Monitor Risks process. Reserve analysis compares the amount of contingency reserve remaining to address the risk that remains. Contingency reserves (used to deal with known risks) are considered part of the project budget, while management reserves (used to deal with unknown risks) are not.
- 100.** D. The EAC forecast for ETC work considering both SPI and CPI factors assumes two things: there is a negative cost performance to date, and the project schedule dates must be met.
- 101.** B. The purpose of the Control Quality process is to monitor and record the results of executing the quality management activities to assess performance and ensure outputs are complete, are correct, and meet expectations. According to the *PMBOK® Guide*, this process is also responsible for determining whether the project outputs do what they were intended to do.
- 102.** C. The project manager is carrying out the Perform Integrated Change Control process. This process involves reviewing and generating a decision on change requests submitted, including evaluating the impact of the changes and what options exist. Change requests should be vetted through a formal change control process.

- 103.** B. $CPI = EV \div AC$, or in this example, $\$2,100 \div \$2,000 = \$1.05$. $SPI = EV \div PV$, or in this example, $\$2,100 \div \$2,200 = .95$.
- 104.** C. To calculate SPI, use the following formula: $SPI = EV \div PV$. Plug in the values to calculate the following: $\$1,700 \div \$2,000 = 0.85$. An SPI of less than 1 means that the project is performing behind schedule.
- 105.** C. Inspection is a tool and technique of the Control Quality process, and it examines the work to determine whether it conforms to standards that have been documented. According to the *PMBOK® Guide*, inspections may occur at any given level of the project, including at the activity level.
- 106.** D. Work performance information is an input of the Monitor and Control Project Work process. Work performance reports are an input of the processes mentioned in the question. Work performance data is an input of several processes in the Monitoring and Controlling process group.
- 107.** A. A negative cost variance means that the project is over its planned costs, not under.
- 108.** B. Data analysis is the only tool and technique of the Control Scope process.
- 109.** D. $CV = EV - AC$, so CV is $\$2,100 - \$2,000 = \$100$. $SV = EV - PV$, so $\$2,100 - \$2,200 = -\$100$.
- 110.** B. Status review meetings occur throughout the Monitoring and Controlling phase of the project. The purpose of these meetings is to provide stakeholders with updated information on the progress of the project in a formal manner. Attendees may include a variety of predetermined stakeholders, such as the sponsor, project team members, users, or customers.
- 111.** A. The project manager has asked Yazzy to calculate the to-complete performance index (TCPI). The formula for TCPI is as follows:
- $$TCPI = (BAC - EV) \div (BAC - AC)$$
- Plug in the values to get the following: $(\$70,000 - \$65,000) \div (\$70,000 - \$60,000) = 0.50$. A TCPI of less than 1 is easier to complete.
- 112.** C. Control Quality is the process concerned with correctness of the work, whereas Validate Scope is the process concerned with acceptance of the work.
- 113.** C. To calculate the project's performance using the information provided, you can use the cost performance index (CPI) earned value calculation. The formula for calculating CPI is $CPI = EV \div AC$. Plug in the values to calculate the following: $\$5,000 \div \$7,500 = 0.67$. A CPI of less than 1 means that the project is performing over budget.
- 114.** D. The schedule variance (SV) and the schedule performance index (SPI) are two performance measurements that pertain to variances in schedule dates.
- 115.** B. Risk audits can be used to evaluate the effectiveness of the risk management processes. The frequency and approach to carrying out risk audits is typically captured within the risk management plan.

- 116.** A. Estimate at completion (EAC) calculates the expected cost of a work component, schedule activity, or the project at its completion. The most common formula for EAC is AC + bottom-up ETC. Options C and D are ETC formulas, not EAC formulas.
- 117.** B. According to the *PMBOK® Guide*, the change log is a comprehensive list of changes submitted during the project and their current status. It captures corrective actions, preventive actions, or defect repair needed. The change log becomes a key document managed as part of the Perform Integrated Change Control process, where change requests are reviewed and a decision on the request is made.
- 118.** C. Actual cost refers to the realized cost incurred for the work performed on an activity during a specific time period.
- 119.** B. The quality management plan may describe measurements that fall within a specified range. These are called *tolerable results*.
- 120.** C. Work performance reports are an output of the Monitor and Control Project Work process. These reports can take many forms and are intended to create awareness of issues, provide information to make decisions, and take action regarding the issues.
- 121.** A. The Perform Integrated Change Control process is carried out as part of monitoring and controlling the activities, which occurs in conjunction with execution activities but is not itself considered part of the Executing process group.
- 122.** D. Estimate at completion (EAC) is the expected cost of the work when completed.
- 123.** C. The purpose of the Validate Scope process and Control Quality process are often confused with one another. Validate Scope is concerned with acceptance of the deliverables, while Control Quality is concerned with the correctness of deliverables and meeting agreed-upon quality requirements.
- 124.** C. The formula for EAC is AC + bottom-up ETC. The question states you obtained the bottom-up ETC estimate from your team members. The formula looks like this: $\$650 + \$75 = \$725$.
- 125.** D. The project manager will need to measure scope completed against scope planned. To do this, they will need work performance data, a key input of the Control Scope process. Variance and trend analysis are tools and techniques of the process, not inputs.
- 126.** B. When performing the Control Resources process, data analysis may be used to evaluate what alternatives exist to completing activities with resources, such as alternate resources. Data analysis also includes performing cost-benefit analysis, performance reviews, and trend analysis.
- 127.** C. Variance analysis involves comparing the scope baseline against actual scope completed to determine whether variance is within the acceptable threshold amount; if not, corrective or preventive action may be needed.
- 128.** D. The formula for TCPI when BAC is no longer attainable (or when using EAC) is as follows: $(BAC - EV) \div (EAC - AC)$. For this question, the formula is as follows: $(\$1,800 - \$1,680) \div (\$1,820 - \$1,700) = \$1.0$.

129. C. Status review meetings are considered one of the most important types of meetings a project manager holds throughout the project. These types of meetings use interaction communication, where communication occurs between stakeholders and is live.
130. C. Common causes of variance that fall outside the acceptable range are difficult to correct and usually require reorganization of the process. Decisions to change the process are not within the project manager's authority and always require management approval.
131. D. Earned value management is a performance measurement method. Forecasting is not a performance measurement method. Variance analysis and trend analysis are types of performance review.
132. A. The sponsor is requesting the earned value of the project. Earned value represents the measure of work performed expressed in terms of the budget authorized for that work; in other words, it is the sum of the planned value of completed work.
133. D. To calculate estimate to complete (ETC) when the work is progressing as planned, use the following formula: $ETC = EAC - AC$. Notice that the question does not provide EAC or CPI (which is needed to calculate EAC) but does provide all the necessary values needed to perform the additional calculations. To get to the answer, you must first calculate CPI, then EAC, and finally ETC. The formula for calculating CPI is $EV \div AC$, and the formula for calculating EAC when progressing as planned is $BAC \div CPI$.

CPI calculation: $\$10,000 \div \$12,000 = \$0.83$

EAC calculation: $\$25,000 \div \$0.83 = \$30,120.48$

ETC calculation: $\$30,120.48 - \$12,000 = \$18,120.49$

134. B. Variance at completion is calculated this way: $BAC - EAC$.
135. A. A stakeholder assessment matrix allows you to compare planned engagement levels against actual engagement levels. This can be used in conjunction with the multicriteria decision analysis technique, where predefined criteria that are prioritized and weighted can be used to assess engagement levels.
136. B. The Control Procurements process involves monitoring vendor performance and coordinating among all vendors when there are multiple vendors involved on the project.
137. D. Check sheets are a type of data-gathering tool of the Control Quality process used to help organize data when performing inspections and together information on defects. Checklists, statistical sampling, and questionnaires and surveys are other data-gathering tools and techniques of the process.
138. D. Workarounds are responses to unplanned risks and are used in the Monitor Risks process.
139. B. Planned value is the authorized budget assigned to the scheduled work; in other words, it refers to the value of the work planned to be completed.
140. C. The ETC formula for this question is $(BAC - EV)$. Plugging in the numbers from the question, you get $\$200 - \$145 = \$55$.

- 141.** C. Data analysis is a tool and technique of multiple project management processes, including the Control Schedule process, where it encompasses the use of earned value analysis, iteration burndown charts, performance reviews, trend analysis, variance analysis, and what-if scenario analysis.
- 142.** A. According to the *PMBOK® Guide*, there are three key dimensions that earned value management develops and monitors for each work package and control account: planned value, earned value, and actual cost.
- 143.** C. Scatter diagrams examine and plot dependent and independent variables, such as planned and actual performance. They are also used to help look for and analyze root causes of problems.
- 144.** B. Reserve analysis is a technique used as part of the Control Costs and Monitor Risks process. This technique involves the analysis of how much reserves have been consumed to date and whether sufficient reserves remain to address current and future risks.
- 145.** D. Validate Scope and Control Scope belong to the Monitoring and Controlling process group. This process group has a total of 12 project management processes.
- 146.** B. When the project is not expected to proceed as planned, calculate ETC by reestimating.
- 147.** A. Risk audits are performed to examine the implementation of risk response plans and their effectiveness at dealing with risks and their root causes. Risk audits may also examine the risk management processes.
- 148.** B. The Manage Communications process, not Monitor Communications, is responsible for the timely and appropriate collection, creation, distribution, and storage of project information. Monitor Communications, on the other hand, is responsible for ensuring that the information needs of the project and its stakeholders are met.
- 149.** A. Risk responses are developed through the Plan Risk Responses process, which is iteratively carried out as new risks are identified and reassessed.
- 150.** C. A CPI of greater than 1 is performing under budget; an SPI of less than 1 is performing behind schedule. Remember that generally an index > 1 is good, an index $= 1$ is perfect, an index of < 1 is bad.
- 151.** A. Work performance data is an output of the Direct and Manage Project Work process. The information and results you gather in the Control Procurements process are collected as part of the Direct and Manage Project Work process.
- 152.** B. To calculate SPI, use the following formula: $SPI = EV \div PV$. Plug in the values to calculate the following: $\$4,000 \div \$3,500 = 1.14$. An SPI of greater than 1 means that the project is performing ahead of schedule.
- 153.** B. Formal acceptance of project deliverables occurs through the Validate Scope process. This process is performed periodically throughout the project's life, as major deliverables are completed.

- 154.** C. The SV for this project is -25, which means the project is behind schedule. The CV for this project is 50, which means the costs are lower than what you had planned for this point in time.
- 155.** A. The question is asking for an input that can be used to address the engagement level of stakeholders. The scenario involves the Monitor Stakeholder Engagement process. Interpersonal and team skills and decision-making are tools and techniques and therefore not the correct choices. Since the project management plan contains the stakeholder engagement plan, which documents the strategy for engagement stakeholders, this is the best option. Other useful components of the project management plan also include the communications management plan and resource management plan.
- 156.** C. According to the PMBOK® Guide, inspections are sometimes called *reviews*, *product reviews*, and *walk-throughs*.
- 157.** B. This question describes the Monitoring and Controlling process, not the Planning processes. Options C and D are tools and techniques from the Risk processes in the Planning process group. Data analysis consists of periodic, scheduled reviews of identified risks, risk responses, and risk priorities.
- 158.** B. The process results in the following outputs: work performance information, change requests, and project management plan updates. In relation to this process, work performance information reflects the status of stakeholder engagement compared to planned engagement levels.
- 159.** D. Data representation can include the use of a stakeholder engagement matrix to assess whether communication needs are being met. In this scenario, the Monitor Communications process is being carried out.
- 160.** C. Seller invoices are part of the work performance reports input. They are processed using a payment system, but this is a tool and technique of the process, not an output.

Chapter 5: Closing (Domain 5.0)

1. A. Addition is a type of project ending where the project itself evolves into ongoing operations, such as becoming its own ongoing business unit.
2. C. Weak matrix organizational structures tend to experience the least amount of stress during the project closeout processes.
3. B. The Close Project or Phase process has the following outputs: project documents updates; final product, service, or result transition; final report; and organizational process assets updates. Organizational process assets updates include archived project documents, operational and support documents, project or phase closure documents, and lessons learned repository.

4. B. Closed procurements are an output of the Control Procurements process. The closed procurements output is where the buyer provides the seller with formal written notice that the contract has been completed.
5. D. The *Code of Ethics and Professional Conduct* is published by PMI, and all PMP credential holders are expected to adhere to its standards.
6. B. The Close Project or Phase process is responsible for finalizing all activities for the project, phase, or contract. Some of the key activities are included in this process are as follows: actions necessary to satisfy completion or exit criteria of the project; activities related to completion of contractual agreements; activities necessary to transfer the project's products, services, or results to operation; archiving documentation and lessons learned; and measuring stakeholder satisfaction.
7. B. In this instance, Joe is correct. When resources are cut off from the project or are no longer provided to the project, it's starved prior to completing all requirements. Integration, on the other hand, is when resources of the project are distributed to other areas in the organization or are assigned to other projects.
8. A. According to the *Code of Ethics and Professional Conduct*, project management practitioners should adhere to the following four values: responsibility, respect, fairness, and honesty.
9. C. Respect involves behaving in a professional manner. While project managers are not responsible for the actions of others, they are responsible for their own actions and reactions. Part of acting professionally involves controlling one's self and reactions in questionable situations, as David did in this scenario.
10. A. According to the *Agile Practice Guide*, predictive life cycles take advantage of things that are known and proven as a way of reducing the level of uncertainty and complexity.
11. C. Project resources are released according to the resource management plan. Generally speaking, resources are released at the conclusion of the project since team members typically participate in a final lessons-learned meeting.
12. D. Risk is lowest during the Closing process because you've completed the work of the project at this point.
13. D. Honesty involves not only information regarding your own background and experience but information regarding the project circumstances as well. Although it may set the project back by one month, being truthful is considered part of your responsibility as a project manager honoring the code of conduct.
14. B. Honesty can include a lot of topics: reporting the truth regarding project status, being honest about your own experience, not deceiving others, not making false statements, and so on. As a project manager, you are responsible for truthfully reporting all information in your possession to stakeholders, customers, the project sponsor, and the public when required.

15. C. The best answer in this situation is to get the facts before taking any action. A violation based only on suspicion should not be reported. You can get the facts by telling your friend you're concerned about the appearance of impropriety and ask her whether the vendor gave her these items. It could be that these are the first of several samples that will be coming from all the vendors bidding on the project so the equipment can be evaluated in light of the project objectives. Or she could have accepted them as gifts, which is not appropriate. Never jump to conclusions. Always ask and get the facts straight before reporting a conflict-of-interest situation.
16. A. Responsibility is the act of making decisions that are for the good of the organization rather than ourselves, admitting your mistakes, being responsible for the decisions you make (or those you don't make), and the consequences that result, along with other actions.
17. B. The Close Project or Phase process is part of the Project Integration Management Knowledge Area, not Scope Management. It is the only process belonging to the Closing process group.
18. D. The Project Integration Management Knowledge Area contains the Close Project or Phase process. This is the only process within the Closing process group, and it is responsible for all activities associated with administrative closure of a project, contract, or phase.
19. A. According to the *Agile Practice Guide*, the servant leadership approach contains the following characteristics: promoting self-awareness; listening; serving those on the team; helping people grow; coaching versus controlling; promoting safety, respect, and trust; and promoting the energy and intelligence of others.
20. D. Giving another individual an opportunity to be honest is appropriate; if they are not honest, it is your responsibility to report the truth.
21. D. You should always honestly report your qualifications, your experience, and your past performance of services to potential employers, customers, PMI, and others. You should not knowingly accept assignments that are beyond your capabilities or experience.
22. B. When people work in unfamiliar environments, culture shock can occur. Training and researching information about the country you'll be working in can help counteract this.
23. C. Honesty involves not only information regarding your own background and experience but information regarding the project circumstances as well.
24. C. A project whose resources have been cut off or are no longer provided to the project (including human resources, equipment, supplies, or money) ends as a result of starvation. Examples of what leads to starvation include the following: other projects taking precedence, a customer curtailing an order, a project budget being reduced, or a key resource quitting.
25. C. A predictive life cycle contains fixed requirements that produce a single delivery with activities performed once for the entire project. A goal of predictive life cycles is to manage costs.

- 26.** D. Measuring customer satisfaction is just one of the many activities that occur during administrative closure of a project. While some projects check in and measure satisfaction at key points throughout the project's life cycle, it should occur during project closure at a minimum.
- 27.** A. The most appropriate response is to inform the foreign officials and conduct an investigation to look into the matter. This ensures your integrity and the integrity of the company and adheres to truthful reporting standards as required in the *Code of Ethics and Professional Conduct*.
- 28.** C. You know that your friend has reported his status untruthfully, and you are obligated to ensure that the truth is reported at all times. Giving your friend an opportunity to correct their behavior is appropriate; should they not be truthful, it is your responsibility to report status based on accurate information provided.
- 29.** B. According to the *Agile Practice Guide*, all project life cycles share the element of planning. What differs across predictive, iterative, incremental, and Agile life cycles is the degree to which planning is done, and when.
- 30.** C. The final report provides a detailed and documented summary of the project's performance. This document is produced as an output of the Close Project or Phase process. The final report is typically written by the project manager and includes information on scope, cost, schedule, risk, and quality outcomes, as well as other performance-based information.
- 31.** C. As part of upholding the value of responsibility and ensuring integrity, project managers are required to follow all applicable laws and regulations that apply to the industry, organization, or project. Bypassing customs is an example of violating a country's laws.
- 32.** A. Product verification ensures that the contract work is accurate and satisfactorily meets the requirements of the contract.
- 33.** B. Fairness includes avoiding favoritism and discrimination against others, avoiding and reporting conflict-of-interest situations, and maintaining impartiality in a decision-making process.
- 34.** D. The most appropriate response is to tell the customer about the remaining tasks and work with them to modify the schedule date or modify the agreement regarding the payment date.
- 35.** A. Project managers must constantly balance and manage the triple constraints of time, cost, and scope. Because of the nature of the constraints, one of these is the primary driver, and one is the least. Quality, risk, and resources are additional constraints that tend to compete with one another.
- 36.** A. In an iterative life cycle, activities are repeated until they are correct. In an incremental life cycle, activities are performed once for a given increment.
- 37.** D. A major goal of the incremental project life cycle is speed.

- 38.** A. When you hold the PMP certification, one of the responsibilities that falls into this category is your responsibility to report violations of the PMP code of conduct. In some cases, we make poor judgments that can be corrected. To maintain the integrity of the profession, everyone who holds the PMP certification must adhere to the code of conduct that makes all of us accountable to each other.
- 39.** B. According to the *PMBOK® Guide*, regression analysis is a technique that can be used as part of performing project or phase closure activities to improve project performance. This technique can be used to analyze interrelationships between different project variables that contributed to the project outcomes.
- 40.** B. The project team is performing administrative closure activities associated with the Close Project or Phase process. While information captured will be added to the lessons learned register, administrative closure is a broader choice that captures additional activities noted in the question, such as archiving information and creating the final report.
- 41.** B. When resources are cut off from the project and the project is starved prior to completing all requirements, it often leads to an unfinished project. Resources in this case can be money (such as in Yasmin's case), human resources, equipment, or supplies. This type of project ending is referred to as *starvation*.
- 42.** A. The closed procurements output, which is a result of the Control Procurements process, encompasses formal written notice to the seller that the contract is complete.
- 43.** A. While the project manager facilitates many of the activities that occur during project closure, all relevant stakeholders should be engaged in the process. This includes participating in lessons learned meetings.
- 44.** B. All projects do eventually come to an end—whether they are successfully completed, cancelled, or evolve into operations. For this reason, project closure activities should always be carried out.
- 45.** D. Diversity training is the best way to ensure that team members will learn to recognize and deal with cultural differences among the members because clashes could impede the project's progress. Team-building exercises are not a bad idea, but this question is specifically asking about cultural differences, which are best handled with diversity training.
- 46.** D. One of the aspects of honesty includes your truthfulness about your PMP application and certification, your qualifications, and the continuing reports you provide to PMI to maintain your certification.
- 47.** D. Upholding confidentiality agreements is part of the responsibility value. Protecting proprietary or confidential information that has been entrusted to you is part of a project manager's responsibility.
- 48.** A. Stakeholders have the greatest influence during the early stages of the project. As work is completed and the project nears closure, the level of influence that stakeholders have drops, and they are less likely to receive approval for scope changes.

- 49.** C. Waterfall is a methodology that follows a predictive life cycle. While there are many Agile and Lean frameworks, the *Agile Practice Guide* addresses the following: Scrum, Extreme Programming, Kanban Method, Crystal Methods, Scrumban, Feature-Driven Development, Dynamic Systems Development Method, and Agile Unified Process.
- 50.** C. While a case can be made that all of the options presented are valid answers, incorrectly reporting credentials is an example of an ethics violation. As a credential holder, it is your responsibility to report violations of the PMP code of conduct.
- 51.** B. According to the *Agile Practice Guide*, there are three common roles used in Agile projects: cross-functional team member, product owner, and team facilitator. Many Agile frameworks and approaches do not address the role of project manager.
- 52.** B. Extinction occurs when the project is completed and the stakeholders have signed off on the project.
- 53.** A. The Close Project or Phase process is performed once or at predefined points in the project, such as the end of a phase.
- 54.** C. Changes should pass through a formal change control process. At this late stage of the project's life cycle, stakeholders have the least amount of influence, and there is a lower risk that significant changes to the scope will be approved.
- 55.** D. According to the *Agile Practice Guide*, servant leadership is the practice of leading through service to the team by focusing on developing team members and understanding and addressing their needs to generate the greatest possible performance.
- 56.** A. Part of the *Code of Ethics and Professional Conduct* requires that you cooperate in any investigation concerning ethics violations and in collecting information related to the violation.
- 57.** B. Closure activities should be performed for all projects, regardless of whether they end prematurely (such as a project that is cancelled or evolves into operations). This means that project work should not cease immediately upon ending prematurely, since closure activities must still be completed.
- 58.** D. Working in a foreign country can bring about an experience called *culture shock*. When you've spent years acting certain ways and expecting normal, everyday events to follow a specific course of action, you might find yourself disoriented when things don't go as you expected. In this scenario, the project manager was attempting to prevent culture shock.
- 59.** A. Addition is a project ending where a project evolves into ongoing operations. In these cases, a full-time staff can be required to support ongoing operations, maintenance, and monitoring of a project's deliverable.
- 60.** A. When a project ends as a result of resources being distributed to other areas in the organization or reassigned to other projects, it is referred to as *integration*. Starvation, on the other hand, is when a project ends as a result of resources being cut off from the project.

61. B. Given that the project manager contributed to the handbook while under assignment by the contracting organization and was just one of multiple contributors, it is likely that his actions would be viewed as a violation of the organization’s policies on intellectual property. This would be verified by reviewing the project manager’s contractual agreement.
62. D. The Close Project or Phase process should always be performed even if you are closing out a procurement. Contract closure occurs through both the Control Procurements and Close Project or Phase processes.
63. C. The project charter is an input of the Close Project or Phase process, which is used to reference project success criteria, approval requirements, and who will sign off on the project.
64. D. Project costs are lowest during the final stages of the project, during the Closing process group. Project spending should come to an end as the project closes.
65. B. Rather than asking how the team can act in a predictable manner, a team looking to adopt an Agile mind-set may instead ask how the team can act in a more Agile or transparent manner.
66. B. In a project-oriented organization, the project team is dedicated to the project. When a project is complete, they either transition to another project or are released.
67. C. Respect involves several areas, including the way we conduct ourselves, the way we treat others, listening to other viewpoints, and conducting ourselves in a professional manner. According to the *Code of Ethics and Professional Conduct*, an environment of respect generates trust and confidence and fosters mutual cooperation.
68. D. The Closing process group is the most often skipped process group in project management. According to the *PMBOK® Guide*, the Closing process should be performed in all instances of a project coming to an end—including if the project is cancelled or ends prematurely.
69. B. Respect is our duty to show a high regard for ourselves, others, and the resources entrusted to us. This includes fostering an environment where people’s differences and diverse perspectives are encouraged and valued.
70. C. Honesty entails acting in a truthful manner in both our communications and conduct. Although the project manager’s intentions seemed to result from positive intentions, the act of forging survey responses—even if he felt that they reflected truthful feedback received—does not represent truthful actions.
71. B. Teams working in a weak matrix organization tend to experience the least amount of stress during the Closing processes. This is because, in a weak matrix organization, the functional manager assigns all tasks (project-related tasks as well) so the team members have a job to return to once the project is completed and there’s no change in reporting structure.

- 72.** C. The administrative closure procedures include documenting and gathering lessons learned, indexing records and archiving them, analyzing the project success or failure, and archiving financial information. Documenting the final results of the contract occurs in the Control Procurement process.
- 73.** B. The project sponsor is looking for the final report, which is a document produced out of the Close Project or Phase process that summarizes the project's overall performance. In addition to performance-related data, it also summarizes whether the objectives and business needs outlined in the business plan were met.
- 74.** B. The final report is produced out of the Close Project or Phase process. It includes a summary of the project performance, such as a summary-level description of the phase or overall project; a summary of the scope, quality, cost, and schedule performance and variances; and a summary of risks or issues encountered.
- 75.** A. A role delineation study (RDS) can best be described as a job analysis. PMI conducts a role delineation study every five to seven years for every discipline it credentials. An RDS is conducted by bringing together volunteers to discuss the specific roles associated with each certification to identify the tasks and responsibilities that the roles will be expected to perform.
- 76.** C. Project communications is an input of the Close Project or Phase process as part of project documents. It includes all communications that have been generated throughout the project.
- 77.** C. Sometimes you might find yourself working with teams of people from different countries or cultures. Some team members might be from one country and some from another. The best way to ensure that cultural or ethical differences do not hinder your project is to provide training for all team members.
- 78.** C. The Close Project or Phase process is responsible for administrative closure, as well as ensuring that ongoing work—such as maintenance, operations, and ongoing support—is handed over to a different group or organization responsible for performing the activities.
- 79.** B. Hybrid life cycles combine elements of different life cycles to achieve a certain goal. A hybrid approach may contain a combination of iterative, predictive, incremental, and/or Agile approaches.
- 80.** A. Activities associated with transferring ongoing activities into operations occurs as part of the Close Project or Phase process, which belongs to the Project Integration Management Knowledge Area.
- 81.** C. According to the *Code of Ethics and Professional Conduct*, respect is our duty to show a high regard for ourselves, others, and the resources entrusted to us.
- 82.** D. A project can come to an end for several reasons, including the following: it is completed successfully, it is cancelled or killed prior to completion, it evolves into ongoing operations, and it no longer exists as a project. Acceptance and approval of deliverables alone is not indicative of a project ending.

- 83.** B. The team has completed activities that generated the final product, service, or result transition process output. This output is generated out of the Close Project or Phase process.
- 84.** D. This question refers to the Control Procurements process, where procurements are closed (formal notice is one of the outputs of this process in the form of closed procurements). Note that this process belongs to the Monitoring and Controlling process group and that administrative closure of procurements occurs through the Close Project or Phase process.
- 85.** B. All of us see the world through our own experiences. Your experiences are not someone else's experiences; therefore, what you perceive about a situation might be very different from what others believe. Respect involves fostering an environment that engenders trust and confidence.
- 86.** D. The milestone list contains the final dates that the project milestones have been accomplished. This is used as an input to the Close Project or Phase process, which is where the final report is produced.
- 87.** A. The business case, not the final report, provides a written justification for the project. The final report, on the other hand, provides a summary of the project performance, including a summary of work completed against the plan, along with a summary of issues and risks encountered.
- 88.** C. While lessons learned are collected throughout the project's life cycle and added to the lessons learned register, it is through the Close Project or Phase process that a final lessons-learned meeting occurs, and project documents are archived for use on future projects.
- 89.** B. Since the scenario outlined that the final deliverable of the project was completed, it implies that closing activities would follow. Administrative closure, which occurs as part of the Close Project or Phase process, consists of activities such as ensuring that exit criteria have been met and contractual agreements were properly closed out, measuring stakeholder satisfaction, and ensuring that ongoing operational or sustainment activities are transferred to operations.
- 90.** D. As part of closing out a project, ongoing activities (such as support and maintenance) are transitioned to the appropriate teams. When this does not occur, project resources cannot be fully released from these activities.
- 91.** C. In iterative and incremental project life cycles, feedback helps to better plan the next part of the project. In Agile projects, incremental delivery exposes requirements that are hidden or misunderstood.
- 92.** B. There are four formal types of project endings: addition, starvation, integration, and extinction. Crashing typically refers to the schedule compression technique where additional resources are added to an activity in order to complete it more quickly.

- 93.** C. As part of our responsibility as project management practitioners, we should report unethical or illegal conduct to appropriate individuals or management. Ensuring that confidentiality, regulations, and legal requirements are followed is part of upholding the responsibility value.
- 94.** A. Project risk is highest during the beginning of the project life cycle, when less is known about the project. As the project progresses, project risk decreases and is lowest during the final stages of the project's life cycle.
- 95.** A. A predictive life cycle, also referred to as *plan-driven* or *Waterfall*, is where the majority of planning occurs during the beginning stages of the project, followed by execution, in a more sequential process.
- 96.** C. Working in a foreign country can bring about an experience called *culture shock*. When you've spent years acting certain ways and expecting normal, everyday events to follow a specific course of action, you might find yourself disoriented when things don't go as you expected.
- 97.** B. An incremental life cycle focuses on speed as a goal. It generates smaller, finished deliverables to get a solution to a customer more quickly. An incremental life cycle has dynamic requirements.
- 98.** C. Extinction is the best type of project ending, meaning that the project came to an end because it was completed and accepted by the stakeholders.
- 99.** B. Close Project or Phase is part of the Project Integration Management Knowledge Area.
- 100.** D. The Closing process group consists of a single project management process: Close Project or Phase.
- 101.** C. The Validate Scope process is responsible for confirming that scope has been achieved and receiving sign-off and acceptance from the relevant stakeholders. Accepted deliverables then becomes an input to the Close Project or Phase process.
- 102.** A. Responsibility is the act of making decisions that are for the good of the organization rather than ourselves, admitting our mistakes, being responsible for the decisions we make (or those we don't make), and the consequences that result, along with other actions.
- 103.** B. The *PMBOK® Guide* addresses four project life cycles: predictive, iterative, incremental, and Agile.
- 104.** B. The *Code of Ethics and Professional Conduct* addresses core values that project management practitioners should and must uphold. Specifically, it applies to all PMI members, PMI volunteers, those certified through PMI, and those going through the PMI certification process.
- 105.** C. Integration occurs when the resources of the project are distributed to other areas in the organization or are assigned to other projects. In this case, the functional manager is reassigning resources to another project.

- 106.** A. As the project progresses, project costs begin to taper off. The project is currently in the closing stage, and risk of overspending should be minimal at this point.
- 107.** A. The procurement manager's behavior can be viewed as a conflict of interest. A conflict of interest is when you put your personal interests above the interests of the project or when you use your influence to cause others to make decisions in your favor without regard for the project outcome. In other words, your personal interests take precedence over your professional obligations, and you make decisions that allow you to personally benefit regardless of the outcome of the project.
- 108.** B. The project management plan contains the resource management plan, which addresses how resources will be obtained, managed, and released.
- 109.** A. Procurement documentation includes the contract, supporting documents such as the WBS and project schedule and so on, and any technical documents created by the vendor during the project.
- 110.** C. An Agile life cycle consists of a blend of iterative and incremental approaches, which focuses on refining the work to deliver outcomes more frequently. An Agile life cycle has dynamic requirements that focus on customer value.
- 111.** D. While most (if not all!) project managers hope that *all* project team members are held accountable to the core values identified within the *Code of Ethics and Professional Conduct*, it is written with project management practitioners in mind. This includes the following individuals: all PMI members, those who hold a PMI certification, those who begin the PMI certification process, and those who volunteer through PMI.
- 112.** D. The procurement manager's behavior can be viewed as a conflict of interest. A conflict of interest is when you put your personal interests above the interests of the project or when you use your influence to cause others to make decisions in your favor without regard for the project outcome.
- 113.** B. The lessons learned register is the document in which the project manager and team capture lessons learned and knowledge throughout the project's life. At the end of the project, lessons learned are archived with the rest of the documentation, and lessons learned are added to a lessons learned repository for use on future projects.
- 114.** B. Projects that evolve into ongoing operations are considered projects that end because of addition. In this case, supporting the enterprise resource planning system evolved into its own business unit with a full-time staff. In cases such as this, systems can develop into their own organization with full-time staff responsible for its ongoing operations, maintenance, and monitoring of software.
- 115.** B. Incremental life cycles focus on speed of delivery as an optimization method. In this type of life cycle, the project yields frequent smaller deliverables to avoid waiting for everything to be completed before a solution exists. In other words, a subset of the overall solution becomes available sooner.
- 116.** D. Responsibility includes accepting assignments that you are qualified to take on. You should always honestly report your qualifications, your experience, and your past performance of services to potential employers, customers, PMI, and others.

- 117.** D. During Closing, a project has the highest probability of completing successfully.
- 118.** B. Conflicts of interest might include your associations or affiliations. If you sit on the decision committee and don't tell anyone about your association with the winning bidder, that is clearly a conflict of interest. The correct thing to do in this case would be to, first, inform the project sponsor and the decision committee of your affiliation; the committee and sponsor may simply ask that you remove yourself from being part of the selection process.
- 119.** B. Close Project or Phase is the only process within the Closing process group. Other closure activities related to procurements occur as part of Monitoring and Controlling, through the Control Procurements process.
- 120.** D. The Closing process group contains the activities necessary to formally complete or close the project, phase, or contract. This process group consists of a single project management process: Close Project or Phase.
- 121.** D. When resources are cut off from the project or are no longer provided to the project, it's starved prior to completing all the requirements.
- 122.** B. Fairness includes avoiding favoritism and discrimination against others, avoiding and reporting conflict of interest situations, and maintaining impartiality in a decision-making process. According to the *Code of Ethics and Professional Conduct*, fairness is our duty to understand the truth and act in a truthful manner, both in our communications and in our conduct.
- 123.** A. While finalizing open claims is considered to be an activity that relates to administrative closure of procurements, addressing contested changes to a contract is an activity that occurs as part of controlling procurements. This activity instead occurs as part of the Control Procurement process, not the Close Project or Phase process.
- 124.** D. Responsibility is the act of making decisions that are for the good of the organization rather than ourselves, admitting our mistakes, being responsible for the decisions we make (or those we don't make), and the consequences that result, along with other actions. It represents one of four values that project management practitioners should uphold.
- 125.** A. In a weak matrix organization, the functional manager has greater authority than the project manager. Based only on the information provided within the question, it is likely that resources will be reassigned to another project.
- 126.** C. This project ended due to starvation because the grant money was not renewed.
- 127.** C. When closing out a project, the project manager should review the project management plan to ensure that all of the project work has been completed successfully and that the objectives outlined in the plan have been met.
- 128.** D. Cheryl and the project manager are engaged in capturing lessons learned in engaging with this particular vendor and also in activities associated with managing the vendor's performance; this includes discussing what went well and what could have been done differently, which will benefit future projects.

129. C. The project manager typically writes the final report. The project's final report contains a summary of what occurred on the project and may include information on scope, cost, schedule, risk, and quality outcomes.
130. A. Don't accept gifts that might be construed as conflicts of interest. If your organization does not have a policy regarding vendor gifts, set limits for yourself depending on the situation, the history of gift acceptance by the organization in the past, and the complexity of the project. It's always better to decline a gift you're unsure about than to accept it and later lose your credibility, your reputation, or your PMP status because of bad judgment.
131. D. Honesty can include a lot of topics: reporting the truth regarding project status, being honest about your own experience, not deceiving others, not making false statements, and so on. According to the *Code of Ethics and Professional Conduct*, honesty is your duty to understand the truth and act in a truthful manner, both in your communications and in your conduct.
132. D. An iterative approach focuses on obtaining feedback for unfinished work early as a way of improving the results in iterations. Iterative life cycles have dynamic requirements and focus on the correctness of the solution.
133. B. Lessons learned are not used to document employee performance but rather to note the successes and failures that occur during a project, including information such as the reasons why certain corrective actions were put into place, the causes of performance variances, and so on. If employees think negative information in the lessons learned file will be used against them, they won't be honest in reporting lessons learned, and you'll miss out on the benefit of learning from past mistakes.
134. B. Marketplace conditions and financial management and accounts payable systems are examples of enterprise environmental factors versus organizational process assets. When performing the Close Project or Phase process, project or phase closure guidelines or requirements, along with the configuration management knowledge base, serve as valuable inputs. The configuration management knowledge base contains versions and baselines of standards, policies, procedures, and project documents belonging to the organization.
135. A. The tools and techniques of the Close Project or Phase process are as follows: expert judgment, data analysis (document analysis, regression analysis, trend analysis, variance analysis), and meetings.
136. A. Responsibility entails ensuring integrity, accepting assignments we are qualified for, abiding by laws and regulations, and maintaining confidential information.
137. C. Cheryl and the project manager are engaged in carrying out the Close Project or Phase process, which includes administrative closure activities for procurements. In this particular instance, they are engaged in capturing lessons learned for use on future projects.
138. D. Respect, not fairness, is the value that addresses culture shock and diversity training. Accepting vendor gifts is acceptable when the gift or situation complies with a company's stated policies.

- 139.** A. The project manager has just carried out the Validate Scope process, which generates accepted deliverables. Accepted deliverables then pass through the Close Project or Phase process as an input.
- 140.** A. Lessons learned is not a process—it's incorporated as an output of several processes.
- 141.** A. The Project Integration Management Knowledge Area contains the following seven project management processes: Develop Project Charter, Develop Project Management Plan, Direct and Manage Project Work, Manage Project Knowledge, Monitor and Control Project Work, Perform Integrated Change Control, and Close Project or Phase.
- 142.** B. The Tuckman ladder, also referred to as stages of team development, consists of five stages that teams may go through: forming, storming, norming, performing, and adjourning. In the adjourning stage, teams complete the work and are released.
- 143.** D. Iterative life cycles use successive prototypes or proofs of concept to improve the product or result. Activities are repeated in cycles to produce new information and team insights.
- 144.** D. Basis of estimates can be used to evaluate estimation of costs, resources, and activity durations against the actual results of the project. This can in turn feed valuable information to the lessons learned repository for future use. Basis of estimates is part of the project documents input of the Close Project or Phase process.
- 145.** B. As a project manager, you are responsible for truthfully reporting all information in your possession to stakeholders, customers, the project sponsor, and the public when required. Always be up front regarding the project's progress.
- 146.** A. Organizational process assets contain policies, procedures, guidelines, processes, historical information, and templates belonging to the organization—just to name a few! This would include policies that exist on using a project closure survey.
- 147.** D. The *Code of Ethics and Professional Conduct* discusses your responsibility to report to the stakeholders, customers, or others any actions or circumstances that could be construed as a conflict of interest. Conflicts of interest might include your associations or affiliations.
- 148.** B. A conflict of interest is when you put your personal interests above the interests of the project or when you use your influence to cause others to make decisions in your favor without regard for the project outcome. Violating the procurement policy to improve the budget situation was not the appropriate action to take.
- 149.** B. Honesty and truthful reporting are required of PMP credential holders. In this situation, you would inform the customer of everything you know regarding the problem and work to find alternative solutions.
- 150.** B. A project that has ended as a result of extinction signifies that it has completed successfully, and a project no longer exists.

- 151.** C. Fairness includes avoiding favoritism and discrimination against others, avoiding and reporting conflict-of-interest situations, and maintaining impartiality in a decision-making process. In this case, scope creep should be brought to the project team's attention and treated as an unapproved change. This would need to go through the formal change control process.
- 152.** B. Integration is where the resources of a project have been reassigned or redeployed, leading to early closure of the project. The lack of resources in the case of integration leads to the inability to complete the project.
- 153.** D. According to the *PMBOK® Guide*, when performing closure activities for procurements, the project manager should confirm that formal acceptance of the seller's work has been achieved, all open claims are finalized, records reflect the final result, and all procurement documentation is archived for future use.
- 154.** B. Respect includes the way you conduct yourself, the way you treat others, listening to other viewpoints, conducting yourself in a professional manner, and so on. This includes acting in a professional manner.
- 155.** C. Predictive life cycles have fixed requirements that yield a single delivery. A great deal of planning occurs during the early stages of the project, and plans are detailed so that the team knows what to deliver and how. Changes are minimized in this type of life cycle.
- 156.** B. Honesty involves not only information regarding your own background and experience but information regarding the project circumstances as well. This includes being up front and truthful about the project's status and information.
- 157.** A. The best response is to decline the offer. This is a conflict of interest, and accepting the offer puts your own integrity and the contract award process in jeopardy.
- 158.** A. When projects begin, risk is at its peak since there are many unknowns during the early stages of a project. As the project moves forward and more is known, risk decreases and is at its lowest during the final stages when closing activities occur.
- 159.** A. The Control Procurement process is where procurements are closed. This includes providing the seller with formal written notice that the contract has been completed. Administrative closure of procurements, on the other hand, occurs through the Close Project or Phase process.
- 160.** C. The key function of the Closing processes is to complete all the activities associated with closing out the project management processes to close out the project or phase. You will review the scope baseline and other documents in this process group, but it is not the key activity associated with the Close Project or Phase process.

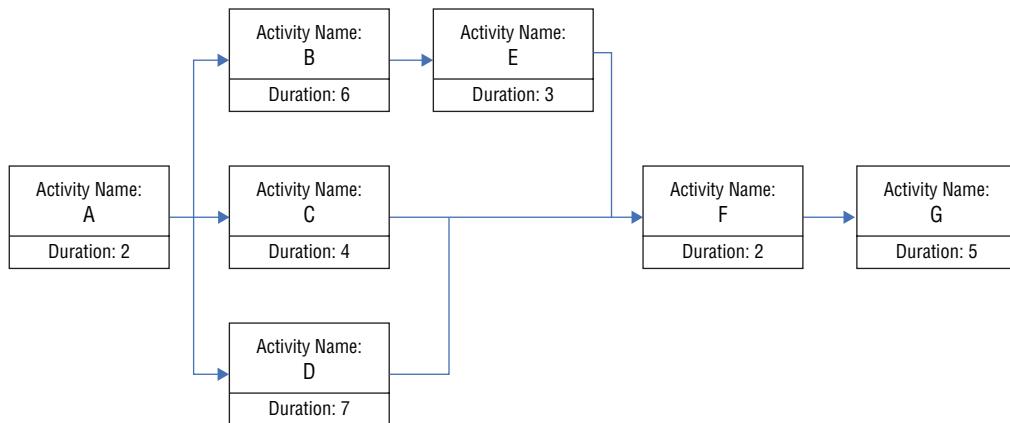
Chapter 6: Full-Length Practice Exam

1. B. Joseph Juran is behind “fitness for use,” which means that the stakeholders’ and customers’ expectations are met or exceeded, thereby reflecting their view of quality.
2. A. The business case captures the business need that the project is expected to satisfy, along with other key information and analysis, such as a cost-benefit analysis, as well as recommendations on how to solve a problem statement.
3. B. The project manager is carrying out the Direct and Manage Project Work process. This process has three tools and techniques: expert judgment, project management information system, and meetings.
4. C. The formula for calculating schedule variance is as follows: $SV = EV - PV$. Plug in the values to result in the following: $\$2,500 - \$2,300 = \$200$. A positive schedule variance means that the project is ahead of schedule.
5. C. The question refers to a key input of the Direct and Manage Project Work process, which provides overall management of the project work and deliverables. While several inputs are important, without the approved change requests, you cannot complete the activities referenced in the question.
6. C. The purpose of the Monitor Risks process is to evaluate the effectiveness of risk processes, monitor the implementation of risk responses, track identified risks, and identify and analyze new risks. The question describes the technical performance analysis technique, which compares technical accomplishments achieved during execution to technical achievement planned.
7. C. All of the options presented are valid data-gathering tools and techniques used to collect requirements. Only the focus groups option brings a group of stakeholders together to elicit their feedback, expectations, and general thoughts on a proposed topic or product. Focus groups are typically moderated by a trained facilitator or prequalified individual.
8. C. To date, Sally and her team have carried out the Plan Procurement Management process. After publishing the RFP, the team is likely to review seller proposals submitted and select a vendor. This occurs through the Conduct Procurements process.
9. C. According to the PMBOK® Guide, the key benefit of the Direct and Manage Project Work process is that it improves the probability of project success by providing overall management of the project work.
10. D. The Lessons learned register is an output, not a tool and technique, of the Manage Project Knowledge process. Tools and techniques of the process include expert judgment, knowledge management, information management, and interpersonal and team skills.
11. D. The resource management plan is where the processes and approach are documented for acquiring, managing, developing, and releasing project resources. This document is created out of the Plan Resource Management process and is a component of the project

management plan. While project management plan is an accurate choice, resource management plan is more specific and therefore the best choice among the options presented.

12. C. Democratic, or participative, leaders gather all the facts and ask for input from the team before making a decision. In this style, all team members participate in the decision-making process.
13. B. Project decisions now can impact the cost of quality in the form of returns, warranty claims, and recalls. Cost of quality includes costs incurred over the life of the product, not just those costs confined to a project.
14. A. To calculate the critical path, you must first draw out the network diagram and then add the duration of each activity that falls within the individual network paths. Figure 6.1 shows the network diagram and the three network paths that exist within it. The following is the duration of each of those paths: A-B-E-F-G = 18, A-C-F-G = 13, A-D-F-G = 16.

FIGURE 6.1 Network diagram critical path



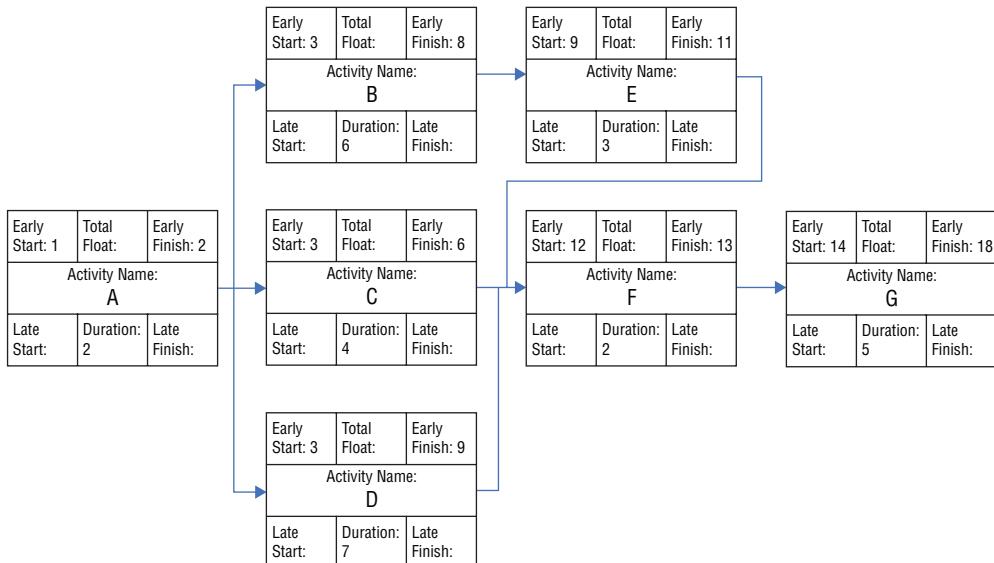
15. A. The Initiating process group is concerned with performing activities that define a new project or a new phase of an existing project. Mary Beth is in the process of carrying out the latter of the two.
16. B. There are many types of power that an individual may use; relational power comes from participating in networking, or leveraging connections and alliances.
17. B. When using the earned-value analysis technique, the performance measurement baseline is needed to compare against the actual results of the project.
18. D. Parties that compromise or reconcile each give up something to reach a solution. Everyone involved decides what they will give on and what they won't give on, and eventually through all the give-and-take, a solution is reached.

- 19.** A. When evaluating projects using net present value (NPV), select projects with the highest NPV. The general rule is if the NPV calculation is greater than 0, accept the project. If the NPV calculation is less than 0, reject the project. In this case, you were asked to choose one project, making the first project the best choice.
- 20.** A. The formula for calculating estimate to complete (ETC) when assuming work is proceeding on plan is as follows: ETC = EAC – AC. Plug in the values provided to result in the following: $\$1,700 - \$425 = \$1,275$.
- 21.** A. As resources are acquired and the team begins to execute the work of the project, team competencies and performance will need to be improved. This occurs through the Develop Team process, another process occurring as part of the Executing process group, which is where the Acquire Resources process belongs.
- 22.** D. The Achievement Theory, attributed to David McClelland, says that people are motivated by the need for three things: achievement, power, and affiliation. The need for affiliation comes from a team member wanting to have friendships with their co-workers and a sense of camaraderie with colleagues.
- 23.** B. A cost-reimbursable contract is where the buyer pays the seller for costs incurred for the work performed, plus a fee representing the seller profit. Because the full cost of the agreement is not known up front, the risk increases for the buyer.
- 24.** C. The Estimate Activity Resources process is where estimation of the type and quantity of resources occurs. Resources include people, material, equipment, and supplies. The process is part of the Project Resource Management Knowledge Area.
- 25.** A. The collaborate conflict resolution technique, also known as problem-solving, is where individuals go on a fact-finding mission to find the right solution to an existing problem. This is considered to be a win-win solution. The idea is that facts will yield a permanent solution.
- 26.** D. Prototypes allow project teams to collect feedback from stakeholders early on, which they can use to progressively elaborate on the scope and requirements. Prototypes are small-scale versions of the product and can include mock-ups or simulations.
- 27.** B. The purpose of the Develop Team process is to improve project performance through increased team competencies, better interactions among the team members, and improvements to the overall team environment. One of the key outputs of the process is team performance assessments.
- 28.** A. Failure costs are also known as cost of poor quality, and this question describes an internal failure cost.
- 29.** A. Integration occurs when the resources of the project—people, equipment, property, and supplies—are distributed to other areas in the organization or are assigned to other projects. This is typically a result of a strategic or prioritization change.
- 30.** D. The Control Resources process is responsible for ensuring that the physical resources assigned are available and utilized as planned and that any corrective action needed is taken. Physical resources refer to equipment, materials, facilities, and infrastructure resources.

- 31.** C. The project manager and team have completed the project management plan. The next step would be to baseline the plan, which means to obtain formal documented approval of the plan. Changes after baseline must follow the documented change control process as defined within the plan.
- 32.** A. Change requests may occur as a result of performing the Manage Stakeholder Engagement process. The purpose of this process is to cultivate appropriate engagement and interaction among stakeholders of the project. As a result of these activities, change requests to project or product scope may arise.
- 33.** B. TCPI measures the degree of performance efficiency that must be maintained in order to complete the project on plan. A TCPI of 1 indicates that the team must maintain their efficiency; a TCPI of > 1 means that the team must increase their efficiency and that completing on plan will be more difficult; a TCPI of < 1 means that the team will have an easier time completing on plan.
- 34.** D. The project manager is performing the Direct and Manage Project Work process. The deliverables produced as a result of performing the project work are the main output of this process. Other outputs include the work performance data, issue log, change requests, and updates made to the project management plan, project documents, and organizational process assets.
- 35.** C. Agile release planning is used as a tool and technique of the Develop Schedule process, not Control Schedule. Tools and techniques of the Control Schedule process include the following: data analysis, critical path method, project management information system, resource optimization, leads and lags, and schedule compression.
- 36.** D. The team has chosen to use the transfer risk response strategy. Transfer involves shifting the risk to a third party that will be responsible for covering the impact, should the risk occur. Insurance is an example of the transfer strategy.
- 37.** C. Formal pre-assignments are typically documented within agreements or the project charter. In this case, we know that the marketing expert is internal to the organization, since she is a colleague of the project manager, making the project charter the best choice.
- 38.** B. IRR is the discount rate when the present value of the cash inflows equals the original investment. When choosing between projects or when choosing alternative methods of doing the project, projects with higher IRR values are generally considered better than projects with low IRR values. This makes project B the best choice.
- 39.** B. The Expectancy Theory, first proposed by Victor Vroom, says that the expectation of a positive outcome drives motivation. According to Vroom, people will behave in certain ways if they think there will be good rewards for doing so.
- 40.** C. Flowcharts, logical data model, matrix diagrams, and mind mapping are all data representation tools, which is a tool and technique of the Plan Quality Management process.
- 41.** A. The project scope statement contains the identified scope, including the product scope description, deliverables, acceptance criteria, and project exclusions. The project scope statement, once approved, becomes part of the scope baseline.

- 42.** B. The scope management plan is created through the Plan Scope Management process and captures the processes that will be used to identify scope, decompose scope (through the creation of a work breakdown structure), baseline scope, and then monitor and control it once work begins. After its creation, the scope management plan becomes a component of the project management plan.
- 43.** C. While any one of the administrative closure tasks listed may have been missed by Jill, it is clear that she did not finalize the transition of the project's end result to ongoing operations. This would have occurred through the implementation of ongoing support for the new system deployed.
- 44.** B. The Executing process group is concerned with carrying out the work required to generate deliverables; in other words, it involves executing the project management plan and any approved changes to it. The Monitoring and Controlling process group is responsible for tracking, reviewing, and regulating performance of the project.
- 45.** C. The Control Scope process ensures that no more and no less is completed than committed to as part of the approved scope baseline. Nicolas is likely to emphasize activities of this process to ensure that scope creep does not occur.
- 46.** A. Bidder conferences are meetings held by the buyer in order to ensure that prospective sellers have a common and clear understanding of the materials, solutions, or services that the buyer is looking to procure. It is meant to be a neutral and fair way of providing information to potential sellers.
- 47.** A. To calculate the early start of activity D, you would first need to perform a forward pass. Figure 6.2 shows the network diagram with early start and early finish dates calculated.

FIGURE 6.2 Network diagram forward pass



48. C. The Develop Project Charter process is responsible for developing a document that formally authorizes the existence of a project and provides the project manager with the authority to allocate resources to project activities.
49. C. Monte Carlo analysis is a type of simulation technique that calculates hundreds to thousands of possible scenarios that could occur against a project objective (such as achieving budget or completion date). It considers the combined effects of project risks and other variables to generate the likely outcomes. Because of the complexity of this simulation technique, it is performed using simulation software or similar tools.
50. C. Project life cycles can be predictive or adaptive. Within the project life cycle, the approach to developing the desired outcomes through one or more phases tends to follow a development life cycle. The development life cycle may follow characteristics of a predictive, iterative, incremental, adaptive, or hybrid model.
51. C. Fernando and the team are performing activities associated with the Executing process group. There are a total of 10 processes within this process group: Direct and Manage Project Work, Manage Project Knowledge, Manage Quality, Acquire Resources, Develop Team, Manage Team, Manage Communications, Implement Risk Responses, Conduct Procurements, and Manage Stakeholder Engagement.
52. D. The Monitoring and Controlling process group is where project performance is measured and analyzed to determine whether the project is staying true to the project management plan. This is where corrective and preventive actions are identified and vetted to ensure that the project remains on track.
53. C. To calculate CPI, use the following formula: $CPI = EV \div AC$. To calculate SPI, use the following formula: $SPI = EV \div PV$. Plug in the values to result in the following:
CPI: $\$250 \div \$250 = \$1.0$
SPI: $\$250 \div \$300 = \$0.83$
54. C. Good project managers know that best practices and standards must be tailored based on many variables in order to be effective. Examples of these variables include the environment, organizational culture, and stakeholder needs.
55. D. Frederick Herzberg came up with the Hygiene Theory, also known as the Motivation-Hygiene Theory. He postulates that two factors contribute to motivation: hygiene factors and motivators. Hygiene factors, such as pay, are not long-term motivators and instead prevent dissatisfaction (versus motivation). Motivators, on the other hand, deal with the substance of the work itself and the satisfaction one derives from performing the functions of the job.
56. B. All processes listed other than the Control Schedule process belong to the Executing process group. Based on the scenario provided, the team is focused on monitoring activities, indicating that the team is likely to perform a process associated with the Monitoring and Controlling process group.

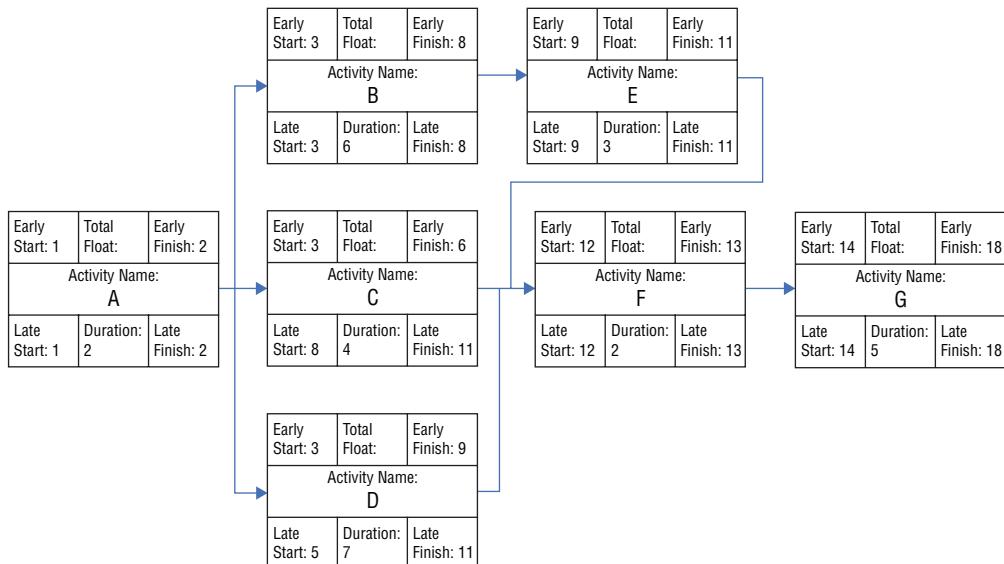
- 57.** B. Administrative closure activities for procurements occur as part of the Close Project or Phase process. After receiving formal notice that the terms of a contract have been satisfied (which occurs through the Control Procurements process), a project manager would then move to perform administrative closure activities for the procurement. Other activities listed may also occur in parallel.
- 58.** D. Audits, or more specifically quality audits, are independent reviews performed by trained auditors or third-party reviewers. The purpose of a quality audit is to identify ineffective and inefficient activities or processes used on the project.
- 59.** A. According to the *PMBOK® Guide*, one of the benefits of the Monitor Stakeholder Engagement process is that it maintains or increases the efficiency and effectiveness of stakeholder engagement activities as the project and environment change.
- 60.** B. The project manager is likely to implement the approved changes. This occurs through the Direct and Manage Project Work process, which guides not only execution of the project management plan but also approved changes to the plan.
- 61.** B. Project communications refers to various documents and other communication-related artifacts such as performance reports, status updates and progress, and other relevant information required by stakeholders. While updates to the project management plan and other documents may occur as a result of the process, the key output generated is project communications.
- 62.** C. Resources are acquired through the Acquire Resources process, which belongs to the Executing process group.
- 63.** B. The lowest level of the WBS is the work package level. Work packages are decomposed into activities as part of the Define Activities process; activities are not considered to be part of the WBS.
- 64.** C. Agreements contain the terms and conditions of resources and services procured and should be the primary source of information about the procurement when it comes to what was agreed to in terms of delivery and requirements.
- 65.** A. Trend analysis is one of the techniques used to control the project schedule. Trend analysis involves analyzing project performance over a period of time in order to identify whether performance is improving or worsening.
- 66.** C. Colocation, also known as tight matrix, brings team members together in one physical location for the entire project or for important periods during the project life cycle.
- 67.** D. Joseph Juran developed the fitness for use theory that asks the following questions: Did the product satisfy a real need? Is the product safe? Did it meet the quality expectations? Crosby developed zero defects, Kaizen is concerned with continuous improvement, and Deming says quality is a management problem.
- 68.** B. Based on the scenario presented, the risk manager has carried out the Plan Risk Management, Identify Risks, and Perform Qualitative Risk Analysis processes. They are likely to carry out the Perform Quantitative Risk Analysis process next to analyze the combined effects of individual risks on overall project objectives.

69. C. Maslow's Hierarchy of Needs consists of the following, listed in order from the bottom to the top of the pyramid: basic physical needs, safety and security needs, social needs, self-esteem needs, and self-actualization.
70. A. The PMI Talent Triangle® addresses the following three key skill sets: technical project management, leadership, and strategic and business management.
71. D. To calculate EAC assuming a steady cost performance indicator (CPI), use the following formula: $EAC = BAC \div CPI$. To calculate EAC for this scenario, you must first determine what the CPI is, since it is not provided. To calculate CPI, divide earned value by actual cost to result in the following: $600 \div 550 =$ a CPI of 1.09. Plug the values into the EAC formula to result in the following:
EAC: $\$1,000 \div \$1.09 = \$917$ (rounded to the nearest whole number)
72. D. Julie is placing emphasis on activities that are important to managing communications of the project; specifically, she describes the interpersonal and team skills technique that can encompass techniques such as active listening, conflict management, cultural awareness, meeting management, networking, and political awareness.
73. A. The question describes the Monitor and Control Project Work process. The following are tools and techniques of the process: expert judgment, data analysis (alternatives analysis, cost-benefit analysis, earned-value analysis, root-cause analysis, trend analysis, variance analysis), decision-making, and meetings.
74. B. The project manager in this scenario is performing the Control Schedule process using the schedule compression technique, which looks at ways of compressing the schedule through fast-tracking or crashing. Specifically, the question describes the crashing compression technique.
75. B. Explicit knowledge is knowledge that can be captured and described using words, numbers, and images. Tacit knowledge, on the other hand, is much more challenging to capture and express.
76. C. According to the *PMBOK® Guide*, the purpose of the Perform Integrated Change Control process is to review all change requests; approve changes and manage changes to deliverables, project documents, and the project management plan; and communicate the decisions.
77. C. When parties withdraw or avoid, they never reach resolution. In some cases, this technique involves a party leaving the conversation; in this scenario, the project manager closed out the conversation without resolution.
78. A. Dependency determination and integration is one of four tools and techniques of the Sequence Activities process. It involves identifying mandatory, discretionary, external, and internal dependencies that exist and that should be considered when building the project schedule network diagram.
79. C. Projects that evolve into ongoing operations are considered projects that end because of addition; in other words, they become their own ongoing business units.

- 80.** C. To calculate the late start of activity F, you would first need to perform a forward pass and a backward pass.

Figure 6.3 shows the network diagram with early start and early finish dates calculated.

FIGURE 6.3 Network diagram backward pass



- 81.** B. According to the *PMBOK® Guide*, an individual project risk is defined as an uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives.
- 82.** C. Implementing approved changes occurs as part of the Direct and Manage Project Work process, which is part of the Executing process group.
- 83.** C. The Project Scope Management Knowledge Area contains six project management processes: Plan Scope Management, Collect Requirements, Define Scope, Create WBS, Validate Scope, and Control Scope.
- 84.** A. Dr. Bruce Tuckman and Mary Ann Jensen developed a model that describes how teams develop and mature. According to this model, the team goes through five stages of development: forming, storming, norming, performing, and adjourning. During the form stage, the team has a tendency to be reserved and formal as they get to know each other.
- 85.** D. Work performance information, not data, compares actual communication implemented against what was planned. Work performance data is an input to the process and instead represents raw data of the project, such as what was communicated. It does not reflect an analysis of the information.

- 86.** B. The project manager failed to perform quality control activities. The purpose of the Control Quality process is to ensure that results generated by the project are complete, correct, and meet customer expectations.
- 87.** B. Respect involves the way we conduct ourselves, the way we treat others, listening to other viewpoints, and conducting ourselves in a professional manner. As more and more companies are operating across the global landscape, project managers are having to increase their awareness of cultural influences and customary practices and be conscious of this for their teams to avoid things such as culture shock.
- 88.** C. The Monitor Communications process is responsible for ensuring that communication activities performed are effective and align with communication planned.
- 89.** A. Factors such as the availability of resources, skill levels, training needs, and other elements are considered when developing the resource management plan.
- 90.** C. The project manager is performing the Manage Project Knowledge process, which generates the following outputs: lessons learned register, project management plan updates, and organizational process assets updates. Other options listed in the question are tools and techniques versus outputs of the process.

- 91.** B. The sponsor is asking for the to-complete performance index (TCPI). To calculate TCPI, assuming that the budget at completion (BAC) is still considered to be viable, use the following formula: $BAC = (BAC - EV) \div (BAC - AC)$. Plug in the values provided to get the following:

$$(\$55,000 - \$30,000) \div (\$55,000 - \$35,000) = \$1.25$$

A TCPI of 1.25 means that the team must increase their performance efficiency in order to complete the project according to plan.

- 92.** A. In a project-oriented organization, the project manager's level of authority is high. In many cases, project team members report and work under the authority of the project manager and are released at the conclusion of the project.
- 93.** D. You are currently performing the Create WBS process, which belongs to the Project Scope Management Knowledge Area.
- 94.** C. In a project-oriented structure, team members are typically released from their assignments when a project closes. This is because the team is typically dedicated to the project. They may shift into another project or be released from the organization.
- 95.** C. The Control Procurements process is responsible for managing procurement relationships, monitoring contract performance, addressing changes and corrective actions needed, and closing out agreements.
- 96.** D. The Identify Stakeholders process is responsible for identifying project stakeholders and analyzing and documenting information about them, such as their interests, impact, influence, and involvement. This process should be performed early on in the project's life cycle and repeated periodically.

- 97.** C. During the final stages of a project's life cycle, stakeholders have the least amount of influence. During this stage, it is unlikely that a stakeholder may get a scope change approved.
- 98.** D. As part of the Control Procurements process, approved change requests are implemented.
- 99.** B. The formula for calculating estimate to complete (ETC) when the project is expected to progress as planned is as follows: EAC – AC. Plug in the values provided to result in the following: $\$55,000 - \$45,000 = \$10,000$.
- 100.** C. Enterprise environmental factors encompasses the organization's culture, structure, infrastructure, and personnel administration. Human resource management policies are included as part of these internal factors.
- 101.** D. Shewhart invented the Plan-Do-Check-Act cycle and is also considered the grandfather of TQM. Juran developed the fitness for use theory, Deming says quality is a management problem, and Feigenbaum is the founder of TQM.
- 102.** D. Since an issue has not occurred as of yet, the project manager is likely to take preventive actions. Preventive actions are submitted through a change request, which is then evaluated and dispositioned through the project's change control board.
- 103.** A. The Project Integration Management Knowledge Area contains the high-level processes that integrate the work generated out of the other Knowledge Areas. From a closure standpoint, the Close Project or Phase process falls within this group of processes and is the only formal process that belongs to the Closing process group.
- 104.** D. The Monitoring and Controlling process group is concerned with monitoring and tracking whether the progress and performance of the project are in line with the plan. If they are not or there are indicators that performance may deteriorate, then corrective or preventive actions are brought forward and dispositioned through this process group.
- 105.** B. When selecting projects using a weighted scoring model, simply multiply a project's score against the weight assigned for each criterion and then add the score for all criteria to generate an overall project score. The project with the highest overall score should be selected. The following table reflects the project scores calculated for this scenario:

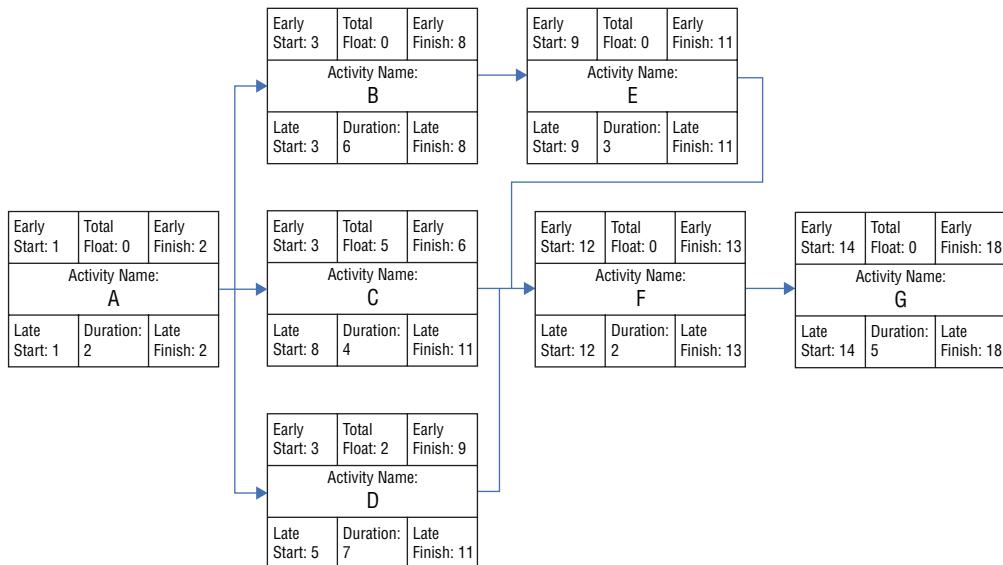
Criterion	Weight	Project A score*	Project A totals	Project B score*	Project B totals	Project C score*	Project C totals
Profit potential	5	2	10	5	25	1	5
Marketability	3	5	15	2	6	2	6
Ease to produce/ support	1	1	1	2	2	5	5
Weighted score	—	—	26	—	33	—	16

*5 = highest

106. C. Manage Quality is a process that is performed as part of executing the project work, rather than as part of the Monitoring and Controlling activities. The process does leverage outputs of the Control Quality process, which belongs to the Monitoring and Controlling process group.
107. C. Alice needs to further develop her strategic and business management skills. This skill set includes the ability to see and understand the high-level overview of the organization and how projects link to the organization's strategic goals.
108. A. Claims administration is a tool and technique of the Control Procurements process. Claims administration involves addressing contested changes between the buyer and seller, which then converts into a claim.
109. C. The Project Integration Management Knowledge Area has a total of seven project management processes: Develop Project Charter, Develop Project Management Plan, Direct and Manage Project Work, Manage Project Knowledge, Monitor and Control Project Work, Perform Integrated Change Control, and Close Project or Phase.
110. D. Total float refers to the amount of time you can delay the earliest start of an activity without delaying the ending of the project. To calculate total float, you would first need to draw the network diagram and then perform a forward pass and a backward pass. Next, subtract either the early start from the late start or the early finish from the late finish (both should give you the same answer).

Figure 6.4 shows the network diagram with total float calculated.

FIGURE 6.4 Network diagram total float



- 111.** D. The stakeholder engagement plan is where the strategies and actions are captured for engaging stakeholders. Strategies may include how to increase their level of involvement and engaging them in the decision-making process.
- 112.** B. When developing the project management plan, soft skills become key, particularly in cases where the stakeholder group is large. In the context of developing the project management plan, interpersonal and team skills involves conflict management, facilitation, and meeting management. Bringing stakeholders into alignment with each other is a part of resolving conflicts.
- 113.** C. Expert power occurs when the person being influenced believes the manager, or the person doing the influencing, is knowledgeable about the subject or has special abilities that make them an expert. The person goes along just because they think the influencer knows what they're doing and it's the best thing for the situation.
- 114.** C. Extinction means that the project was completed successfully and has ended as a result of achieving its goals and receiving stakeholder acceptance. A project ending as a result of budget reduction occurs as a result of starvation. If the budget cuts occurred due to redistribution, then it is considered to end as a result of integration.
- 115.** B. Weekly status updates are an example of work performance reports, which are produced out of the Monitor and Control Project Work process.
- 116.** D. Judy and the team will need the scope baseline, which includes the work breakdown structure. The team will take the work packages and further decompose them into a series of activities that will form the activity list—an output of the Define Activities process.
- 117.** A. The Validate Scope process, not the Control Scope process, is responsible for the formal acceptance of project deliverables.
- 118.** B. To calculate cost variance, simply subtract actual cost from earned value. A positive number means that the project is performing under budget; a negative number means that the project is performing over budget. Cost variance calculation: $\$7,000 - \$5,000 = \$2,000$.
- 119.** A. The Control Quality process is responsible for verifying the correctness of a deliverable, while the Validate Scope process is responsible for obtaining formal acceptance of the deliverable. Formal acceptance occurs after quality control activities are performed.
- 120.** D. The scenario presented describes administrative closure activities, which occur as part of the Close Project or Phase process. While procurements are closed through the Control Procurements process, administrative closure of procurements occurs through the Close Project or Phase process.
- 121.** D. The risk management plan captures information on how risk management will be performed for the project. This includes risk management roles and responsibilities, among other key risk management information. Although project management plan is technically a correct choice, it is not as specific as the risk management plan; the risk management plan is therefore a better choice.

- 122.** B. The Control Quality process is responsible for determining the correctness of deliverables. After deliverables are created, quality control activities inspect them to ensure correctness before the deliverable is formally accepted through the Validate Scope process.
- 123.** B. Functional organizations are typically organized by functions or departments. It is considered to be the more traditional type of structure, where the functional manager has the majority of the authority and the project manager role is part-time or carried out along with other operational duties.
- 124.** B. The Project Integration Management Knowledge Area is the only Knowledge Area that has processes across all five process groups. It contains the high-level processes that bring the results of the remaining Knowledge Areas together, unifying and coordinating all project management activities.
- 125.** C. Activities associated with the Control Scope process are intended to ensure that the completed scope of the project maps to the planned scope. Adding scope outside of the change control process, as the director of development did in the question's scenario, is known as scope creep.
- 126.** D. Autocratic decision-making is where a single individual makes the decision for the group.
- 127.** C. Finish-to-start is the most commonly used logical relationship, not start-to-finish.
- 128.** B. Risks are identified primarily through two processes: Identify Risks and Monitor Risks. It should be noted that risks can be identified at any point throughout the project, as a result of carrying out project activities.
- 129.** B. The cost management plan contains the approved approach for determining the budget, managing it, and controlling it. It also captures additional key details, such as the rules of performance measurement, control thresholds, units of measure and levels of precision used, and so on.
- 130.** D. The scope baseline consists of the work breakdown structure (WBS), the WBS dictionary, and the project scope statement. The scope baseline should also contain planning packages and work packages, which are components of the WBS.
- 131.** C. Schedule compression uses fast-tracking or crashing compression techniques to bring delayed activities back in line with the plan. Allocating additional resources to critical activities describes the crashing technique; fast-tracking is where you complete two activities in parallel in order to complete the work faster.
- 132.** A. To calculate the total number of communication channels, use the following formula, where N represents the total number of stakeholders: $N(N - 1) \div 2$. Plug in the values to come up with the following: $\$65(65 - 1) \div 2 = \$2,080$.
- 133.** C. The risk register contains risks identified and information about individual risks; this includes risk response plans, triggers that indicate a plan should be implemented, and risk response owners.

- 134.** B. Abraham Maslow theorized that humans have five basic needs arranged in hierarchical order. The first is physical needs, such as food, clothing, and shelter. The idea is that these needs must be met before the person can move to the next level of needs in the hierarchy, safety and security needs.
- 135.** C. The project manager is performing the Validate Scope process in this scenario, where a key output is the accepted deliverables. To accept deliverables, the committee would need to confirm that they have been verified through quality control activities. Verified deliverables is an input of the process.
- 136.** B. Recalls and project decisions can have a direct impact on the cost of quality.
- 137.** B. Organizational structure, culture, and management practices are examples of enterprise environmental factors; all other options are examples of organizational process assets.
- 138.** B. The risk report is first created out of the Identify Risks process and is updated as other risk-related processes are carried out. It contains an assessment of the current overall project risk exposure, including the agreed-upon risk response strategy. This is an input of the Implement Risk Responses process.
- 139.** D. Cost of quality is a tool and technique of Plan Quality Management through data analysis. Internal failure costs are a cost of quality that results in rework, scrapping, and downtime. You have the ability to control internal failure costs while the product is still under the control of the organization.
- 140.** A. Interpersonal skills are used when performing the Manage Stakeholder Engagement and Monitor Stakeholder Engagement processes, not the Identify Stakeholders process. Tools and techniques of Identify Stakeholders include expert judgment, data gathering, data analysis, data representation, and meetings.
- 141.** D. Dr. Bruce Tuckman and Mary Ann Jensen developed a model that describes how teams develop and mature. According to this model, the team goes through five stages of development: forming, storming, norming, performing, and adjourning. During the performing stage, the team is productive, is effective, and is operating at optimum performance.
- 142.** B. A triangular distribution calculation involves taking an average of the optimistic, most likely, and pessimistic estimates. Simply add up the three estimates and divide by 3: ((ML) \$72 + (O) \$55 + (P) \$85) ÷ 3 = \$70.67.
- 143.** D. The sponsor is looking for the variance at completion (VAC). Use the following formula to calculate VAC: BAC – EAC. Plug in the values to result in the following: \$25,000 – \$32,000 = – \$7,000. A VAC of –\$7,000 means that the project is expected to complete with a deficit of \$7,000.
- 144.** A. The Manage Quality process is the second of three quality management processes. The purpose of this process is to translate the quality management plan into quality activities that are executable and to ensure that the quality policies of the organization are factored into the project.

- 145.** B. In 2001, several software developers converged to formalize the Agile approach. They published the manifesto for Agile software development and identified 12 principles that are the focus of any Agile approach.
- 146.** A. Referent power is inferred to the influencer by his or her subordinates. Project team members who have a great deal of respect and high regard for their project managers willingly go along with decisions made by the project manager because of referent power.
- 147.** C. Fairness includes avoiding favoritism and discrimination against others, avoiding and reporting conflict-of-interest situations, and maintaining impartiality in a decision-making process. A conflict of interest is when you put your personal interests above the interests of the project or when you use your influence to cause others to make decisions in your favor without regard for the project outcome.
- 148.** D. The Plan Communications Management process has a total of eight tools and techniques: expert judgment, communication requirements analysis, communication technology, communication models, communication methods, interpersonal and team skills, data representation, and meetings.
- 149.** B. The Tuckman-Jensen model consists of the following stages of team development: forming, storming, norming, performing, and adjourning.
- 150.** B. Alyssa is using a virtual team. Virtual teams are individuals who work toward a unified goal but who spend little to no time meeting in person. Instead, these teams use technology to interact and communicate.
- 151.** D. The project sponsor is requesting a final report, which is an output of the Close Project or Phase process. These administrative closure activities can occur at the phase level, to wrap up the phase, and at the overall project level.
- 152.** C. Seller proposals are an input, not an output of the Conduct Procurements process. This process instead results in selected sellers.
- 153.** B. A cost performance index (CPI) that is < 1 indicates that the project is over budget. This means that crashing the schedule, which is typically a costly activity, is not an option. To impact the schedule, Sue will need to focus on activities that fall on the critical path, in other words, “critical” activities.
- 154.** A. The purpose of the Validate Scope process is to formalize acceptance of completed project deliverables.
- 155.** C. Quality metrics are first identified in the Plan Quality Management process. Performance of the product will be measured and evaluated against these metrics as quality control measurements are collected in the Control Quality process.
- 156.** C. Plurality is where a decision is made based on the largest grouping of votes. For example, if option A has 3 votes, option B has 5 votes, and option C has 4 votes, then option B wins, even if it does not have the total majority votes.

- 157.** B. Legitimate, or formal, power comes about as a result of the influencer's position. Because that person is the project manager, executive vice president, or CEO, they have the power to call the shots and make decisions.
- 158.** D. Earned-value analysis is used to compare the performance measurement baseline to actual schedule and cost performance. This will allow the project manager to identify three key values important to calculating the performance of the project: planned value, earned value, and actual cost.
- 159.** B. Root-cause analysis is a data analysis technique that focuses on the identification of the root causes of variances, defects, or risk. The idea is that addressing the root cause (or causes) will address the overall problem, versus just individual issues.
- 160.** B. Dr. Bruce Tuckman and Mary Ann Jensen developed a model that describes how teams develop and mature. According to this model, the team goes through five stages of development: forming, storming, norming, performing, and adjourning. During the storming stage, team members confront one another and vie for position and control.
- 161.** A. The scope of programs encompasses the various components that exist within them. The scope of the program is to generate the documented benefits to an organization by ensuring that the program components are delivered in a coordinated and complementary manner.
- 162.** B. The project sponsor is requesting a final report, which is an output of the Close Project or Phase process. The final report may be created to summarize the work of a phase or for the overall project. It typically provides an overall summary of the work completed, a summary of performance against objectives (such as scope, quality, cost objectives), and a summary of risks and issues.
- 163.** A. Management reserves are funds set aside for unexpected situations and are used at the discretion of management (hence the name). Management reserves are not considered to be a part of the cost baseline but are a part of the overall project budget.
- 164.** B. Paul Hersey and Ken Blanchard developed the Situational Leadership Theory during the mid-1970s. This theory's main premise is that the leadership style you use depends on the situation.
- 165.** D. Extinction is where a project ends because it is completed and accepted by stakeholders. For this reason, it is considered the best type of ending.
- 166.** B. The conflict management technique known as forcing is also referred to as directing. Forcing/directing is where one person forces a solution on the other parties.
- 167.** B. Using an Agile approach, a project team can assess results and adjust processes to meet new or modified requirements.
- 168.** B. It is likely that scope creep occurred and that a change request was not submitted and reviewed by the change control board before it was implemented.
- 169.** B. In a predictive life cycle, the project's scope, time, and cost are determined during the early phases of the project, meaning that the majority of planning occurs up front. Changes are closely managed following a change control processes.

- 170.** A. The sponsor is looking for the estimate at completion (EAC). The EAC estimates (or forecasts) the expected total cost of a work component, a schedule activity, or the project at its completion by calculating the actual costs to date and then adding an estimate of what the remaining work will cost.
- 171.** A. Histograms are bar charts that show volume by source or component. In the case of quality control, histograms typically focus on the total number of defects.
- 172.** A. Philip Crosby developed the zero defects practice, which promoted getting it right the first time. Crosby theorized that costs increase when quality planning isn't performed up front, which means you'll have to engage in rework, thereby affecting productivity. He therefore advocated for prevention.
- 173.** D. In this scenario, the project manager is performing the Manage Stakeholder Engagement process. The stakeholder engagement plan is created out of the Plan Stakeholder Engagement process and documents guidance and information to aid in managing stakeholder expectations, as well as to promote stakeholder interaction and engagement.
- 174.** D. The project manager in this scenario is carrying out the Manage Team process. This process involves tracking team member performance, providing the team with feedback, resolving issues among team members, and managing team changes to optimize project performance.
- 175.** A. Tacit knowledge is knowledge that is challenging to capture and express, such as insights, experience, and beliefs. Explicit knowledge, on the other hand, is knowledge that can be captured and described using words, numbers, and images.
- 176.** D. Work performance data is the raw data of the project. In the context of monitoring risks, it consists of information about the identified risks, such as whether risk responses have been implemented, whether they are active or closed, and so on.
- 177.** A. The tools and techniques of the Plan Quality Management process include expert judgment, data gathering, data analysis, decision-making, data representation, test and inspection planning, and meetings.
- 178.** C. A rough order of magnitude ranges from -25% to +75%, whereas a definitive range spans -5% to +10%.
- 179.** C. Bottom-up estimating involves further decomposing an activity or work item being estimated into smaller components and then aggregating the estimates up to the original level. This is a time-consuming and sometimes costly technique, but it yields a good degree of confidence and accuracy.
- 180.** C. Theory Z was developed by Dr. William Ouchi. This theory is concerned with increasing employee loyalty to their organizations; it puts an emphasis on the well-being of the employees both at work and outside of work, it encourages steady employment, and it leads to high employee satisfaction and morale.

- 181.** B. Autocratic leaders tend to make decisions based on their own opinions. All decisions are made by the leader with little to no input from the team.
- 182.** B. In this scenario, users demanded compliance with ISO standards. Although the scenario notes that they mandated compliance, this is not driven by a law or regulation. Other reasons that projects come about include competitive forces, political changes, new technology, stakeholder demands, business process improvements, and material issues.
- 183.** D. Punishment power should be used as a last resort and only after all other forms of power have been exhausted.
- 184.** B. Douglas McGregor defined two models of worker behavior, Theory X and Theory Y, that attempt to explain how different managers deal with their team members. Theory Y managers believe people are interested in performing their best, given the right motivation and proper expectations. These managers provide support to their teams, are concerned about their team members, and often entrust their team to perform the functions of their positions with limited supervision.
- 185.** C. Earned value is the measure of work performed expressed in terms of the budget authorized for that work.
- 186.** D. According to the *PMBOK® Guide*, there are three key dimensions developed and monitored through earned value management: planned value, earned value, and actual cost.
- 187.** C. The purpose of the Manage Communications process is to ensure the timely and effective collection, distribution, and management of project information.
- 188.** A. Laissez-faire is considered to be the opposite of an autocratic leadership style. Following a laissez-faire leadership approach, the leader allows the team to drive decisions and recommend actions and has little involvement in the process.
- 189.** B. Operational work is repetitive and ongoing and typically reflects standard work that is carried out within a department or team. Projects, on the other hand, tend to bring about some type of change and consist of work that is considered to be temporary and unique.
- 190.** B. Contingency reserves are funds set aside to address risks that have materialized. This reserve is considered to be part of the cost baseline, whereas management reserves are not.
- 191.** C. The Manage Team process is where team member performance is tracked, feedback is given, issues are resolved, and team changes occur to optimize the performance of the project.
- 192.** C. In a fixed-price agreement, the seller and buyer agree to a set price for the goods or services provided by the seller. If the cost of providing the goods or services increases for the seller, they must absorb the additional cost, which presents them with a higher risk. Since the buyer knows the costs up front, the risk for the buyer is low.
- 193.** A. Statistical sampling is a data-gathering technique of the Control Quality process. This technique looks at a sample set of a population in order to measure controls and verify quality (such as measuring size and determining whether the sample set fits within a tolerable range, as defined within the quality management plan).

- 194.** A. Statistical sampling involves taking a sample number of parts from the whole population and inspecting them to determine whether they fall within acceptable variances.
- 195.** A. Frederick Herzberg came up with the Hygiene Theory, also known as the Motivation-Hygiene Theory. He postulates that two factors contribute to motivation: hygiene factors and motivators.
- 196.** A. This question asks that you calculate the estimate at completion (EAC) factoring in CPI and SPI.

$$\text{EAC} = \text{AC} + [(\text{BAC} - \text{EV}) \div (\text{CPI} \times \text{SPI})]$$

To plug the values into the formula, you must first calculate CPI and SPI. The formulas are as follows: $\text{CPI} = \text{EV} / \text{AC}$, and $\text{SPI} = \text{EV} \div \text{PV}$. Plug in the values to result in the following:

$$\text{CPI: } \$250 \div \$250 = \$1.0$$

$$\text{SPI: } \$250 \div \$200 = \$1.25$$

Plug in the values to result in the following EAC:

$$\$250 + [(\$300 - \$250) \div (\$1.0 \times \$1.25)] = \$290$$

- 197.** A. According to Douglas McGregor, Theory X managers believe most people do not like work and will try to steer clear of it; they believe people have little to no ambition, need constant supervision, and won't actually perform the duties of their jobs unless threatened.
- 198.** C. An acquisition or merger of two business entities is an example of a strategic opportunity or business need that leads to the creation of a project. Other reasons that projects come about include competitive forces, political changes, new technology, stakeholder demands, business process improvements, and material issues.
- 199.** C. A beta distribution calculation involves giving a greater weight to the most likely estimate. Simply multiply the most likely estimate by four, add the result with the other two estimates, and divide by six: $(4 \times \text{(ML)} \$72 + \text{(O)} \$55 + \text{(P)} \$85) \div 6 = \71.3 .
- 200.** D. The project management plan is a formal document that defines how the project will be executed, monitored and controlled, and closed. It is a compilation of subsidiary plans and baselines, including the scope, cost, and schedule baselines.

Index

Note to the Reader: *Italicized* page numbers indicate illustrations.

A

accommodating, conflict-resolution technique, 269
Achievement Theory, 83, 195, 264, 275, 306
Acquire Resources process, 91, 203, 267, 310
 enterprise environmental factors, 82, 88, 106,
 264, 266, 272
 inputs, 114, 275
 organizational process assets, 93, 268
 outputs, 97, 269
 tools and techniques, 100, 270
active risk acceptance, 76, 262
activities
 administrative closure activities, 163, 170,
 173, 180, 202, 293, 296, 297, 300,
 310, 316
 Define Activities process, 50–51, 64,
 252, 257
 Estimate Activity Durations process, 47, 53,
 58, 73, 251, 253, 254, 261
 Estimate Activity Resources process, 53, 195,
 253, 306
 ongoing activities, 171, 173, 296, 297
Sequence Activities process, 236, 253, 280,
 311
activity attributes, 50, 252
activity on node (AON), 250
actual costs, 143, 286
addition, as cause of project closeout, 155, 167,
 178, 206, 289, 294, 299, 311
adjourning stage of team development, 104, 106,
 272, 302
ADM (arrow diagramming method), 42, 249
administrative closure activities, 163,
 170, 173, 180, 202, 293, 296, 297, 300,
 310, 316
advertising, Conduct Procurements process, 101,
 270
affinity diagrams, 98, 269
Agile Manifesto, 4, 221, 234, 319
Agile project management, 27, 242
 benefits, 226, 320
 characteristics, 173, 177, 297, 299
 common roles, 165, 194
 implementation strategy, 168, 295
 product owners, 27, 243

scrum masters, 243
servant leadership approach, 158, 166, 291, 294
agreements
 confidentiality agreements, 164, 293
 examples, 103, 271
 preassignments, 198, 307
 procurement agreements, 203, 310
 vendor agreements, 112, 274
alternatives analysis, 61, 256
analogous estimating, 47, 53, 58, 73, 251, 253,
 254, 261
AON (activity on node), 250
appraisal costs, 48, 251
approved change requests, 81, 96, 98, 99, 116,
 264, 269, 270, 276
arrow diagramming method (ADM), 42, 249
assumption log, 37, 247
assumptions, 37, 246
attributes sampling, 129, 280
autocratic leadership style, 228, 322
avoid, conflict-resolution technique, 105, 206,
 272, 311

B

bar charts, histograms, 135, 282
basic physical needs, Maslow's Hierarchy of
 Needs, 115, 275
basis of estimates, 66–67, 185, 258, 302
benefit measurement methods, 3, 17, 234, 239
 cash flow analysis
 discounted, 24, 241
 payback period, 3, 13, 19, 25, 28, 31, 34,
 234, 237, 239, 242, 243, 244, 245
 results of, 19, 240
 cost-benefit analysis, 76, 262
benefit-cost ratio, 22, 240
best practices, 201, 309
beta distribution, 43, 232, 249, 255, 323
bidder conferences, 103, 200, 271, 308
bottom-up estimating, 52, 59, 74, 228, 255, 262, 321
brainstorming, 22, 241
burndown charts, 28, 243
business case, 3, 15, 124, 190, 238, 304
business needs, 23, 241

C

C-Type diagrams, 100, 270
 cash flow analysis
 discounted, 24, 241
 payback period, 3, 13, 19, 25, 28, 31, 34, 234,
 237, 239, 242, 243, 244, 245
 results of, 19, 240
 change control board (CCB), 125, 126, 226, 278,
 279, 320
 change log, 143, 286
 change requests, 133, 197, 282, 307
 approved, 81, 96, 98, 99, 116, 264, 269, 270,
 276
 causes, 101, 270
 claims administration, 213, 315
 post-approval process, 81, 264
 change-driven life cycles, 14, 238
 channels of communication, 62, 219, 256, 317
 charts
 burndown, 28, 243
 control, 146, 287
 iteration burndown, 139, 284
 RACI, 26, 75, 77, 262
 check sheets, 147, 287
 claims administration, 120, 124, 213, 276, 278, 315
 Close Project or Phase process
 administrative closure activities, 163, 170,
 180, 202, 293, 296, 300, 310
 archiving-related outputs, 155, 289
 inputs, 168, 171, 295, 296
 key activities, 155, 290
 Knowledge Area of, 158, 291
 lessons learned, 173, 297
 organizational process assets, 155, 183, 289,
 301
 outputs, 172, 297
 timing of, 166, 294
 tools and techniques, 183, 301
 transitioning activities, 171, 296
 closed procurements output, 129, 163, 172, 280,
 293, 297
 Closing process group, 175, 179, 180, 298, 300
 contract closure, 168, 295
 product verification, 161, 292
 risk in, 157, 290
 closing projects
 addition as cause of, 155, 167, 178, 206, 289,
 294, 299, 311
 characteristics of project closure, 188, 303
 extinction as cause of, 165, 175, 186, 215,
 225, 294, 298, 302, 316, 320
 final reports, 161, 170, 173, 176–177, 182,
 292, 296, 297, 299, 301

integration as cause of, 167, 176, 186–187,
 196, 290, 294, 298, 303, 306
 ongoing activities, 171, 173, 296, 297
 regression analysis, 163, 293
 release of resources, 156, 290
 releasing project resources, 177, 299
 risk during, 157, 290
 starvation as cause of, 156, 159, 163, 180,
 290, 291, 293, 300
 stress on organizations, 155, 289
 survey policies, 185, 302
Code of Ethics and Professional Conduct, 155, 290
 core values, 298
 fairness, 162, 180, 183, 186, 222, 292,
 300, 301, 303, 319
 honesty, 157, 159, 164, 169, 186, 187, 290,
 291, 293, 295, 301, 302, 303
 respect, 156, 169, 172, 187, 208, 290, 295,
 296, 297, 303, 313
 responsibility, 88, 158, 165, 174, 176, 179,
 180, 183, 266, 291, 293, 298, 299,
 300, 301
 groups applicable to, 178
 violations by team members, 163, 166, 293,
 294
 collaborate, conflict-resolution technique, 94,
 108, 195, 205, 272, 273, 286, 306
 Collect Requirements process, 77, 263
 colocation, 85, 204, 265, 310
 communication channels, 62, 219, 256, 317
 communications management plan, 50, 113, 252,
 275
 communications plan, 50, 252
 communications requirements analysis, 62, 256
 composite resource calendars, 95, 268
 Conduct Procurements process, 92, 268
 inputs, 103, 271
 tools and techniques, 200, 308
 confidentiality agreements, 164, 293
 configuration management, 119, 130, 134–135,
 276, 281, 282
 configuration status accounting, 130, 281
 conflict-resolution techniques, 101, 270
 accommodate, 269
 avoid, 105, 206, 272, 311
 collaborate, 94, 108, 195, 205, 272, 273, 286, 306
 direct, 85, 225, 320
 force, 225, 320
 reconcile, 194, 305
 smooth, 98, 269
 conflicts of interest
 among team members, 177, 299
 avoiding, 185, 188, 302, 303
 core value addressing, 162, 222, 292, 319
 gifts and, 182, 301

- PMP credential holders and, 157, 291
procurement policy violations, 186, 302
project manager responsibilities, 179, 300
with stakeholders, 30, 38, 244, 247
constrained optimization methods, 21, 240
constraints
documenting, 37, 247
triple constraints, 162, 292
contingency plans, 262
contingency reserves, 230, 284, 322
Contingency Theory, 90, 111, 267, 274
contracts
cost plus fixed fee (CPFF) contracts, 74, 262
cost-reimbursable contracts, 71, 195, 261, 306
fixed-price contracts, 72, 230, 261, 262, 322
fixed-price incentive fee contracts, 74, 261, 262
fixed-price with economic price adjustment
(FP-EPA) contracts, 75, 262
negotiated draft contracts, 85, 265
synonyms for, 113, 275
control charts, 146, 287
Control Costs process
purpose, 121, 277
tools and techniques, 124–125, 127, 278, 279
Control Procurements process, 127, 132, 147,
280, 281, 287
closed procurements output, 129, 155, 163,
172, 280, 290, 293, 297
closing procurements, 188, 303
outputs, 124, 278
tools and techniques, 122, 172, 213, 277, 297, 315
Control Quality process, 133, 216, 282, 316, 317
activities, 128, 283
check sheets, 147, 287
control charts, 146, 287
purpose, 140, 208, 284, 313
scatter diagrams, 148, 288
tools and techniques, 129, 148, 280, 288
Control Resources process, 127, 196, 279, 306
Control Schedule process, 128–129, 280
outputs, 134, 282
purpose, 130, 281
tools and techniques, 137, 148, 197, 283, 288,
307
Control Scope process, 128, 199, 215, 280, 308, 316
activities, 217, 317
tools and techniques, 141, 285
corrective actions, 89, 99, 101, 266, 270, 271
cost plus fixed fee (CPFF) contracts, 74, 262
cost-reimbursable contracts, 71, 195, 261, 306
costs
actual costs, 143, 286
appraisal costs, 48, 251
Control Costs process, 121, 124–125, 127,
129, 277, 278
cost baseline, 67, 258
cost-benefit analysis, 76, 262
cost management plan, 218, 317
cost measurement plan, 48, 251
cost of poor quality, 196, 306, 318
cost of quality, 192, 219, 220, 305, 318
cost performance index (CPI), 201, 223, 277,
284, 285, 288, 309, 319, 323
cost variance (CV), 216, 283, 285, 316
Estimate Costs process, 57, 65, 254, 257
life-cycle costing, 16, 239
peak point, 29, 243
stage of lowest, 168, 295
warrant period costs, 64, 257
CPFF (cost plus fixed fee) contracts, 74, 262
crashing, schedule compression technique, 205,
218, 255, 297, 311, 317
Create WBS process, 66, 77, 210, 257, 263, 313
critical path, 42, 69, 136, 193, 248, 248, 249,
258, 259, 283, 305, 305
Crosby, Philip, 57, 226, 254, 321
cultural awareness, 100, 270
culture shock, 159, 167, 174, 291, 294, 298
customer requests, 15, 238
CV (cost variance), 216, 283, 285, 316
-
- D**
- daily stand-ups, 30, 244
data-analysis tools, 137, 139, 283, 284
alternatives analysis, 61, 256
cost of quality, 192, 219, 220, 305, 318
earned-value analysis, 121, 141, 194, 224, 277,
285, 305, 320
iteration burndown charts, 139, 284
Monte Carlo analysis, 60, 200–201,
255, 309
reserve analysis, 140, 149, 284, 288
root-cause analysis, 224, 320
stakeholder analysis, 13, 236, 238
trend analysis, 127, 204, 279, 310
variance analysis, 144, 286
data-gathering tools
brainstorming, 22, 241
check sheets, 147, 287
focus groups, 191, 304
statistical sampling, 230, 231, 322, 323
data-representation tools, 59, 152, 198, 255, 307
affinity diagrams, 98, 269
flowcharts, 90, 267
matrix diagrams, 100, 279
salience model, 13, 238
stakeholder engagement assessment matrix,
255, 289

decision-making techniques
 autocratic, 217, 317
 plurality, 223, 319
 decomposition, 41, 48, 247, 251
 Define Activities process, 50–51, 64, 252, 257
 Define Scope process, 44, 250
 definitive range of estimates, 54, 253
 Develop Schedule process, 55, 197, 254, 255, 280, 307
 deliverables
 accepting, 150, 219, 288, 318
 Direct and Manage Project Work process, 197, 307
 project scope statement, 43, 44, 49, 199, 249, 251, 283, 307
vs. requirements, 51, 252
 democratic leadership style, 109, 192, 273, 305
 dependencies
 hard, 72, 261
 determination, 206, 311
 discretionary, 57, 254
 mandatory, 72, 261
 Determine Budget process, 63, 64, 66, 71, 257, 258, 261
 Develop Project Charter process, 200, 309
 Develop Project Management Plan process, 43, 50, 65, 249, 252, 257 65, 257
 enterprise environmental factors, 220, 318
 inputs, 52, 252
 tools and techniques, 41, 247
 Develop Team process, 84, 96, 102, 265, 269, 271
 outputs, 114, 274
 purpose, 85, 196, 265, 306
 tools and techniques, 80, 263
 Direct and Manage Project Work process, 96, 98, 112, 269, 274
 deliverables, 197, 307
 inputs, 110, 116, 190, 274, 276, 304
 key benefit, 191, 304
 outputs, 87, 110, 150, 266, 274, 288
 tools and techniques, 119, 304
 directing, conflict management technique, 85, 225, 320
 directive PMOs (project management offices), 21, 240
 discounted cash flow analysis, 24, 241
 discretionary dependencies, 57, 254
 diversity training, 100, 164, 171, 270, 293, 296
 duration compression, 60, 255

E

earned value (EV), 125, 229, 279, 322
 earned value management, 146, 148, 229, 287, 288, 322

earned-value analysis, 121, 141, 194, 205, 224, 277, 285, 305, 311, 320
 email, 59, 255
 EMV analysis, 73, 261
 engineering review board, 279
 enterprise environmental factors
 Acquire Resources process, 82, 88, 106, 264, 266, 272
 Develop Project Management Plan process, 220, 318
 Identify Stakeholders process, 12, 237
 Estimate Activity Durations process
 analogous estimating, 47, 53, 58, 73, 251, 253, 254, 261
 tools and techniques, 53, 253
 Estimate Activity Resources process, 53, 195, 253, 306
 estimate at completion (EAC), 122, 123, 130, 138, 140, 143, 144, 205, 226, 277, 278, 281, 283, 284, 286, 311, 321, 323
 Estimate Costs process, 57, 65, 254, 257
 estimate to complete (ETC), 120, 124, 135, 137, 147, 194, 211, 277, 278, 282, 283, 287, 288, 306, 314
 estimating techniques
 analogous estimating, 47, 53, 58, 73, 251, 253, 254, 261
 bottom-up estimating, 52, 59, 74, 228, 255, 262, 321
 parametric estimating, 63, 77, 256, 263
 three-point estimating, 60, 65, 255, 267
 top-down estimating, 47, 251
 ethics violations, 165, 294
 Executing process group, 5, 84, 86, 89, 97, 234, 265, 266, 269
 activities, 199, 201, 308, 309
 corrective actions, 99, 270
 Expectancy Theory, 89, 105, 198, 267, 272, 307
 expert power, 81, 86, 109, 215, 263, 266, 273, 316
 explicit knowledge, 115, 206, 274, 275, 311, 321
 extinction, as cause of project closure, 165, 175, 186, 215, 225, 294, 298, 302, 316, 320

F

facilitated workshops, 47, 251
 failure costs, 196, 306, 318
 fairness, 162, 180, 183, 186, 222, 292, 300, 301, 303, 319
 fallback plans, 74, 262
 fast tracking, 16, 23, 30, 239, 241, 243, 317
 final product, service, or result transition output, 172, 297

final reports, 161, 170, 173, 176–177, 182, 222, 225, 292, 296, 297, 299, 301, 319, 320
 finish-to-start logical relationship, 218, 317
 fitness for use theory, 190, 204, 304, 310
 fixed-price contracts, 72, 230, 261, 262, 322
 fixed-price incentive fee (FPIF) contracts, 74, 261, 262
 fixed-price with economic price adjustment (FP-EPA) contracts, 75, 262
 flowcharts, 90, 267
 focus groups, 191, 304
 forming stage of team development, 208, 312
 forward pass, 200, 308, 308
 FPIF (fixed-price incentive fee) contracts, 74, 261, 262
 functional organizational structure, 35, 217, 246, 316
 functional requirements, 49, 255
 funding requirements, 67, 258

H

hard dependencies, 72, 261
 hard logic, 72, 261
 Herzberg, Frederick, 231, 309, 323. *See also* Hygiene Theory
 Hierarchy of Needs, 104, 107, 112, 115, 204, 271, 273, 275, 276, 276, 311
 highly adaptive life cycles, 26, 28, 242, 243
 highly predictive life cycles, 26, 242
 histograms, 135, 226, 282, 321
 honesty, 157, 159, 164, 169, 186, 187, 290, 291, 293, 295, 301, 302, 303
 hybrid life cycles, 171, 296
 hybrid organizational structure, 7, 12, 235, 237
 Hygiene Theory, 108, 202, 231, 273, 309, 323

I

Identify Risks process
 data-gathering techniques, 71, 261
 outputs, 220, 318
 Identify Stakeholders process, 3, 9, 234, 236
 enterprise environmental factors, 12, 237
 tools and techniques, 4, 220, 234, 318
 Implement Risk Responses process, 97, 133, 269, 282
 incremental project life cycle, 14, 175, 178–179, 238, 298, 299
 individual project risks, 49, 63, 200, 207, 252, 256, 257, 309, 312
 influencing, 11, 237
 information exchange, 106, 272

information management systems, 80, 263
 Initiating process group, 3, 9, 12, 193, 234, 236, 237, 305
 inputs
 Acquire Resources process, 114, 275
 Close Project or Phase process, 168, 171, 295, 296
 Conduct Procurement process, 103, 271
 Define Scope process, 44, 250
 Develop Project Management Plan process, 52, 252
 Direct and Manage Project Work process, 110, 116, 190, 274, 276, 304
 Manage Team process, 113, 275
 Monitor and Control Project Work process, 120, 141, 276, 285
 Plan Communications Management process, 62, 256
 inspection, 122, 277
 Control Quality process, 141, 285
 other names for, 151, 289
 Validate Scope process, 128, 280
 integration, as cause of project closure, 167, 176, 186–187, 196, 290, 294, 298, 303, 306
 intellectual property violations, 295
 interactive communication, 61, 256
 internal rate of return (IRR), 239, 240, 242, 247, 307
 interpersonal skills, 102, 115, 205, 271, 275, 276, 311
 ISO compliance, 228, 322
 issue log, 86, 87, 109, 265, 266, 273
 iteration burndown charts, 139, 284
 iterations, 26, 31, 242, 244
 iterative life cycles, 33, 182, 244, 301
 characteristics, 162, 292
 goals, 162, 292
 timeboxing in, 184–185, 302

J

Juran, Joseph, 190, 204, 304, 310

K

kill points, 235, 241
 knowledge
 explicit, 115, 206, 274, 275, 311, 321
 tacit, 111, 227, 274, 275, 311, 321

L

L-Type diagrams, 100, 270
 lag, 49, 128, 252, 280

laissez-faire leadership style, 229, 322
 lateral thinking, 49, 251
 leadership skills, 31, 244
 leadership styles
 autocratic, 228, 322
 democratic, 109, 192, 273, 305
 laissez-faire, 229, 322
 transactional, 92, 267
 transformational, 82, 264
 leads, 128, 280
 legitimate power, 82, 89, 112, 224, 264, 267, 275, 320
 lessons learned, 181, 300
 Close Project or Phase process, 173, 297
 procurements, 181, 300
 uses, 182, 301
 lessons learned register, 86, 178, 192, 265, 297, 299, 304
 level of accuracy, 65, 257
 life cycles. *See* project life cycles
 life-cycle costing, 16, 239
 linear constrained optimization method
 lines of communication formula, 53, 56, 253, 254

M

make-or-buy analysis, 72, 103, 261, 271
 Manage Communications process, 98, 105, 269, 272
 organizational process assets, 81, 263, 264
 outputs, 111, 274
 purpose, 82, 229, 264, 322
 Manage Project Knowledge process, 84, 265
 outputs, 88, 209, 266, 313
 tools and techniques, 192, 304
 Manage Quality process, 106, 272
 activities, 221, 318
 tools and techniques, 95, 268
 Manage Stakeholder Engagement process
 outputs, 87, 109, 266, 273
 tools and techniques, 93, 268
 Manage Team process, 107, 230, 273, 322
 inputs, 113, 275
 outputs, 211, 314
 primary concern, 116, 276
 tools and techniques, 115, 276
 management reserves, 225, 320
 management skills tool and technique, Control Stakeholder Engagement process, 83, 264
 mandatory dependencies, 72, 261
 market research, 45, 250
 Maslow, Abraham, 219, 318
 matrix diagrams, 100, 279
 McClelland, David, 83, 113, 264, 275, 306
 McGregor, Douglas, 229, 231, 273, 322, 323

meetings
 bidder conferences, 200, 271, 308
 planning meetings, 195, 306
 sprint retrospective meetings, 32, 244
 status review meetings, 114, 142, 146, 275, 285, 287
 megaprojects, 7, 235
 milestones
 duration, 67, 258
 milestone lists, 64, 173, 257, 297
 technical performance analysis, 130, 281, 304
 mitigation plans, 68, 258
 Monitor and Control Project Work process, 119, 138, 276, 283
 inputs, 120, 141, 276, 285
 outputs, 144, 286
 tools and techniques, 205, 311
 Monitor Communications process, 119, 133, 149, 208, 209, 276, 282, 288, 312, 313
 organizational process assets, 132, 281
 tools and techniques, 131, 281
 Monitor Risks process, 133, 150, 282, 288
 outputs, 132, 281
 purpose, 125, 191, 279, 304
 Monitor Stakeholder Engagement process, 119, 122, 126, 276, 277, 279
 benefits, 202, 310
 outputs, 151, 289
 tools and techniques, 128, 280
 Monitoring and Controlling process group, 122, 123, 142, 201, 202, 277, 285, 309
 Monte Carlo analysis, 60, 200–201, 255, 309
 motivational theories
 Achievement Theory, 83, 195, 264, 275, 306
 Contingency Theory, 90, 111, 267
 Expectancy Theory, 89, 105, 198, 267, 272, 307
 Hygiene Theory, 108, 202, 231, 273, 309, 323
 Maslow's Hierarchy of Needs, 104, 107, 112, 115, 204, 271, 273, 275, 276, 276, 311

N

near critical path, 42, 248, 249
 negotiated draft contracts, 85, 265
 net present value (NPV), 13, 17, 19, 237, 239, 306
 nonverbal feedback, 98, 269
 norming stage of team development, 105, 272

O

OBS (organization breakdown structure), 52, 252
 ongoing activities, 171, 173, 296, 297

organization breakdown structure (OBS), 52, 252
organizational process assets, 20, 41, 240, 247
 Acquire Resources process, 93, 268
 Close Project or Phase process, 155, 183, 289, 301
 Manage Communications process, 81, 263, 264
 Monitor Communications process, 132, 281
 project closure survey policies, 185, 302
organizational project management (OPM), 6, 235
organizational structures
 examples of, 9, 236
 functional, 35, 217, 246, 316
 hybrid, 7, 12, 235, 237
 project-oriented, 7, 168, 210, 235, 295, 313
Ouchi, William, 103, 271, 321
outputs
 Acquire Resources process, 97, 269
 Close Project or Phase process, 155, 172, 289, 297
 Control Procurements process, 124, 155, 278, 290
 Control Schedule process, 134, 282
 Define Activities process, 50–51, 64, 252, 257
 Determine Budget process, 66, 258
 Develop Team process, 114, 274
 Direct and Manage Project Work process, 87, 110, 150, 266, 274, 288
 Identify Risks process, 220, 318
 Manage Communications process, 111, 274
 Manage Project Knowledge process, 88, 209, 266, 313
 Manage Stakeholder Engagement process, 87, 109, 266, 273
 Manage Team process, 211, 314
 Monitor and Control Project Work process, 144, 286
 Monitor Risks process, 132, 281
 Monitor Stakeholder Engagement process, 151, 289
 Validate Scope process, 123, 278
overall project risks, 66, 257

P

parametric estimating, 63, 77, 256, 263
Pareto diagrams, 147, 287
passive risk acceptance, 45, 250
payback period, 3, 13, 19, 25, 28, 31, 34, 234, 237, 239, 242, 243, 244, 245
PDM (precedence diagramming method), 46, 249, 250
Perform Integrated Change Control process, 140, 144, 284, 286

purpose, 206, 311
tools and techniques, 120–121, 131, 277, 281
Perform Qualitative Risk Analysis process, 49, 71, 252, 261
Perform Quantitative Risk Analysis, 54, 69, 253, 258
performance measurement baseline, 126, 279
performing stage of team development, 94–95, 220, 267, 318
PERT calculations, 55, 56, 253, 254
phase endings, 5, 235
phase entrances, 241
phase gates, 241
phase reviews, 23, 241
Plan Communications Management process
 inputs, 62, 256
 purpose, 49, 251
 tools and techniques, 62, 222, 256, 319
Plan Procurement Management process, 72, 76, 191, 261, 262, 304
Plan Quality Management process, 198, 219, 220, 227, 307, 318, 321
Plan Resource Management process, 10, 47, 236, 241, 251
Plan Risk Management process, 44, 249
Plan Scope Management process, 47, 251
Plan Stakeholder Engagement process, 60, 64–65, 68, 256, 257, 258
Plan-Do-Check-Act cycle, 3, 234
plan-driven life cycles. *See* predictive life cycles
planned value, 148, 279, 287
planning meetings, 195, 306
Planning process group, 5, 15, 234, 238
plurality, decision-making technique, 223, 319
PMI (Project Management Institute), 36, 246
PMI Talent Triangle, 13, 33, 205, 236, 238, 245, 311
PMIS (project management information system), 80, 113, 263, 275
PMOs. *See* project management offices (PMOs)
portfolio management, 19, 240
power
 expert, 81, 86, 109, 263, 266, 273
 legitimate, 82, 89, 112, 224, 264, 267, 275, 320
 punishment, 228–229, 322
 referent, 85, 221, 265, 319
 relational, 193, 305
preassignments, 198, 307
precedence diagramming method (PDM), 46, 249, 250
predictive life cycles, 156, 160, 174, 187, 226, 290, 291, 298, 303, 320
PRINCE2, 30, 244
probability and impact matrix, 28, 69
process analysis, 105, 272

- procurement documentation, 103, 126, 177, 271, 279, 299
- procurement negotiation, 101, 107, 270, 273
- procurement statement of work (SOW), 73, 103, 261, 271
- procurements
- agreements, 203, 310
 - closing
 - administrative activities, 183, 301
 - closed procurements output, 129, 163, 172, 280, 293, 297
 - closure activities, 187, 303
 - post-closure step, 187, 303
 - project management process, 188, 303
 - step after final deliverable, 173, 297
- Conduct Procurements process, 92, 268
- inputs, 103, 271
 - tools and techniques, 200, 308
- conflicts of interest, 177, 178, 179, 186, 299, 300, 302
- Control Procurements process, 127, 132, 147, 280, 281, 287
- closed procurements output, 129, 155, 163, 172, 280, 293, 297
 - closing procurements, 188, 303
 - outputs, 124, 278
 - tools and techniques, 122, 172, 213, 277, 297, 315
- lessons learned, 181, 300
- Plan Procurement Management process, 72, 76, 191, 261, 262, 304
- Project Procurement Management Knowledge Area, 90, 267
- product analysis, 57, 254
- product owners, Agile methodology, 27, 243
- product reviews, 151, 289
- product scope, 50, 51, 54, 252, 253
- product verification, 161, 292
- progressive elaboration, 27, 38, 242, 243
- project charter
- Close Project or Phase process, 168, 295
 - Develop Project Charter process, 200, 309
 - as feasibility study result, 25, 242
 - information included, 32, 244
 - inputs, 12, 237
 - preassignments, 198, 307
 - significance of, 8, 10, 235, 236
 - tools and techniques, 22–23, 241
- project communications, 203, 310
- as input to Close Project or Phase process, 171, 296
- Project Communications Management Knowledge Area, 23, 241
- Project Cost Management Knowledge Area, 16, 239
- Project Integration Management Knowledge Area, 184, 213, 217, 302, 315, 317
- project life cycles, 10, 201, 236, 309
- Agile project management, 27, 242
- benefits, 226, 320
 - characteristics, 173, 177, 297, 299
 - common roles, 165, 294
 - implementation strategy, 168, 295
 - product owners, 27, 243
 - scrum masters, 243
 - servant leadership approach, 158, 166, 291, 294
 - common characteristics, 161, 292
 - hybrid, 171, 296
 - incremental, 14, 175, 178–179, 238, 298, 299
- iterative life cycles, 33, 182, 244, 301
- characteristics, 162, 292
 - goals, 162, 292
 - timeboxing in, 184–185, 302
- predictive, 156, 160, 174, 187, 226, 290, 291, 298, 303, 320
- project management information system (PMIS), 80, 113, 263, 275
- Project Management Institute (PMI), 36, 246
- project management knowledge base, 90, 104, 267, 272
- project management offices (PMOs)
- directive, 21, 240
 - phase sequencing, 6, 235
 - support provided by, 14, 238
 - supportive, 28–29, 243
 - types, 4, 234
- project management plan, 47, 58, 59, 97, 151, 251, 255, 289
- acquiring and managing project resources, 104, 271
 - baselining, 196, 307
 - changes to, 46, 134, 252, 278, 282
 - communications plan, 50, 252
 - corrective actions, 99, 270
 - as project baseline, 97, 269
 - purpose, 77, 232, 263, 323
 - releasing project resources, 177, 299
 - stakeholder alignment, 214, 316
- project management process groups
- Closing, 157, 161, 168, 175, 179, 180, 292, 295, 298, 300
 - Executing, 5, 84, 86, 89, 97, 234, 265, 266, 269, 270, 308, 309
 - Initiating process group, 3, 9, 12, 193, 234, 236, 237, 305
 - Monitoring and Controlling, 122, 123, 142, 201, 202, 277, 285, 309
 - Planning, 5, 15, 234, 238

- project managers
- best practices, applying, 201, 309
 - delayed projects, 162, 292
 - following laws and regulations, 161, 292
 - general management skills, 10, 236
 - misrepresenting qualifications, 159, 291
 - process group likely skipped by, 169, 295
 - processes responsible for, 7, 23, 34, 235, 241, 245
 - skill sets, 10–11, 236
 - time spent communicating, 5, 234
- project objectives, 47, 51–52, 251, 252
- project phases, collective, term for, 10, 236
- Project Procurement Management Knowledge Area, 90, 267
- Project Resource Management Knowledge Area, 16, 50, 239, 252
- Acquire Resources process, 91, 203, 267, 310
 - enterprise environmental factors, 82, 88, 106, 264, 266, 272
 - inputs, 114, 275
 - organizational process assets, 93, 268
 - outputs, 97, 269
 - tools and techniques, 100, 270
- Control Resources process, 127, 196, 279, 306
- Develop Team process, 84, 96, 102, 265, 269, 271
- outputs, 114, 274
 - purpose, 85, 196, 265, 306
 - tools and techniques, 80, 263
- Estimate Activity Resources process, 53, 195, 253, 306
- Manage Team process, 107, 230, 273, 322
- inputs, 113, 275
 - outputs, 211, 314
 - primary concern, 116, 276
 - tools and techniques, 115, 276
- Plan Resource Management process, 10, 47, 236, 241, 251
- Project Schedule Management Knowledge Area
- Control Schedule process, 128–129, 280
 - outputs, 134, 282
 - purpose, 130, 281
 - tools and techniques, 137, 148, 197, 283, 288, 307
- Define Activities process, 50–51, 64, 252, 257
- Develop Schedule process, 55, 197, 254, 255, 280, 307
- Estimate Activity Durations process
- analogous estimating, 47, 53, 58, 73, 251, 253, 254, 261
 - tools and techniques, 53, 253
- Sequence Activities process, 236, 253, 280, 311
- Project Scope Management Knowledge Area, 14, 207, 238, 312
- Collect Requirements process, 77, 263
- Control Scope process, 128, 199, 215, 280, 308, 316
- activities, 217, 317
 - tools and techniques, 141, 285
- Create WBS process, 66, 77, 210, 257, 263, 313
- Define Scope process, 44, 250
- Plan Scope Management process, 47, 251
- Validate Scope process, 119, 122, 184, 276, 277, 302
- acceptance of work results, 139, 175, 284, 298
 - inspection, 128, 280
 - outputs, 123, 278
 - premature project closures, 133, 282
 - primary concern, 144–145, 286
 - purpose, 223, 319
 - tools and techniques, 119, 276
- project scope statement, 43, 44, 49, 199, 249, 251, 283, 307
- project selection methods, 17, 239
- project sponsors, 16, 20, 22, 35, 36, 37, 38, 239, 240, 241, 246, 247
- Project Stakeholder Management Knowledge Area, 18, 20, 24, 35, 239, 240, 241, 245
- project-based organizations, 210, 313
- project-oriented organizations, 7, 168, 210, 235, 295, 313
- contract project managers, 168, 295
- proposal evaluation techniques, 83, 88, 96, 264, 266, 269
- prototypes, 195, 306
- punishment power, 228–229, 322
- push communication, 59, 255
-
- Q**
- qualitative risk analysis, 49, 53, 71, 252, 253, 261
- quality assurance
- primary concern, 94, 268
 - responsibility for, 89, 91, 266, 267
 - synonym for, 102, 271
- quality audits, 87, 99, 102–103, 116, 202, 266, 270, 271, 276, 310
- quality management plan, 144, 286
- quality reports, 92, 268
- quantitative risk analysis, 49, 54, 71, 204, 252, 253, 261, 310
-
- R**
- RACI charts, 26, 75, 77, 262
- RAM (resource assignment matrix), 74, 75, 262
- raw observations, 81, 264
- RDS (role delineation study), 112, 170, 274, 296

recognition and rewards, 80, 102, 263, 271
 reconcile, conflict management technique, 194, 305
 referent power, 85, 88, 221, 265, 266, 319
 regression analysis, 163, 293
 relational power, 193, 305
 requirements, 45, 250
 Collect Requirements process, 77, 263
 vs. deliverables, 51, 252
 functional requirements, 49, 255
 funding requirements, 67, 258
 requirements traceability matrix, 74, 262
 requisition stage, Project Procurement Management contract phase, 90, 267
 reserve analysis, 140, 149, 284, 288
 resource assignment matrix (RAM), 74, 75, 262
 resource calendars, 53, 56, 95, 253, 254, 268
 resource leveling, 55, 254
 resource management plan, 45, 104, 156, 191, 209, 250, 271, 290, 304, 313
 respect, 156, 169, 172, 187, 208, 290, 295, 296, 297, 303, 313
 responsibility, 88, 158, 165, 174, 176, 179, 180, 183, 266, 291, 293, 298, 299, 300, 301
 rewards and recognition, 80, 102, 263, 271
 risk
 individual project risks, 200, 207, 309, 312
 Identify Risks process, 71, 220, 261, 318
 Implement Risk Responses process, 97, 133, 269, 282
 individual project risks, 49, 63, 200, 207, 252, 256, 257, 309, 312
 low-priority risks, 58, 254
 Monitor Risks process, 125, 132, 133, 150, 191, 279, 281, 282, 288, 304
 Perform Qualitative Risk Analysis process, 49, 71, 252, 261
 Perform Quantitative Risk Analysis, 54, 69, 253, 258
 Plan Risk Management process, 44, 249
 risk analysis
 qualitative risk analysis, 49, 53, 71, 252, 253, 261
 quantitative risk analysis, 49, 54, 71, 204, 252, 253, 261, 310
 risk audits, 143, 149, 285, 288
 risk management plan, 52, 216, 253, 316
 risk probability, 38, 69, 71, 247, 258, 261
 risk register, 47, 100, 219, 250, 270, 317
 risk reports, 220, 318
 risk responses, 150, 288
 active acceptance, 76, 262
 fallback plans, 74, 262
 passive acceptance, 45, 250
 transfer, 43, 197, 249, 307
 risk reviews, 126, 133, 279, 282
 role delineation study (RDS), 112, 170, 274, 296
 root-cause analysis, 224, 320
 rough order of magnitude, 228, 321

S

salience model, 13, 238
 scatter diagrams, 148, 288
 schedule baseline, 130, 139, 258, 281, 284
 schedule compression techniques, 60, 205, 255, 311
 crashing, 205, 218, 255, 297, 311, 317
 schedule management plan, 58, 60, 255, 256
 schedule network analysis, 60, 255
 schedule revisions, 137, 283
 schedule variance (SV), 120, 129, 135, 190, 276, 280, 282, 285, 289, 304
 scope
 changes, 128, 280
 Control Scope process, 128, 199, 215, 280, 308, 316
 activities, 217, 317
 tools and techniques, 141, 285
 Define Scope process, 44, 250
 Plan Scope Management process, 47, 251
 Project Scope Management Knowledge Area, 14, 207, 238, 312
 Validate Scope process, 119, 122, 184, 276, 277, 302
 acceptance of work results, 139, 175, 284, 298
 inspection, 128, 280
 outputs, 123, 278
 premature project closures, 133, 282
 primary concern, 144–145, 286
 purpose, 223, 319
 tools and techniques, 119, 276
 scope baseline, 215, 218, 316, 317
 scope creep, 135, 136, 199, 282, 283, 317, 320
 scope management plan, 199, 250, 251, 308
 scope of programs, 224, 320
 screening systems, 85, 265
 scrum masters, 243
 self-actualization, Hierarchy of Needs, 104, 112, 271, 275
 seller invoices, 152, 289
 seller proposals, 223, 319
 seller rating systems, 85, 265
 Sequence Activities process, 236, 253, 280, 311
 servant leadership approach, 158, 166, 291, 294
 Shewhart, Walter, 65, 211, 257, 314
 Situational Leadership Theory, 225, 320
 smoothing, conflict-resolution technique, 98, 269
 social need, 37, 107, 246, 273
 solicitation stage, contract life cycle, 80, 263
 SPI, 121, 141, 150, 201, 277, 284, 285, 288, 309
 sponsors. *See* project sponsors
 sprint retrospective meetings, 32, 244
 sprints, 26, 31, 242, 244
 stage gate, 241
 stages of team development, 90, 222, 267, 302, 312, 318, 319, 320

- adjourning, 104, 106, 272, 302
- forming, 208, 312
- norming, 105, 272
- performing, 94–95, 220, 318
- storming, 91, 224, 266, 267, 320
- stakeholders**
 - conflicts of interest, 30, 38, 244, 247
 - evaluating interest/influence, 9, 236
 - greatest influence of, 165, 293
 - Identify Stakeholders process, 3, 9, 234, 236
 - enterprise environmental factors, 12, 237
 - tools and techniques, 4, 220, 234, 318
 - lines of communication formula, 53, 56, 253, 254
 - Manage Stakeholder Engagement process
 - outputs, 87, 109, 266, 273
 - tools and techniques, 93, 268
 - Monitor Stakeholder Engagement process, 119, 122, 126, 276, 279
 - benefits, 202, 310
 - outputs, 151, 289
 - tools and techniques, 128, 280
 - Plan Stakeholder Engagement process, 60, 64–65, 68, 256, 257, 258
 - Project Stakeholder Management Knowledge Area, 18, 20, 24, 35, 239, 240, 241, 245
 - satisfaction, measuring, 160, 292
 - stakeholder analysis, 13, 236, 238
 - stakeholder engagement assessment matrix, 147, 255, 287, 289
 - stakeholder engagement plan, 86, 214, 227, 265, 316, 321
 - starvation, as cause of project closure, 156, 159, 163, 180, 290, 291, 293, 300
 - statistical sampling, 230, 231, 322, 323
 - status reports, 133, 282
 - status review meetings, 114, 142, 146, 275, 285, 287
 - status updates, 215, 316
 - storming stage of team development, 87, 91, 224, 266, 273, 320
 - strategic opportunities, 232, 323
 - success criteria, 32, 244
 - supportive PMOs (project management offices), 28–29, 243
 - SV.** *See* schedule variance

T

- T-Type diagrams, 100, 270
- tacit knowledge, 111, 227, 274, 275, 311, 321
- tailoring, 11, 237
- TCPI. *See* to-complete performance index
- team skills, 115, 252, 275, 276
- teams
 - development stages, 90, 222, 267, 302, 312, 318, 319, 320
 - adjourning, 104, 106, 272, 302

- forming, 208, 312
- norming, 105, 272
- performing, 94–95, 220, 267, 318
- storming, 91, 224, 266, 267, 320
- Develop Team process, 84, 96, 102, 265, 269, 271
 - outputs, 114, 274
 - purpose, 85, 196, 265, 306
 - tools and techniques, 80, 263
- Manage Team process, 107, 230, 273, 322
 - inputs, 113, 275
 - outputs, 211, 314
 - primary concern, 116, 276
 - tools and techniques, 115, 276
 - team-building workshops, 106, 272
- technical assessment board, 279
- technical performance analysis, 130, 281, 304
- technical review board, 279
- technological advance, 29, 243
- Theory X, 108, 231, 273, 323
- Theory Y, 95, 109, 229, 268, 273, 322
- Theory Z, 103, 228, 271, 321
- three-point estimating, 60, 65, 255, 267
- tight matrix, 85, 204, 265, 310
- to-complete performance index (TCPI), 124, 138, 197, 277, 278, 283, 307
- targeting BAC, 209, 283, 285, 313
- targeting EAC, 146, 278, 285, 286
- tolerable results, 144, 286
- tools and techniques
 - Acquire Resources process, 100, 270
 - Close Project or Phase process, 183, 301
 - Conduct Procurements process, 200, 308
 - Control Costs process, 124–125, 127, 278, 279
 - Control Procurements process, 122, 213, 277, 315
 - Control Quality process, 129, 148, 280, 288
 - Control Schedule process, 137, 148, 197, 283, 288, 307
 - Control Scope process, 141, 285
 - Develop Project Management Plan process, 41, 247
 - Develop Team process, 80, 263
 - Direct and Manage Project Work process, 190, 191, 304
 - Estimate Activity Durations process, 53, 253
 - Estimate Costs process, 65, 257
 - Identify Stakeholders process, 4, 220, 234, 318
 - Manage Project Knowledge process, 192, 304
 - Manage Quality process, 95, 268
 - Manage Stakeholder Engagement process, 93, 268
 - Manage Team process, 115, 276
 - Monitor and Control Project Work process, 205, 311
 - Monitor Communications process, 131, 281

Monitor Stakeholder Engagement process, 128, 280
 Perform Integrated Change Control process, 120–121, 131, 277, 281
 Perform Quantitative Risk Analysis process, 69, 258
 Plan Communications Management process, 62, 222, 256, 319
 Plan Quality Management process, 198, 219, 227, 307, 318, 321
 Plan Risk Management process, 44, 249
 Validate Scope process, 119, 276
 top-down estimating, 47, 251. *See also* analogous estimating
 total float, 44, 70, 214, 249, 260, 260, 315, 315
 Total Quality Management (TQM), 65, 257
 tracking, 72, 261
 training
 diversity training, 100, 270
 on cultural norms, 84, 265
 transactional leadership style, 92, 267
 transfer risk response, 43, 197, 249, 307
 transformational leadership style, 82, 264
 trend analysis, 127, 204, 279, 310
 triangular distribution, 46, 58, 221, 250, 254, 318
 triple constraints, 162, 292
 Tuckman ladder, 108, 184, 273, 275, 302, 312, 318, 319, 320

U

units of measure, 65, 257

V

VAC (variance at completion), 131, 133, 136, 137, 147, 281, 282, 283, 318
 Validate Scope process, 119, 122, 184, 276, 277, 302
 acceptance of work results, 139, 175, 284, 298
 inspection, 128, 280
 outputs, 123, 278
 premature project closures, 133, 282
 primary concern, 144–145, 286
 purpose, 223, 319
 tools and techniques, 119, 276
 values, 298
 fairness, 162, 180, 183, 186, 222, 292, 300, 301, 303, 319
 honesty, 157, 159, 164, 169, 186, 187, 290, 291, 293, 295, 301, 302, 303
 respect, 156, 169, 172, 187, 208, 290, 295, 296, 297, 303, 313

responsibility, 88, 158, 165, 174, 176, 179, 180, 183, 266, 291, 293, 298, 299, 300, 301
 groups applicable to, 178
 violations by team members, 163, 166, 293, 294
 variances
 causes, 131, 281
 variance analysis, 144, 286
 variance at completion (VAC), 131, 133, 136, 137, 147, 281, 282, 283, 318
 vendors
 rating, 82, 264
 screening systems, 85, 265
 vendor agreements, 112, 274
 virtual teams, 94, 95, 100, 109, 222, 268, 270, 273, 319
 Vroom, Victor, 89, 267, 272, 307

W

walk-throughs, 151, 289
 warrant period costs, 64, 257
 watch lists, 58, 254
 WBS. *See* work breakdown structure (WBS)
 weak matrix organizations, 15, 238
 disadvantages, 4, 234
 project closeout, 155, 289
 reassigning resources, 181, 300
 stress, lack of, 170, 295
 weighing system techniques, 82, 264
 work breakdown structure (WBS), 44, 65, 249, 257

Create WBS process, 66, 77, 210, 257, 263, 313

lowest level, 72, 203, 261, 310

work package level, 203, 310
 work performance data, 81, 87, 150, 208, 227, 264, 266, 276, 281, 285, 288, 312, 321

work performance information, 120, 132, 141, 281, 285

work performance reports, 136, 152, 281, 283, 285, 286, 289, 316

X

X-Type diagrams, 100, 270

Z

zero defects practice, 254, 321

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