

# Chapter 1: Introduction to Project Management

*Student:* \_\_\_\_\_

1. Until the 1980s, project management primarily focused on providing schedule and resource data to top management in the military, computer, and construction industries.

True   False

2. A research report showed that the U.S. spends \$2.3 trillion on projects every year, an amount equal to 40 percent of the nation's gross domestic product.

True   False

3. One attribute that helps define a project is that a project has a unique purpose.

True   False

4. A project should be developed using progressive elaboration, starting from specific details and broadening in scope as it progresses.

True   False

5. Projects are often defined narrowly when they begin.

True   False

6. Projects rarely involve uncertainty.

True   False

7. Every project is constrained in different ways by its scope and cost goals; these limitations are sometimes referred to in project management as the double constraint.

True   False

8. Questions about how long a project's schedule should be are related to the issue of the project's scope.

True   False

9. Because projects involve uncertainty and limited resources, projects rarely finish according to discrete scope, time, and cost goals as originally planned.

True False

10. Managing the triple constraint involves making trade-offs between scope, time, and cost goals for a project.

True False

11. Some people refer to the “*double constraint*” of project management to include quality and customer satisfaction.

True False

12. In the example of building a new house, the support staff would provide the wood, windows, flooring materials, appliances, and so on.

True False

13. Stakeholders’ needs and expectations are only important in the beginning of a project.

True False

14. There are six core knowledge areas of project management.

True False

15. Follow-up studies done by the Standish Group showed that the number of failed projects has more than doubled in the past decade.

True False

16. The 2006 Standish Group survey showed that IT project success rates had risen from 16 percent in 1994 to 35 percent in 2006.

True False

17. Project management is the silver bullet that guarantees success on all projects.

True False

18. A key finding of a 2004 study is that relationship management is viewed as a top success factor for information systems in China, while it is not mentioned in U.S. studies.

True False

19. Winners in project delivery know that strong program managers—referred to as project leaders—are crucial to project success.

True False

20. A program is “a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually.”

True False

21. Program managers are not responsible for coordinating the efforts of project teams, functional groups, suppliers, and operations staff.

True False

22. The job description for a project manager can vary by industry and by organization.

True False

23. Project managers should possess general management knowledge and skills.

True False

24. Project managers must be able to make effective use of technology as it relates to the specific project.

True False

25. Project managers for large information technology projects have to be experts in the field of information technology.

True False

26. Project managers often take on the role of both leader and manager.

True False

27. Today's project managers still draw Gantt charts by hand.

True False

28. Determining the relationships among tasks is not essential in helping to improve project scheduling.

True False

29. New software makes basic tools, such as Gantt charts and network diagrams, inexpensive, easy to create, and available for anyone to update.

True False

30. Many people still use basic productivity software, such as Microsoft Word or Excel, to perform many project management functions.

True False

31. A research report showed that the U.S. spends \_\_\_\_ on projects every year.

A. \$2.3 billion

B. \$23 billion

C. \$2.3 trillion

D. \$23 trillion

32. A research report showed that the U.S. spends the equivalent of \_\_\_\_ percent of the nation's gross domestic product on projects every year.

A. 10

B. 20

C. 25

D. 50

33. Many organizations assert that using project management provides advantages, such as \_\_\_\_.

A. lower profit margins

B. lower costs

C. less internal coordination

D. lower worker morale

34. Because a project requires resources, often from various areas, many projects cross \_\_\_\_ or other boundaries to achieve their unique purposes.

- A. financial
- B. spatial
- C. departmental
- D. technological

35. The project \_\_\_\_ usually provides the direction and funding for the project.

- A. leader
- B. sponsor
- C. manager
- D. director

36. The limitations of scope, time, and cost goals are sometimes referred to as the \_\_\_\_.

- A. double bind
- B. triple constraint
- C. double constraint
- D. double obstacle

37. \_\_\_\_ are the people involved in or affected by project activities and include the project sponsor, project team, support staff, customers, users, suppliers, and even opponents of the project.

- A. Managers
- B. Stakeholders
- C. Directors
- D. Citizens

38. In the example of the project of building a house, the project sponsors would be the potential \_\_\_\_.

- A. contractors
- B. support staff
- C. managers
- D. new homeowners

39. In the example of the project of building a house, the \_\_\_\_ would normally be the general contractor responsible for building the house.

- A. project sponsors
- B. project team
- C. project manager
- D. support staff

40. Project \_\_\_\_ management involves defining and managing all the work required to complete the project successfully.

- A. scope
- B. quality
- C. time
- D. cost

41. Project \_\_\_\_ management ensures that the project will satisfy the stated or implied needs for which it was undertaken.

- A. cost
- B. time
- C. scope
- D. quality

42. Project \_\_\_\_ management is concerned with making effective use of the people involved with the project.

- A. human resource
- B. risk
- C. communications
- D. procurement

43. Project \_\_\_\_ management involves generating, collecting, disseminating, and storing project information.

- A. risk
- B. procurement
- C. communications
- D. resource

44. Project \_\_\_\_ management is an overarching function that affects and is affected by all of the other knowledge areas.

- A. cost
- B. quality
- C. integration
- D. time

45. What works on one project may not work on another, so it is essential for project managers to continue to develop their knowledge and \_\_\_\_ in managing projects.

- A. time
- B. resources
- C. funding
- D. skills

46. According to the Standish group, which of the following factors contributes most to the success of information technology projects?

- A. Executive support
- B. User involvement
- C. Experienced project manager
- D. Clear business objectives

47. According to the Standish Group study describing what factors contribute most to the success of information technology projects, \_\_\_\_ percent of successful projects are led by experienced project managers.

- A. 75
- B. 80
- C. 97
- D. 100

48. “All project leaders use a shared road map, focusing on key business aspects of their projects while integrating goals across all parts of the organization” describes the \_\_\_\_ best practice for project delivery.

- A. Use an integrated toolbox
- B. Grow project leaders
- C. Develop a streamlined project delivery process
- D. Measure project health using metrics

49. \_\_\_\_ project management software integrates information from multiple projects to show the status of active, approved, and future projects across an entire organization.

- A. Investment
- B. Active
- C. Enterprise
- D. Budget

50. A \_\_\_\_ can have many different job descriptions, which can vary tremendously based on the organization and the project.

- A. project supervisor
- B. project manager
- C. job coordinator
- D. project coordinator

51. In an interview with two chief information officers (CIOs), both men agreed that the most important project management skills seem to depend on \_\_\_\_.
- A. the difficulty of the project and the resources involved
  - B. the difficulty of the task and the people involved
  - C. the uniqueness of the project and the difficulty of the task
  - D. the uniqueness of the project and the people involved
52. Achieving high performance on projects requires \_\_\_\_, otherwise called human relations skills.
- A. capital skills
  - B. soft skills
  - C. light skills
  - D. hard skills
53. A(n) \_\_\_\_ focuses on long-term goals and big-picture objectives, while inspiring people to reach those goals.
- A. assistant
  - B. programmer
  - C. leader
  - D. manager
54. A(n) \_\_\_\_ often deals with the day-to-day details of meeting specific goals.
- A. manager
  - B. leader
  - C. programmer
  - D. analyst
55. Some people say that \_\_\_\_ achieve the vision of a project.
- A. leaders
  - B. managers
  - C. stakeholders
  - D. supervisors
56. Most people agree that the modern concept of project management began with the \_\_\_\_.
- A. Great Wall of China
  - B. first space shuttle
  - C. Egyptian pyramids
  - D. Manhattan Project



57. The Manhattan Project cost almost \$2 billion in \_\_\_\_.

- A. 1936
- B. 1946
- C. 1956
- D. 1966

58. In \_\_\_\_, Henry Gantt developed the famous Gantt chart as a tool for scheduling work in factories.

- A. 1897
- B. 1917
- C. 1927
- D. 1957

59. A Gantt chart is a standard format for displaying project schedule information by listing project activities and their corresponding start and finish dates in a \_\_\_\_ format.

- A. pie chart
- B. line graph
- C. bar graph
- D. calendar

60. During the Cold War years of the 1950s and '60s, \_\_\_\_ continued to be key in refining several project management techniques.

- A. NASA
- B. the military
- C. steel manufacturing
- D. marine biology

61. The longest path through a network diagram that determines the earliest completion of a project is called the \_\_\_\_ path.

- A. essential
- B. important
- C. critical
- D. vital

62. By the \_\_\_\_, the U.S. military and its civilian suppliers developed software to assist in managing large projects.

- A. 1960s
- B. 1970s
- C. 1980s
- D. 1990s

63. \_\_\_\_ was an early project management software product that helped managers analyze complex schedules for designing aircraft.

- A. Artemis
- B. Columbia
- C. Vega
- D. Oberlin

64. A PMO, or Project \_\_\_\_ Office, is an organizational group responsible for coordinating the project management function throughout an organization.

- A. Management
- B. Money
- C. Municipal
- D. Marketing

65. Many organizations are now using enterprise or project \_\_\_\_ management software to help manage projects.

- A. path
- B. portfolio
- C. institute
- D. office

66. PMI provides certification as a Project Management \_\_\_\_ (PMP), someone who has documented sufficient project experience and education, agreed to follow the PMI code of professional conduct, and demonstrated knowledge of the field of project management by passing a comprehensive examination.

- A. Producer
- B. Practitioner
- C. Professional
- D. Professor

67. Just as passing the CPA exam is a standard for accountants, passing the \_\_\_\_ exam is becoming a standard for project managers.

- A. PMI
- B. PM
- C. PMP
- D. PMO

68. The Project Management \_\_\_\_\_, a Web site for people involved in project management, provides an alphabetical directory of more than 300 project management software solutions.

- A. Center
- B. Alliance
- C. Consortium
- D. Facility

69. \_\_\_\_\_ tools are often recommended for small projects and single users.

- A. Low-end
- B. Midrange
- C. High-end
- D. Expensive

70. \_\_\_\_\_ tools, sometimes referred to as enterprise project management software, provide robust capabilities to handle very large projects.

- A. Low-end
- B. Midrange
- C. High-end
- D. Inexpensive

71. More than \_\_\_\_\_ million people regard project management as their profession.

---

72. The “CHAOS” study found that more than \_\_\_\_\_ percent of information technology projects were canceled before completion.

---

73. A(n) \_\_\_\_\_ is a temporary endeavor undertaken to create a unique product, service, or result.

---

74. The term “\_\_\_\_\_” refers to work done in organizations to sustain the business.

---

75. \_\_\_\_\_ include people, hardware, software, or other assets.

\_\_\_\_\_

76. The question, “What unique product or service does the customer or sponsor expect from the project?” is related to the \_\_\_\_\_ of the project.

\_\_\_\_\_

77. The question, “What is the project’s budget?” is related to the project’s \_\_\_\_\_.

\_\_\_\_\_

78. The \_\_\_\_\_ of project management includes quality along with scope, time, and cost.

\_\_\_\_\_

79. \_\_\_\_\_ is “the application of knowledge, skills, tools, and techniques to project activities to meet project requirements.”

\_\_\_\_\_

80. Project management \_\_\_\_\_ describe the key competencies that project managers must develop.

\_\_\_\_\_

81. Project management tools and \_\_\_\_\_ assist project managers and their teams in carrying out work in all nine knowledge areas.

\_\_\_\_\_

82. Gantt charts, project network diagrams, critical path analysis, crashing, fast tracking, and schedule performance measurements are examples of tools and techniques for \_\_\_\_\_.

\_\_\_\_\_

83. Companies that excel in project delivery use performance \_\_\_\_\_ to quantify progress.

\_\_\_\_\_

84. \_\_\_\_\_ refers to the process in which organizations group and manage projects and programs as a portfolio of investments that contribute to the entire enterprise's success.

---

85. \_\_\_\_\_ skills include effective communication, influencing the organization to get things done, leadership, motivation, negotiation, conflict management, and problem solving.

---

86. One reason project managers need good \_\_\_\_\_ skills is that to understand, navigate, and meet stakeholders' needs and expectations, they need to lead, communicate, negotiate, solve problems, and influence the organization at large.

---

87. Some people say that, "Managers do things right, and \_\_\_\_\_ do the right things."

---

88. A(n) \_\_\_\_\_ chart is a standard format for displaying project schedule information.

---

89. As computer hardware became smaller and more affordable and \_\_\_\_\_ included graphical and easy to use interfaces, project management software became less expensive and more widely used.

---

90. The \_\_\_\_\_, an international professional society for project managers founded in 1969, has continued to attract and retain members, reporting 277,221 members worldwide by August 31, 2008.

---

91. Because there are so many people working on projects in various industries, PMI has created Specific \_\_\_\_\_ (SIGs) that enable members to share ideas about project management in their particular application areas, such as information systems.

---

92. \_\_\_\_\_, loosely defined, is a set of principles that guide our decision making based on personal values of what is “right” and “wrong.”

---

93. \_\_\_\_\_ tools, a step up from low-end tools, are designed to handle larger projects, multiple users, and multiple projects.

---

94. \_\_\_\_\_ is still the most widely used project management software today in the midrange tools category.

---

95. \_\_\_\_\_ tools are generally licensed on a per-user basis.

---

96. Describe the triple constraint. What are the three components and what is the relationship between them?

97. List and describe each of the nine project management knowledge areas.

98. What is the difference between leadership and management? How do these two terms relate to a project manager?

99. Discuss the PMP certification. What are the advantages of obtaining PMP certification?

100. Discuss the PMI Code of Ethics and Professional Conduct.

# Chapter 1: Introduction to Project Management **Key**

1. Until the 1980s, project management primarily focused on providing schedule and resource data to top management in the military, computer, and construction industries.

**TRUE**

2. A research report showed that the U.S. spends \$2.3 trillion on projects every year, an amount equal to 40 percent of the nation's gross domestic product.

**FALSE**

3. One attribute that helps define a project is that a project has a unique purpose.

**TRUE**

4. A project should be developed using progressive elaboration, starting from specific details and broadening in scope as it progresses.

**FALSE**

5. Projects are often defined narrowly when they begin.

**FALSE**

6. Projects rarely involve uncertainty.

**FALSE**

7. Every project is constrained in different ways by its scope and cost goals; these limitations are sometimes referred to in project management as the double constraint.

**FALSE**

8. Questions about how long a project's schedule should be are related to the issue of the project's scope.

**FALSE**



9. Because projects involve uncertainty and limited resources, projects rarely finish according to discrete scope, time, and cost goals as originally planned.

**TRUE**

10. Managing the triple constraint involves making trade-offs between scope, time, and cost goals for a project.

**TRUE**

11. Some people refer to the “*double constraint*” of project management to include quality and customer satisfaction.

**FALSE**

12. In the example of building a new house, the support staff would provide the wood, windows, flooring materials, appliances, and so on.

**FALSE**

13. Stakeholders’ needs and expectations are only important in the beginning of a project.

**FALSE**

14. There are six core knowledge areas of project management.

**FALSE**

15. Follow-up studies done by the Standish Group showed that the number of failed projects has more than doubled in the past decade.

**FALSE**

16. The 2006 Standish Group survey showed that IT project success rates had risen from 16 percent in 1994 to 35 percent in 2006.

**TRUE**

17. Project management is the silver bullet that guarantees success on all projects.

**FALSE**

18. A key finding of a 2004 study is that relationship management is viewed as a top success factor for information systems in China, while it is not mentioned in U.S. studies.

**TRUE**

19. Winners in project delivery know that strong program managers—referred to as project leaders—are crucial to project success.

**TRUE**

20. A program is “a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually.”

**TRUE**

21. Program managers are not responsible for coordinating the efforts of project teams, functional groups, suppliers, and operations staff.

**FALSE**

22. The job description for a project manager can vary by industry and by organization.

**TRUE**

23. Project managers should possess general management knowledge and skills.

**TRUE**

24. Project managers must be able to make effective use of technology as it relates to the specific project.

**TRUE**

25. Project managers for large information technology projects have to be experts in the field of information technology.

**FALSE**

26. Project managers often take on the role of both leader and manager.

**TRUE**

27. Today's project managers still draw Gantt charts by hand.

**FALSE**

28. Determining the relationships among tasks is not essential in helping to improve project scheduling.

**FALSE**

29. New software makes basic tools, such as Gantt charts and network diagrams, inexpensive, easy to create, and available for anyone to update.

**TRUE**

30. Many people still use basic productivity software, such as Microsoft Word or Excel, to perform many project management functions.

**TRUE**

31. A research report showed that the U.S. spends \_\_\_\_ on projects every year.

A. \$2.3 billion

B. \$23 billion

**C. \$2.3 trillion**

D. \$23 trillion

32. A research report showed that the U.S. spends the equivalent of \_\_\_\_ percent of the nation's gross domestic product on projects every year.

A. 10

B. 20

**C. 25**

D. 50

33. Many organizations assert that using project management provides advantages, such as \_\_\_\_.

A. lower profit margins

**B. lower costs**

C. less internal coordination

D. lower worker morale

34. Because a project requires resources, often from various areas, many projects cross \_\_\_\_ or other boundaries to achieve their unique purposes.

- A. financial
- B. spatial
- C. departmental**
- D. technological

35. The project \_\_\_\_ usually provides the direction and funding for the project.

- A. leader
- B. sponsor**
- C. manager
- D. director

36. The limitations of scope, time, and cost goals are sometimes referred to as the \_\_\_\_.

- A. double bind
- B. triple constraint**
- C. double constraint
- D. double obstacle

37. \_\_\_\_ are the people involved in or affected by project activities and include the project sponsor, project team, support staff, customers, users, suppliers, and even opponents of the project.

- A. Managers
- B. Stakeholders**
- C. Directors
- D. Citizens

38. In the example of the project of building a house, the project sponsors would be the potential \_\_\_\_.

- A. contractors
- B. support staff
- C. managers
- D. new homeowners**

39. In the example of the project of building a house, the \_\_\_\_ would normally be the general contractor responsible for building the house.

- A. project sponsors
- B. project team
- C. project manager**
- D. support staff

40. Project \_\_\_\_ management involves defining and managing all the work required to complete the project successfully.

- A.** scope
- B. quality
- C. time
- D. cost

41. Project \_\_\_\_ management ensures that the project will satisfy the stated or implied needs for which it was undertaken.

- A. cost
- B. time
- C. scope
- D.** quality

42. Project \_\_\_\_ management is concerned with making effective use of the people involved with the project.

- A.** human resource
- B. risk
- C. communications
- D. procurement

43. Project \_\_\_\_ management involves generating, collecting, disseminating, and storing project information.

- A. risk
- B. procurement
- C.** communications
- D. resource

44. Project \_\_\_\_ management is an overarching function that affects and is affected by all of the other knowledge areas.

- A. cost
- B. quality
- C.** integration
- D. time

45. What works on one project may not work on another, so it is essential for project managers to continue to develop their knowledge and \_\_\_\_ in managing projects.

- A. time
- B. resources
- C. funding
- D.** skills

46. According to the Standish group, which of the following factors contributes most to the success of information technology projects?

- A.** Executive support
- B. User involvement
- C. Experienced project manager
- D. Clear business objectives

47. According to the Standish Group study describing what factors contribute most to the success of information technology projects, \_\_\_\_ percent of successful projects are led by experienced project managers.

- A. 75
- B. 80
- C.** 97
- D. 100

48. “All project leaders use a shared road map, focusing on key business aspects of their projects while integrating goals across all parts of the organization” describes the \_\_\_\_ best practice for project delivery.

- A. Use an integrated toolbox
- B. Grow project leaders
- C.** Develop a streamlined project delivery process
- D. Measure project health using metrics

49. \_\_\_\_ project management software integrates information from multiple projects to show the status of active, approved, and future projects across an entire organization.

- A. Investment
- B. Active
- C.** Enterprise
- D. Budget

50. A \_\_\_\_ can have many different job descriptions, which can vary tremendously based on the organization and the project.

- A. project supervisor
- B.** project manager
- C. job coordinator
- D. project coordinator

51. In an interview with two chief information officers (CIOs), both men agreed that the most important project management skills seem to depend on \_\_\_\_.
- A. the difficulty of the project and the resources involved
  - B. the difficulty of the task and the people involved
  - C. the uniqueness of the project and the difficulty of the task
  - D.** the uniqueness of the project and the people involved
52. Achieving high performance on projects requires \_\_\_\_, otherwise called human relations skills.
- A. capital skills
  - B.** soft skills
  - C. light skills
  - D. hard skills
53. A(n) \_\_\_\_ focuses on long-term goals and big-picture objectives, while inspiring people to reach those goals.
- A. assistant
  - B. programmer
  - C.** leader
  - D. manager
54. A(n) \_\_\_\_ often deals with the day-to-day details of meeting specific goals.
- A.** manager
  - B. leader
  - C. programmer
  - D. analyst
55. Some people say that \_\_\_\_ achieve the vision of a project.
- A. leaders
  - B.** managers
  - C. stakeholders
  - D. supervisors
56. Most people agree that the modern concept of project management began with the \_\_\_\_.
- A. Great Wall of China
  - B. first space shuttle
  - C. Egyptian pyramids
  - D.** Manhattan Project

57. The Manhattan Project cost almost \$2 billion in \_\_\_\_.

- A. 1936
- B. 1946**
- C. 1956
- D. 1966

58. In \_\_\_\_, Henry Gantt developed the famous Gantt chart as a tool for scheduling work in factories.

- A. 1897
- B. 1917**
- C. 1927
- D. 1957

59. A Gantt chart is a standard format for displaying project schedule information by listing project activities and their corresponding start and finish dates in a \_\_\_\_ format.

- A. pie chart
- B. line graph
- C. bar graph
- D. calendar**

60. During the Cold War years of the 1950s and '60s, \_\_\_\_ continued to be key in refining several project management techniques.

- A. NASA
- B. the military**
- C. steel manufacturing
- D. marine biology

61. The longest path through a network diagram that determines the earliest completion of a project is called the \_\_\_\_ path.

- A. essential
- B. important
- C. critical**
- D. vital

62. By the \_\_\_\_, the U.S. military and its civilian suppliers developed software to assist in managing large projects.

- A. 1960s
- B. 1970s**
- C. 1980s
- D. 1990s



63. \_\_\_\_ was an early project management software product that helped managers analyze complex schedules for designing aircraft.

- A.** Artemis
- B. Columbia
- C. Vega
- D. Oberlin

64. A PMO, or Project \_\_\_\_ Office, is an organizational group responsible for coordinating the project management function throughout an organization.

- A.** Management
- B. Money
- C. Municipal
- D. Marketing

65. Many organizations are now using enterprise or project \_\_\_\_ management software to help manage projects.

- A. path
- B.** portfolio
- C. institute
- D. office

66. PMI provides certification as a Project Management \_\_\_\_ (PMP), someone who has documented sufficient project experience and education, agreed to follow the PMI code of professional conduct, and demonstrated knowledge of the field of project management by passing a comprehensive examination.

- A. Producer
- B. Practitioner
- C.** Professional
- D. Professor

67. Just as passing the CPA exam is a standard for accountants, passing the \_\_\_\_ exam is becoming a standard for project managers.

- A. PMI
- B. PM
- C.** PMP
- D. PMO

68. The Project Management \_\_\_\_\_, a Web site for people involved in project management, provides an alphabetical directory of more than 300 project management software solutions.

- A.** Center
- B. Alliance
- C. Consortium
- D. Facility

69. \_\_\_\_\_ tools are often recommended for small projects and single users.

- A.** Low-end
- B. Midrange
- C. High-end
- D. Expensive

70. \_\_\_\_\_ tools, sometimes referred to as enterprise project management software, provide robust capabilities to handle very large projects.

- A. Low-end
- B. Midrange
- C.** High-end
- D. Inexpensive

71. More than \_\_\_\_\_ million people regard project management as their profession.

- 16** or
- sixteen**

72. The “CHAOS” study found that more than \_\_\_\_\_ percent of information technology projects were canceled before completion.

- 31** or
- thirty-one**

73. A(n) \_\_\_\_\_ is a temporary endeavor undertaken to create a unique product, service, or result.

- project**

74. The term “\_\_\_\_\_” refers to work done in organizations to sustain the business.

- operations**

75. \_\_\_\_\_ include people, hardware, software, or other assets.

**Resources**

76. The question, “What unique product or service does the customer or sponsor expect from the project?” is related to the \_\_\_\_\_ of the project.

**scope**

77. The question, “What is the project’s budget?” is related to the project’s \_\_\_\_\_.

**cost**

78. The \_\_\_\_\_ of project management includes quality along with scope, time, and cost.

**quadruple constraint**

79. \_\_\_\_\_ is “the application of knowledge, skills, tools, and techniques to project activities to meet project requirements.”

**Project management**

80. Project management \_\_\_\_\_ describe the key competencies that project managers must develop.

**knowledge areas**

81. Project management tools and \_\_\_\_\_ assist project managers and their teams in carrying out work in all nine knowledge areas.

**techniques**

82. Gantt charts, project network diagrams, critical path analysis, crashing, fast tracking, and schedule performance measurements are examples of tools and techniques for \_\_\_\_\_.

**time management**

83. Companies that excel in project delivery use performance \_\_\_\_\_ to quantify progress.

**metrics**

84. \_\_\_\_\_ refers to the process in which organizations group and manage projects and programs as a portfolio of investments that contribute to the entire enterprise's success.

**Project portfolio management** or  
**Portfolio management**

85. \_\_\_\_\_ skills include effective communication, influencing the organization to get things done, leadership, motivation, negotiation, conflict management, and problem solving.

**Soft**

86. One reason project managers need good \_\_\_\_\_ skills is that to understand, navigate, and meet stakeholders' needs and expectations, they need to lead, communicate, negotiate, solve problems, and influence the organization at large.

**soft**

87. Some people say that, "Managers do things right, and \_\_\_\_\_ do the right things."

**leaders**

88. A(n) \_\_\_\_\_ chart is a standard format for displaying project schedule information.

**Gantt**

89. As computer hardware became smaller and more affordable and \_\_\_\_\_ included graphical and easy to use interfaces, project management software became less expensive and more widely used.

**software**

90. The \_\_\_\_\_, an international professional society for project managers founded in 1969, has continued to attract and retain members, reporting 277,221 members worldwide by August 31, 2008.

**PMI** or  
**Project Management Institute** or  
**Project Management Institute (PMI)**

91. Because there are so many people working on projects in various industries, PMI has created Specific \_\_\_\_\_ (SIGs) that enable members to share ideas about project management in their particular application areas, such as information systems.

**Interest Groups**

92. \_\_\_\_\_, loosely defined, is a set of principles that guide our decision making based on personal values of what is “right” and “wrong.”

**Ethics**

93. \_\_\_\_\_ tools, a step up from low-end tools, are designed to handle larger projects, multiple users, and multiple projects.

**Midrange**

94. \_\_\_\_\_ is still the most widely used project management software today in the midrange tools category.

**Microsoft Project**

95. \_\_\_\_\_ tools are generally licensed on a per-user basis.

**High-end**

96. Describe the triple constraint. What are the three components and what is the relationship between them?

Every project is constrained in different ways by its scope, time, and cost goals. These limitations are sometimes referred to in project management as the **triple constraint**. To create a successful project, a project manager must consider scope, time, and cost and balance these three often-competing goals. He or she must consider the following:

*Scope:* What work will be done as part of the project? What unique product, service, or result does the customer or sponsor expect from the project? How will the scope be verified?

*Time:* How long should it take to complete the project? What is the project's schedule? How will the team track actual schedule performance? Who can approve changes to the schedule?

*Cost:* What should it cost to complete the project? What is the project's budget? How will costs be tracked? Who can authorize changes to the budget?

Managing the triple constraint involves making trade-offs between scope, time, and cost goals for a project. For example, you might need to increase the budget for a project to meet scope and time goals. Alternatively, you might have to reduce the scope of a project to meet time and cost goals. Experienced project managers know that you must decide which aspect of the triple constraint is most important. If time is most important, you must often change the initial scope and/or cost goals to meet the schedule. If scope goals are most important, you may need to adjust time and/or cost goals.

97. List and describe each of the nine project management knowledge areas.

Project scope management involves defining and managing all the work required to complete the project successfully.

Project time management includes estimating how long it will take to complete the work, developing an acceptable project schedule, and ensuring timely completion of the project.

Project cost management consists of preparing and managing the budget for the project.

Project quality management ensures that the project will satisfy the stated or implied needs for which it was undertaken.

Project human resource management is concerned with making effective use of the people involved with the project.

Project communications management involves generating, collecting, disseminating, and storing project information.

Project risk management includes identifying, analyzing, and responding to risks related to the project.

Project procurement management involves acquiring or procuring goods and services for a project from outside the performing organization.

Project integration management is an overarching function that affects and is affected by all of the other knowledge areas.

98. What is the difference between leadership and management? How do these two terms relate to a project manager?

*Leadership* and *management* are terms often used interchangeably, although there are differences. Generally, a **leader** focuses on long-term goals and big-picture objectives, while inspiring people to reach those goals. A **manager** often deals with the day-to-day details of meeting specific goals. Some people say that, “Managers do things right, and leaders do the right things.” “Leaders determine the vision, and managers achieve the vision.” “You lead people and manage things.”

However, project managers often take on the role of both leader and manager. Good project managers know that people make or break projects, so they must set a good example to lead their team to success. They are aware of the greater needs of their stakeholders and organizations, so they are visionary in guiding their current projects and in suggesting future ones. As mentioned earlier, companies that excel in project management grow project “leaders,” emphasizing development of business and communication skills. Yet good project managers must also focus on getting the job done by paying attention to the details and daily operations of each task. Instead of thinking of leaders and managers as specific people, it is better to think of people as having leadership skills, such as being visionary and inspiring, and management skills, such as being organized and effective. Therefore, the best project managers have leadership and management characteristics; they are visionary yet focused on the bottom line. Above all else, good project managers focus on achieving positive results!

99. Discuss the PMP certification. What are the advantages of obtaining PMP certification?

Professional certification is an important factor in recognizing and ensuring quality in a profession. PMI provides certification as a **Project Management Professional (PMP)**—someone who has documented sufficient project experience and education, agreed to follow the PMI code of professional conduct, and demonstrated knowledge of the field of project management by passing a comprehensive examination.

The number of people earning PMP certification continues to increase. In 1993, there were about 1,000 certified project management professionals. By August 2008, there were 295,413 active PMPs.

Organizations that support PMP certification see the value of investing in programs to improve their employees' knowledge in project management. Many employers today require specific certifications to ensure their workers have current skills, and job seekers find that they often have an advantage when they earn and maintain marketable certifications.

Passing the PMP exam is becoming a standard for project managers. Some companies are requiring that all project managers be PMP certified. Project management certification is also enabling professionals in the field to share a common base of knowledge. For example, any person with PMP certification can list, describe, and use the nine project management knowledge areas. Sharing a common base of knowledge is important because it helps advance the theory and practice of project management.

100. Discuss the PMI Code of Ethics and Professional Conduct.

PMI approved a new Code of Ethics and Professional Conduct effective January 1, 2007. This new code applies not only to PMPs, but to all PMI members and individuals who hold a PMI certification, apply for a PMI certification, or serve PMI in a volunteer capacity. It is vital for project management practitioners to conduct their work in an ethical manner. Even if you are not affiliated with PMI, these guidelines can help you conduct your work in an ethical manner, which helps the profession earn the confidence of the public, employers, employees, and all project stakeholders. The PMI Code of Ethics and Professional Conduct includes short chapters addressing vision and applicability, responsibility, respect, fairness, and honesty.