



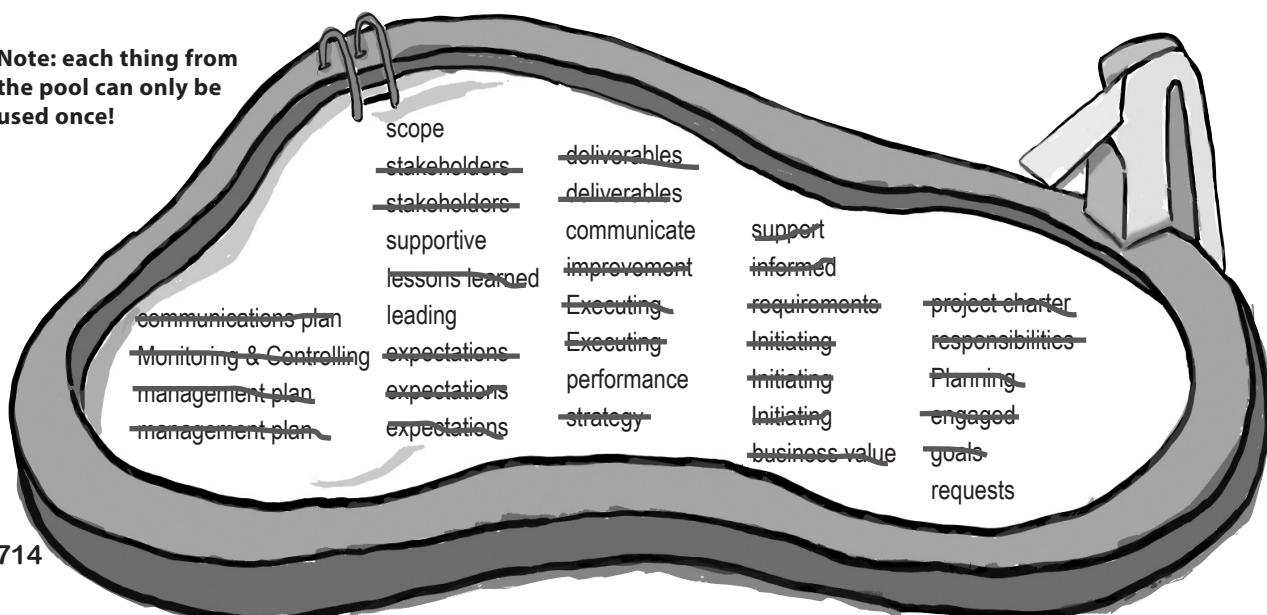
Pool Puzzle Solution

Were you able to figure these tasks from the PMP exam specification? They all have to do with Stakeholder Management. This is a really good way to prepare for the PMP exam, because the exam questions typically don't use exactly the same wording as the *PMBOK® Guide*. This puzzle helps you learn to use different wording to describe concepts that will appear on the exam.

You can find the complete PMP exam specification by searching for "PMP examination content outline" on the Project Management Institute website: <https://www.pmi.org>.

- ★ Identify key deliverables based on business requirements in order to manage customer expectations and direct the achievement of project goals. (Initiating process group)
- ★ Conduct benefit analysis with relevant stakeholders to validate project alignment with organizational strategy and expected business value. (Initiating process group)
- ★ Inform stakeholders of the approved project charter to ensure common understanding of the key deliverables, milestones, and their roles and responsibilities. (Initiating process group)
- ★ Develop the stakeholder management plan by analyzing needs, interests, and potential impact in order to effectively manage stakeholders' expectations and engage them in project decisions. (Planning process group)
- ★ Manage the flow of information by following the communications plan in order to keep stakeholders engaged and informed. (Executing process group)
- ★ Maintain stakeholder relationships by following the stakeholder management plan in order to receive continued support and manage expectations. (Executing process group)
- ★ Capture, analyze, and manage lessons learned, using lessons learned management techniques in order to enable continuous improvement. (Monitoring & Controlling process group)

Note: each thing from the pool can only be used once!





Can you figure out what each of the **Monitor Stakeholder Engagement** tools and techniques is for, just from the name?

Tools

Data analysis

This one includes alternatives analysis, root-cause analysis, and stakeholder analysis.

Understanding the data that is being produced by the team during project delivery.

Decision making

Determining the best course of action when stakeholder engagement doesn't go as planned.

Data representation

Showing stakeholder engagement in a visual way so that it's easier to make decisions about it.

Communication skills

Understanding how stakeholder engagement is going by communicating with all of the stakeholders.

Interpersonal and team skills

Listening to the team and understanding the context of communications to make good decisions.

Meetings

Keeping all of the stakeholders in the loop about project progress, and providing a place for everyone to share their opinions on how to keep the project on track.

excellent!

It's party time!

The Head First Lounge party is a big hit! Thanks to your Stakeholder Management skills, Jeff and Charles are the reigning kings of downtown nightlife!







Choose which engagement level applies in each situation.

Exercise

1. Jeff and Charles haven't reached out to the caterer yet, but they hope to get his help at a discount.

Unaware Resistant Neutral
 Supportive Leading

2. The sound engineers are already booked for that night. They're going to charge an extra fee if you want them to come help out.

Unaware Resistant Neutral
 Supportive Leading

3. The liquor distributor usually has no trouble accommodating double and triple orders.

Unaware Resistant Neutral
 Supportive Leading

4. The neighborhood business association asked about a place to celebrate the past year's successful programs, and a Head First Lounge party sounds like just the thing for them.

Unaware Resistant Neutral
 Supportive Leading

5. A local event magazine was so happy with the last Head First Lounge party that they've offered to partially sponsor this one.

Unaware Resistant Neutral
 Supportive Leading

6. The neighbors haven't been told that HFL is planning another party. We probably ought to let them know way in advance.

Unaware Resistant Neutral
 Supportive Leading

Exam Questions

1. Matt, the sponsor of a large publishing project, meets with all of the stakeholders on the project to ask for their support in an upcoming testing event. Which engagement level is he displaying?

- A. Unaware
- B. Resistant
- C. Supportive
- D. Leading

2. Which of the following is NOT an input to the Plan Stakeholder Engagement process?

- A. Enterprise environmental factors
- B. Organizational process assets
- C. Work performance data
- D. Stakeholder register

3. You take over for a project manager who has left the company, and realize that there are stakeholders in the project who haven't been included in any of the status meetings so far. Some upper managers think the project is not going to succeed, and others are actively thinking of canceling it. Which document is the FIRST one that you should create to solve this problem?

- A. Stakeholder register
- B. Status report
- C. Budget forecast
- D. Performance report

4. In a monthly steering meeting, you ask one of the stakeholders on your project if she has reviewed the latest document updates you've made since the last meeting. She says, "I'm not working on that; I'm not even sure what it is." How would you BEST describe her level of engagement?

- A. Unaware
- B. Resistant
- C. Supportive
- D. Leading

5. You're managing a construction project. You created a stakeholder register and Stakeholder Management plan, and now the team is working on the project. You've been managing the work, and now you're looking at the work performance data to keep your stakeholders informed of the status of the project. You've discovered a change in the way your stakeholders look at the budget for your project. Which of the following BEST describes the next thing you should do?

- A. Update the risk register to include any changes to risk strategy.
- B. Compare the work performance information against the time, cost, and scope baselines and look for deviations.
- C. Create a change request and update the issue log and Cost Management plan to reflect the approved change.
- D. Hold a status meeting.

Exam Questions

6. Joe, a stakeholder on your project, has been plotted on the power/interest grid as high interest with low power. What's the BEST approach for managing his engagement?

- A. Make him responsible for a deliverable on the project.
- B. Keep him informed of all of the decisions that might affect the project's outcome.
- C. Closely manage his requirements and expectations.
- D. Ignore his requirements and expectations, since he doesn't have the power to affect the project's outcome.

7. Which Stakeholder Management process is in the Initiating process group?

- A. Manage Stakeholder Engagement
- B. Identify Stakeholders
- C. Plan Stakeholder Engagement
- D. Register Stakeholders

8. Sue, the sponsor of the industrial design project you're managing, is plotted on your power/interest grid as high power, high interest. Which is the BEST approach for managing her requirements and expectations?

- A. Keep her informed of all project decisions.
- B. Manage her requirements and expectations closely.
- C. Keep her satisfied by inviting her to all of the team meetings.
- D. Understand her goals and expectations, but don't do anything with them.

9. Which is NOT an input of the Identify Stakeholders process?

- A. Agreements
- B. Enterprise environmental factors
- C. Project charter
- D. Project Management plan

10. Kyle is the project manager of a project that has teams distributed in many different places. One of the stakeholders in his project has asked that all formal communications from the project be shared with all of the teams, regardless of their location. Which of the following is NOT a tool that Kyle's team will use to monitor this stakeholder requirement:

- A. Data analysis
- B. Data representation
- C. Meetings
- D. Inspection

Exam Questions

11. Which information is NOT included in the stakeholder register?

- A. Stakeholder name and group
- B. Stakeholder requirements
- C. Stakeholder expectations
- D. Stakeholder deliverables

12. Which Stakeholder Management process is in the Monitoring and Controlling process group?

- A. Distribute Information
- B. Manage Stakeholder Engagement
- C. Plan Communications
- D. Monitor Stakeholder Engagement

~~Exam Questions~~**1. Answer: D**

Since Matt is working to bring other stakeholders to support the project, he's in a leading engagement role.

2. Answer: C

Work performance data is an input of some Stakeholder Management processes, but not an input to Plan Stakeholder Engagement.

3. Answer: A

The stakeholder register is the first thing you need to create here. It looks like some of the upper managers who might be thinking of canceling the project need to have their ideas taken into account. Once you've identified them as stakeholders, you can work to bring their perspective into account on your project and include them in project management decisions.

**4. Answer: A**

It sounds like this stakeholder is completely unaware of her responsibilities on the project. The next step here is to spend some time bringing her up to speed on what's expected.

5. Answer: C

When you look at work performance data and discover a new stakeholder requirement, you're doing the Monitor Stakeholder Engagement process. Some of the outputs of that process are change requests, project document updates, and Project Management plan updates.

Once you recognize the process that's being described, try to think of the outputs of the process to figure out which answer is best.

6. Answer: B

Stakeholders in the low power/high interest quadrant of the power/interest grid need to be kept informed of all project decisions.

Answers

~~Exam Questions~~

7. Answer: B

Identify Stakeholders is the only process in Stakeholder Management that is part of the Initiating process group.

Flip back to Chapter 3 for a quick refresher on the Initiating Process group, now that you've studied Stakeholder Management. It's a good way to review.

8. Answer: B

Stakeholders in the high power/high interest quadrant of the power/interest grid need to have their expectations and requirements closely managed by the project manager.

It can get confusing because Identify Stakeholders is discussed at the end of the PMBOK® Guide, but it's part of the Initiating processes and done before you get to the Planning processes.

9. Answer: D

The Project Management plan is not an input to the Identify Stakeholders process. Since the Identify Stakeholders process is part of the Initiating process group, the stakeholders are identified as an input to the Planning processes that create the Project Management plan.

10. Answer: D

Inspection is not a tool or technique of Monitor Stakeholder Expectations. (It's part of Procurement Management.)

11. Answer: D

Not all stakeholders have deliverables on a project. Some are sponsors, vendors, or others who might be involved in the project but not actually producing deliverables. When a stakeholder does have deliverables that she's accountable for, she'll be documented in the Scope Management plan.

12. Answer: D

Monitor Stakeholder Engagement is the only Monitoring and Controlling process in Stakeholder Management.

14 Professional responsibility

Making good choices



It's not enough to just know your stuff. You need to make good choices to be good at your job. Everyone who has the PMP credential agrees to follow the **Project Management Institute Code of Ethics and Professional Conduct**, too. The Code helps you with **ethical decisions** that aren't really covered in the body of knowledge—and it's a big part of the PMP exam. Most of what you need to know is **really straightforward**, and with a little review, you'll do well.

Doing the right thing

You'll get some questions on the exam that give you situations that you might run into while managing your projects and then ask you what to do. Usually, there's a clear answer to these questions: **it's the one where you stick to your principles.** Questions will make the decisions tougher by offering rewards for doing the wrong thing (like money for taking a project shortcut), or they will make the infraction seem really small (like photocopying a copyrighted article out of a magazine). If you stick to the principles in the PMP Code of Professional Conduct regardless of the consequences, you'll **always** get the answers right.

The PMP exam categorizes ethics and professional conduct as part of a project manager's cross-cutting knowledge and skills. This means that there will be questions about ethics and professional conduct scattered throughout the exam alongside questions about each of the process groups. You should expect to see questions about specific ethical situations for each of the process groups. When you come across a question about ethics and professional conduct, you're likely to see it in the context of initiating, planning, executing, or monitoring and controlling a project.

The main ideas

In general, there are a few kinds of problems that the code of ethics prepares you to deal with:

- 1. Follow all laws and company policies.**
- 2. Treat everybody fairly and respectfully.**
- 3. Have respect for the environment and the community you're working in.**
- 4. Give back to the project management community by writing, speaking, and sharing your experience with other project managers.**
- 5. Keep learning and getting better and better at your job.**
- 6. Respect other people's cultures.**
- 7. Respect copyright laws.**
- 8. Always be honest with everyone on the project.**
- 9. If you find that another person has done something to damage the PMP credential in any way, you must report it to PMI.**

Ethics and professional responsibility questions make up 10% of the exam. That's good news because these questions are really easy if you understand the ideas behind the PMP Code of Professional Conduct.



So if you find out that someone has stolen questions from the PMP exam, cheated on the PMP exam, falsely claimed to have a PMP certification, or lied about anything related to the PMP certification process, then you **MUST** report that to PMI.



COME ON. IS THIS REALLY ON
THE TEST? I KNOW HOW TO DO MY
JOB. DO I REALLY NEED A MORALITY
LESSON?

**Being a PMP-certified project manager means
that you know how to do your job and that you will
do it with integrity.**

It might seem like it doesn't really matter how you will handle these situations, but think about it from an employer's perspective for a minute. Because of the PMI Code of Ethics and Professional Conduct, employers know that when they hire a PMP-certified project manager, they are hiring someone who will follow company policies and do everything aboveboard and by the book. That means that you'll help to protect their company from litigation and deliver on what you promise, which is actually pretty important.

So you should definitely expect to see questions about ethics and professional responsibility on the exam. Not only that, but you won't necessarily see them as straightforward, black-and-white questions, either. Since the questions on this topic are combined into the other questions for the process groups, you're likely to get questions about situations that might occur on real projects. A question about ethics or professional responsibility might look at first like a question about, say, a particular tool or technique in planning. Keep your eye out for "red herring" questions that turn out to be about ethics and social responsibility. They'll lay out a situation that sounds like a normal project management problem, but requires you to use one of the principles in the PMI Code of Ethics and Professional Conduct.



Can you think of some situations where you might need to make decisions using these principles in your own projects?

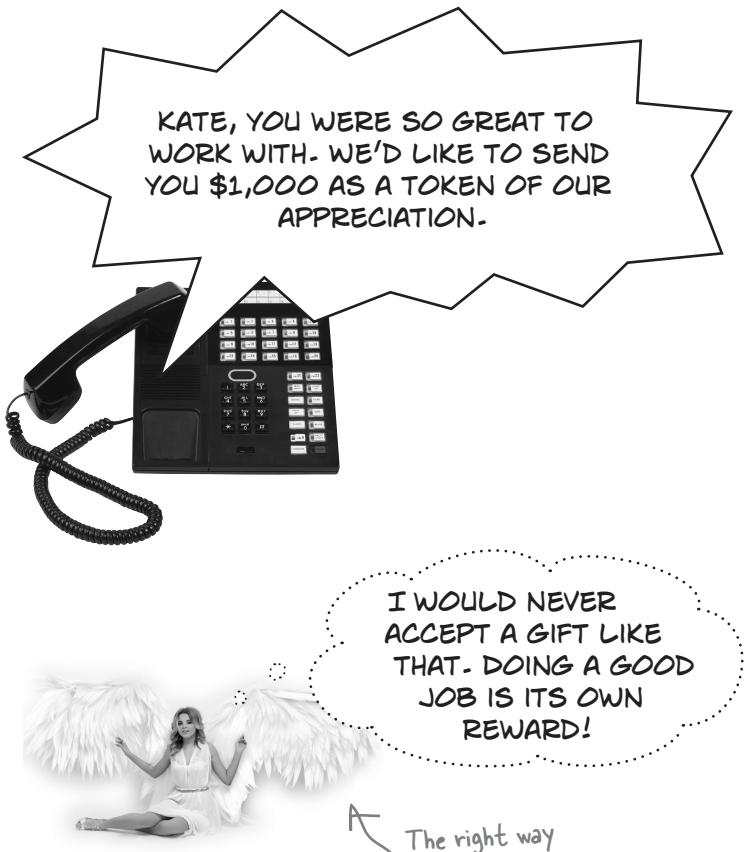
Keep the cash?

A lot of ethics questions on the PMP exam concern bribery. It is never, under any circumstances, OK to accept a bribe—even if your company and customer might benefit from it somehow. And bribes aren't always cash. They can be anything from free trips to tickets to a ball game. Any time you're offered anything to change your opinion or the way you work, you must decline the offer and disclose it to your company.

In some countries, even though you may be "expected" to pay a bribe, it's not OK to do it—even if it's customary or culturally acceptable.

AWESOME. I'VE BEEN WANTING TO GO SHOPPING FOR A WHILE. AND WHAT ABOUT THAT VACATION? ACAPULCO, HERE WE COME!

The easy way



I WOULD NEVER ACCEPT A GIFT LIKE THAT. DOING A GOOD JOB IS ITS OWN REWARD!

The right way



Fly business class?

Any time there's a policy in your company, you need to follow it. Even if it seems like no harm will be done if you don't follow the policy, and even if you will be able to get away with it, you should not do it. And that goes double for laws—under no circumstances are you ever allowed to break a law, no matter how much good it "seems" to do you or your project.

And if you ever see someone in your company breaking the law, you need to report it to the authorities.

WE'VE GOT SOME EXTRA MONEY IN THE BUDGET! I KNOW THE TRAVEL POLICY SAYS WE ALWAYS FLY COACH. BUT I BET WE CAN GET THEM TO APPROVE BUSINESS CLASS TICKETS. WHAT DO YOU THINK?

DID YOU KNOW THAT THOSE CHAIRS GO INTO TOTALLY FLAT BEDS? THIS IS SO COOL. I'VE WORKED SO HARD, I'VE TOTALLY EARNED IT!



THERE'S NO EXCUSE FOR NOT FOLLOWING THE RULES. THE TRAVEL POLICY SAYS FLY COACH. NO EXCEPTIONS!



I KNOW WE COULD GET IT APPROVED, BUT THE ECONOMY FARE WILL BE FINE.



New software

When it comes to copyright, it's never OK to use anything without permission. Books, articles, music, software...you always need to ask before using it. For example, if you want to use some copyrighted music in a company presentation, you should write to the copyright owner and ask for permission.



Shortcuts

You might see a question or two that asks if you really need to follow all of the processes. Or you might be asked by your boss to keep certain facts about your project hidden from stakeholders or sponsors. You have a responsibility to make sure your projects are run properly, and to never withhold information from people who need it.



A good price or a clean river?

Being responsible to the community is even more important than running a successful project. But it's more than being environmentally aware—you should also respect the cultures of everyone else in your community, and the community where your project work will be done.

That means even though languages, customs, holidays, and vacation policies might be different from country to country, you need to treat people the way they are accustomed to being treated.

WE JUST FOUND OUT THAT ONE OF OUR SUPPLIERS DUMPS HARMFUL CHEMICALS IN THE RIVER. THEY'VE ALWAYS GIVEN US GREAT RATES, AND OUR BUDGET WILL GO THROUGH THE ROOF IF WE SWITCH SUPPLIERS NOW. THE WHOLE THING GIVES ME A HEADACHE. WHAT SHOULD WE DO?



WE CAN'T LET THE PROJECT FAIL FOR A BUNCH OF STUPID FISH.



THE EARTH IS OUR HOME AND IS SO MUCH MORE IMPORTANT THAN THIS PROJECT. WE HAVE TO DO WHAT'S RIGHT...



BEN, I KNOW IT COULD CAUSE US PROBLEMS, BUT WE'RE GONNA HAVE TO FIND ANOTHER SUPPLIER.

We're not all angels

We know that the choices you make on your project are not always black and white. Remember that the questions on the exam are designed to test your knowledge of the PMP Code of Professional Conduct and how to apply it. A lot of situations you will run into in real life have a hundred circumstances around them that make these decisions a little tougher to make than the ones you see here. But if you know what the Code would have you do, you're in a good position to evaluate those scenarios as well.

Seriously, it's a quick
read—and it'll help
you on the exam.

Now, go read the PMP Code of Professional Conduct before you take these exam questions. Go to this URL and you can download the code from PMI.

<https://www.pmi.org/about/ethics/code>

I MAY NOT BE THE LIFE OF
THE PARTY, BUT THINK LIKE ME,
AND YOU'LL NAIL THE ETHICS PART
OF THE EXAM.



Exam Questions

- 1. You read a great article over the weekend, and you think your team could really benefit from it. What should you do?**
 - A. Photocopy the article and give it to the team members.
 - B. Type up parts of the article and email it to the team.
 - C. Tell everyone that you thought of the ideas in the article yourself.
 - D. Buy a copy of the magazine for everyone.
- 2. You find out that a contractor that you're working with discriminates against women. The contractor is in another country, and it's normal in that country. What should you do?**
 - A. Respect the contractor's culture and allow the discrimination to continue.
 - B. Refuse to work with the contractor, and find a new seller.
 - C. Submit a written request that the contractor no longer discriminate.
 - D. Meet with your boss and explain the situation.
- 3. You're a project manager at a construction company that's selling services to a client. You are working on a schedule and a budget when the CEO at the client demands that you do not produce those things. Instead, he wants you to begin work immediately. What the BEST thing that you can do?**
 - A. Meet with the CEO to explain why the budget and schedule are necessary.
 - B. Stop work immediately and go into claims administration.
 - C. Don't produce the schedule and budget.
 - D. Ask the buyer to find another company to work with.
- 4. You're working on a project when the client demands that you take him out to lunch every week if you want to keep his business. What's the BEST thing to do?**
 - A. Take the client out to lunch and charge it to your company.
 - B. Refuse to take the client out to lunch because it's a bribe.
 - C. Take the client out to lunch, but report him to his manager.
 - D. Report the incident to PMI.
- 5. You are working on one of the first financial projects your company has attempted, and you have learned a lot about how to manage the project along the way. Your company is targeting financial companies for new projects next year. What's the BEST thing for you to do?**
 - A. Talk to your company about setting up some training sessions so that you can teach others what you have learned on your project.
 - B. Keep the information you've learned to yourself so that you'll be more valuable to the company in the next year.
 - C. Decide to specialize in financial contracts.
 - D. Focus on your work with the project and don't worry about helping other people to learn from the experience.

Exam Questions

6. You find out that you could save money by contracting with a seller in a country that has lax environmental protection rules. What should you do?

- A. Continue to pay higher rates for a environmentally safe solution.
- B. Take advantage of the cost savings.
- C. Ask your boss to make the decision for you.
- D. Demand that your current contractor match the price.

7. You overhear someone on your team using a racial slur. This person is a critical team member and you are worried that if he leaves your company it will cause project problems. What should you do?

- A. Pretend you didn't hear it so that you don't cause problems.
- B. Report the team member to his boss.
- C. Bring it up at the next team meeting.
- D. Meet in private with the team member and explain that racial slurs are unacceptable.

8. You've given a presentation for your local PMI chapter meeting. This is an example of what?

- A. A PDU
- B. Contributing to the Project Management Body of Knowledge
- C. Donating to charity
- D. Volunteering

9. You are about to hold a bidder conference, and a potential seller offers you great tickets to a baseball game for your favorite team. What should you do?

- A. Go to the game with the seller but avoid talking about the contract.
- B. Go to the game with seller and discuss the contract.
- C. Go to the game, but make sure not to let him buy you anything because that would be a bribe.
- D. Politely refuse the tickets.

10. Your company has sent out an RFP, and your brother wants to bid on it. What's the BEST thing for you to do?

- A. Give your brother inside information to make sure that he has the best chance at getting the project.
- B. Publicly disclose your relationship with him and excuse yourself from the selection process.
- C. Recommend your brother but don't inform anyone of your relationship.
- D. Don't tell anyone about your relationship, but be careful not to give your brother any advantage when evaluating all of the potential sellers.

Answers

~~Exam Questions~~

1. Answer: D

You should never copy anything that's copyrighted. Make sure you always respect other people's intellectual property!

2. Answer: B

It's never OK to discriminate against women, minorities, or others. You should avoid doing business with anyone who does.

3. Answer: A

This is a difficult situation for any project manager. But you can't cut corners on the project management processes, and you certainly can't tell the client that you're refusing their business. The best thing you can do is meet with the CEO to explain why you need to follow the rules.

4. Answer: B

The client is demanding a bribe, and paying bribes is unethical. You should not do it. If your project requires you to bribe someone, then you shouldn't do business with that person.

5. Answer: A

You should always try to help other people learn about managing projects.

This is called contributing to the Project Management Body of Knowledge.



6. Answer: A

You should never contract work to a seller who pollutes the environment. Even though it costs more to use machinery that doesn't damage the environment, it's the right thing to do.

Answers

~~Exam Questions~~

7. Answer: D

You should make sure that your team always respects other people.

8. Answer: B

Any time you help share your knowledge with others, you are contributing to the Project Management Body of Knowledge, and that's something you should do as a certified project manager!

9. Answer: D

You have to refuse the tickets even if the game sounds like a lot of fun. The tickets amount to a bribe, and you shouldn't do anything that might influence your decision in awarding your contract.

10. Answer: B

You have to disclose the relationship. It's important to be up front and honest about any conflict of interest that could occur on your projects.

15 A little last-minute review

Check your knowledge

BOY, EXAM DAY IS MY FAVORITE DAY OF THE YEAR! I ONLY WISH WE COULD HAVE SCHOOL ALL SUMMER, TOO.



Wow, you sure covered a lot of ground in the last 14 chapters! Now it's time to take a look back and drill in some of the most important concepts that you learned. That'll keep it all fresh and give your brain a final workout for exam day!

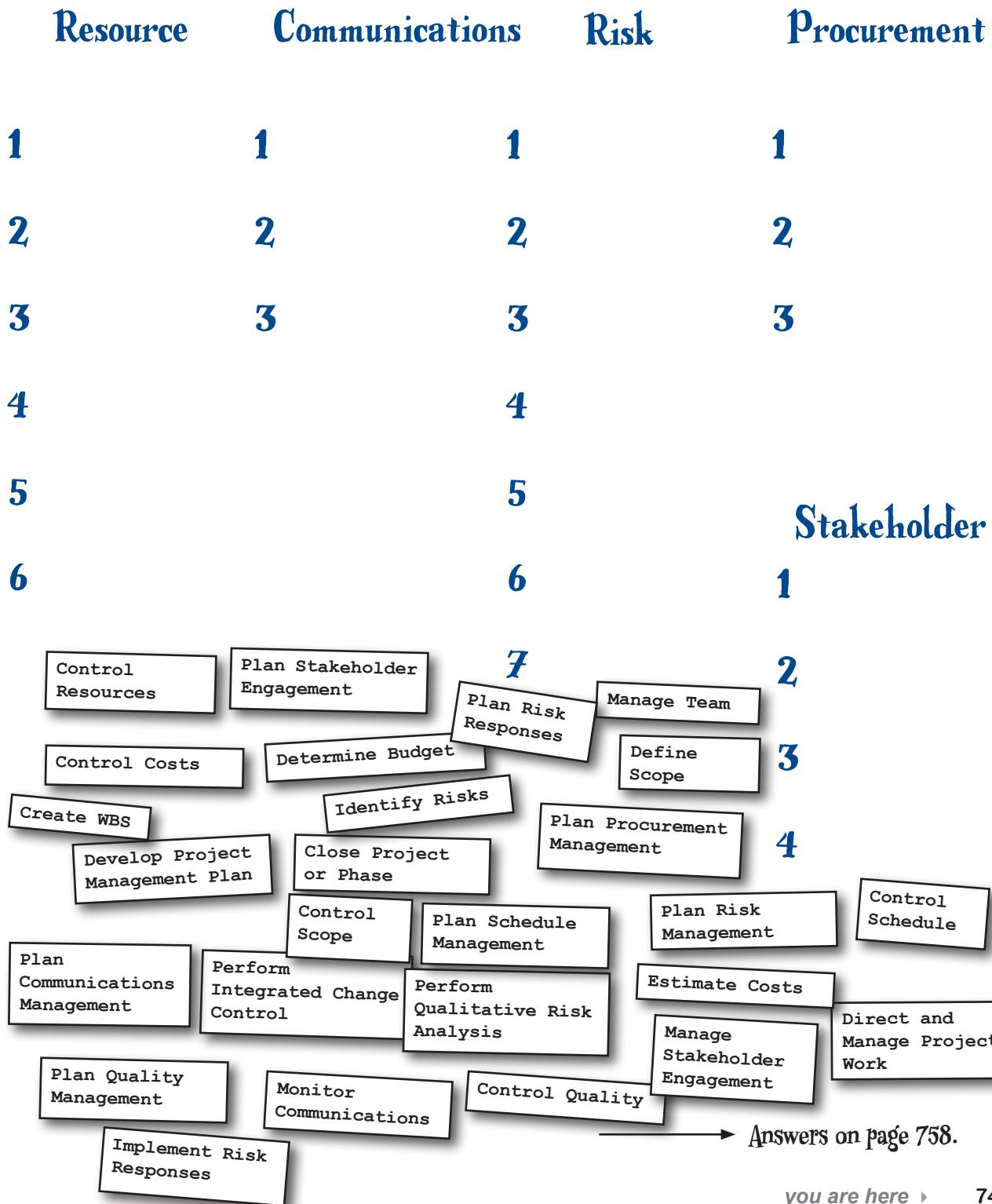


Process Magnets

Can you put all of the processes in the right knowledge areas?
Give it a shot—and while you're at it, see if you can put them inside each knowledge area in the order that they're typically performed on a project.

Integration	Scope	Schedule	Cost	Quality
1	1	1	1	
2	2	2	2	
3	3	3	3	
4	4	4	4	
5	5	5	1	
6	6	6	2	
7			3	

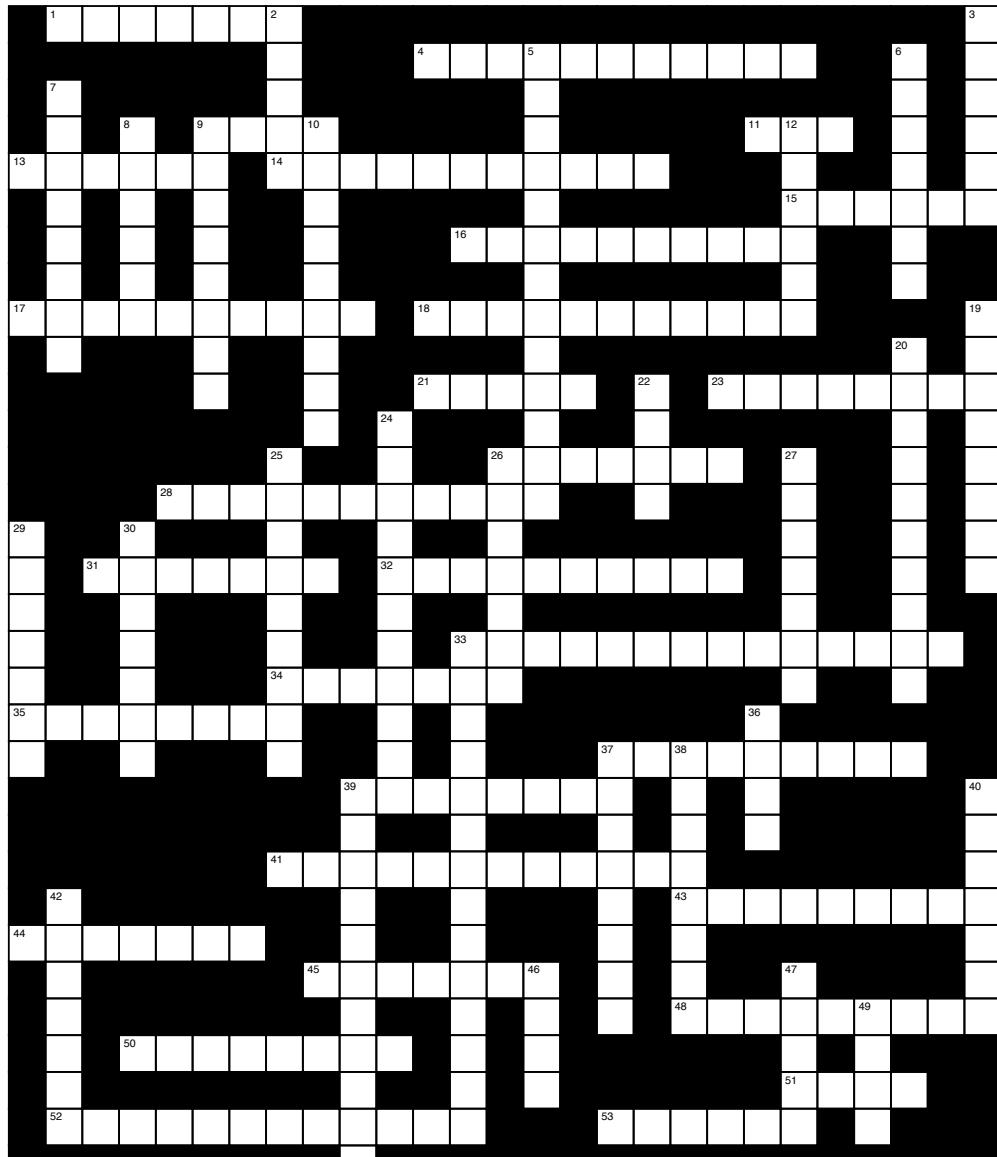






Processcross

How well do you know the 49 processes in the PMBOK® Guide? Let's find out!



Answers on page 760.

Across

- In the _____ Schedule process, you build a bar chart, milestone list, calendar, or other document out of all of your estimates.
- In the _____ Management knowledge area, you contract with sellers to do project work.
- The _____ Management knowledge area is where you plan for the unknown.

Down

- The Close Project or _____ process is where you make sure the project is finished, and all of the lessons learned are documented.
- In the _____ Quality process, you make sure the entire project and quality processes meet your company's quality standards.
- _____ Management is the knowledge area where you figure out who's talking to whom, and how.

Across

11. The Create _____ process is where you create a graphical, hierarchical document that describes all work packages.
13. The _____ Communications process gets the right information to the right people. It's where most of the communication on the project happens.
14. You manage all communication for the people who are affected by your project in the Manage Stakeholder _____ process.
15. The _____ Scope process is where you write down exactly what the team will do to produce the product.
16. The _____ and Controlling process group is concerned with finding and dealing with changes.
17. You work with sponsors and stakeholders to decide whether or not to make changes during the Perform _____ Change Control process.
18. In the Plan _____ Management process, you decide what work you'll contract out to a seller.
21. The Estimate _____ process is where you figure out how much money you'll spend on each activity in the schedule.
23. The _____ Scope process is where you make sure all of the work has been done, and you get formal approval from the stakeholders.
26. The _____ Procurements process is the Monitoring and Controlling process for procurements, where you look for changes in your contracts.
28. _____ Management is the knowledge area where you bring all of the work and project plans together.
31. The _____ Stakeholder Engagement process is the process of tracking stakeholder engagement through the project and making corrections and changes based on project information.
32. The _____ process group is where you make sure the project starts out right.
33. The Plan _____ Management process is where you'll figure out how you'll handle messages, channels of communication, meetings, and reporting.
34. In the _____ Quality process, your team looks for defects in deliverables.
35. The Plan _____ Management process is where you create a plan for how you will assign and manage your staff and equipment.
37. The Plan Risk _____ process is where you decide how your team will react to each risk, should it occur.
39. The _____ Activities process is where you put the list of activities in order and create network diagrams.
41. In the Perform _____ Risk Analysis process, you assign numerical values to your risks in order to more accurately assess them.
43. The Estimate Activity _____ process is where you generate an estimate of how long each activity will take.
44. The _____ Procurements process is where you determine which sellers will do the work.
45. The document that authorizes you to do the work is built in the Develop Project _____ process.
48. The _____ process group is where the team does the project work.
50. In the _____ Management knowledge area, you determine how long the work will take.
51. The _____ Stakeholder Engagement Process is where you plan all of the activities you'll do to keep stakeholders satisfied through the project.
52. The Collect _____ process is where you gather the needs of the stakeholders and document them.
53. The _____ Communications process gets the right information to the right people. It's where most of the communication on the project happens.

Down

6. You make sure your deliverables conform to their requirements using the _____ Management knowledge area processes.
7. The _____ process group is where you do the most work. It's where you build a document to guide you through each of the knowledge areas.
8. The _____ Team process is where you track your team members' performance, provide feedback, and resolve issues.
9. The _____ Management knowledge area is where you put together and manage your team.
10. The Manage Project _____ process is where you put together everything you've learned while executing the project and use that information to solve problems that come up.
12. In the Determine _____ process, you add up all of your estimated costs and figure out how much money your project will spend in total.
19. The _____ Risks process is where you create a risk register that contains a list of risks that might affect your project.
20. You create a document that defines how you'll handle every aspect of the project in the Develop Project _____ Plan process.
22. The deliverables and work performance information are created in the Direct and Manage Project _____ process.
24. The Perform _____ Risk Analysis is where you categorize each risk.
25. The Estimate Activity _____ process is where you figure out what people, equipment, and other things you'll need for the project, and when you'll need them.
26. You track your work closely and manage your costs in the _____ Costs process.
27. The Plan _____ Management process is where you create a plan to ensure that your deliverables conform to requirements, and are fit for use.
29. You assign your team to the project in the _____ Resources process.
30. The _____ Scope process is where you look for changes to scope, and make only those changes that are necessary.
33. Monitor _____ is where you figure out how your project is doing, and let everyone else know.
36. The _____ Management knowledge area is all about figuring out your budget.
37. The Monitor Risks process is where you look for any new risks and changes to the risk _____.
38. The Control _____ process is where you look for changes to the planned dates for performing activities and meeting milestones.
39. The _____ Management knowledge area is where you figure out who is impacted by your projects and work to keep them satisfied.
40. The _____ process group is where you shut down the project.
42. In the _____ and Control Project Work process, you constantly look for changes or problems that occur.
46. You create a plan that tells you how you manage unexpected events in the Plan _____ Management process.
47. The _____ Management knowledge area helps you figure out the work that needs to be done for your project.
49. The Develop _____ process is where you keep your team motivated, and set goals and rewards for them.



These questions are all about specific things that you're likely to see on the exam. They're drawn from many different knowledge areas. Take some time and try to answer all of them—remember, these are a little harder than questions you'll see on the exam, since they're not multiple choice!

1. When you're developing a project charter, what do you use to understand the reasons why it makes sense for your business to take on the project?
2. What do you call the point in a fixed-price contract where the seller assumes the rest of the cost?
3. Which conflict resolution technique is most effective?
4. What's the range for a rough order of magnitude estimate?
5. Which contract type is best when you don't know the scope of the work?
6. What are you doing when you add resources to the critical path in order to shorten the schedule?
7. Which management theory states that employees can't be trusted and need to be constantly monitored?
8. What are the top three causes of conflict on projects?
9. Customer satisfaction is part of which knowledge area?
10. Which type of power is typically unavailable to project managers in a matrix organization?
11. Which form of communication is **always** necessary whenever you are performing procurement processes?
12. What's it called when you add up the costs of inspection, test planning, testing, rework (to repair defects discovered), and retesting?
13. What are the three characteristics of a project that differentiate it from a process?
14. Where would you find out details about a specific work package, such as an initial estimate or information about what account it should be billed against?
15. What do you do when you and your team can't identify a useful response to a risk that you've identified?
16. What do you decompose work packages into before you can build your schedule?
17. What's the float for any activity on the critical path?
18. Research shows that project managers spend approximately how much of their time communicating?
19. What should you do with the factors that cause change?
20. Which two types of estimate require historical information?

→ Answers on page 761



You'll definitely get a bunch of calculation questions on the exam. Luckily, you've got a handle on them! Here's your chance to get a little more practice.

1. How many lines of communication are there on a project with nine people (including the project manager)?

2. Your project has a budget at completion of \$250,000. You've completed half of the work, but your schedule says you should have completed 60% of the work. Calculate PV and EV.

3. Your project has a BAC of \$7,500. Your scheduled % complete is 35%, but your actual % complete is 30%. Calculate the SPI. What does that SPI tell you about your project?

4. You were managing a project with a team of eight people, plus you (as the project manager), when you added four team members. How many lines of communication were added?

5. You've got a project with a budget of \$500,000. Your project is 75% complete, and you have spent \$400,000 so far. Calculate the EAC and ETC. What does that tell you about the project?

6. You've identified two risks and an opportunity for your project. Risk A has a probability of 35% and a cost of \$500. Risk B has a probability of 60% and a cost of \$750. Opportunity C has a probability of 10% and a value of \$1,000. What's the total EMV of Risk A, Risk B, and Opportunity C?

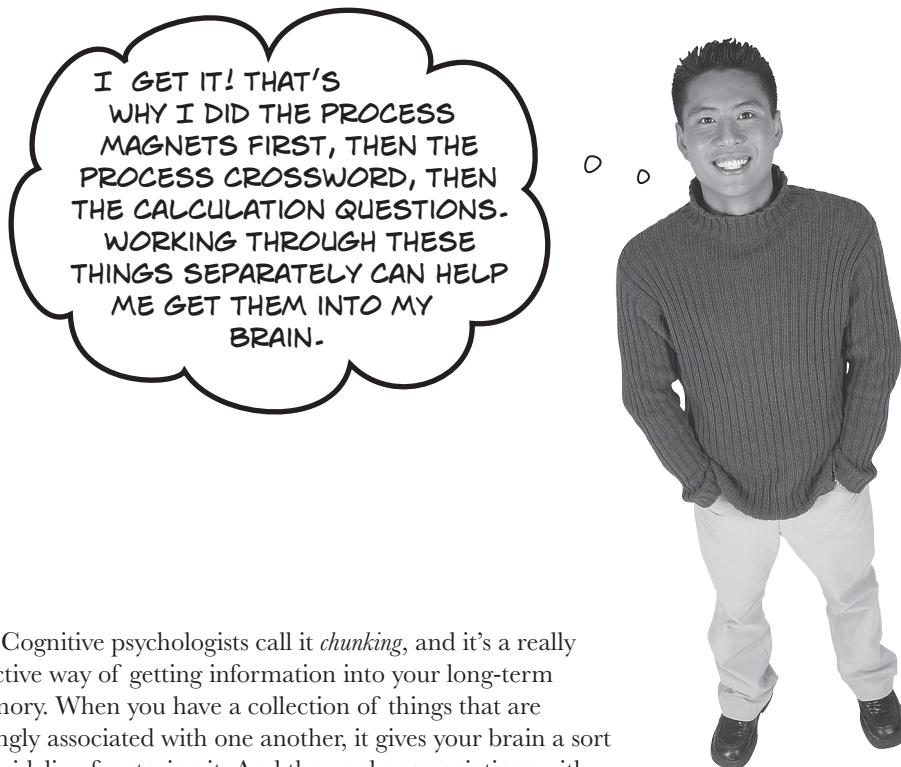
7. Your project has a CPI of 1.2 and an EV of \$150,000. Calculate the actual cost of the project so far.

→ Answers on page 762.

A long-term relationship for your brain

Take a minute and think back over everything you've just learned. Does it seem a little...well, overwhelming? Don't worry, that's absolutely normal. You've got all of this information that's floating around in your brain, and your brain is still trying to organize it.

Your brain is an amazing machine, and it's really good at organizing information. Luckily, when you feed it so much new data, there are ways that you can help make it "stick." That's what you've been doing in this chapter. Your brain wants its new information to be categorized. That's why it helps to first review how the processes are organized, and then review what the processes do.

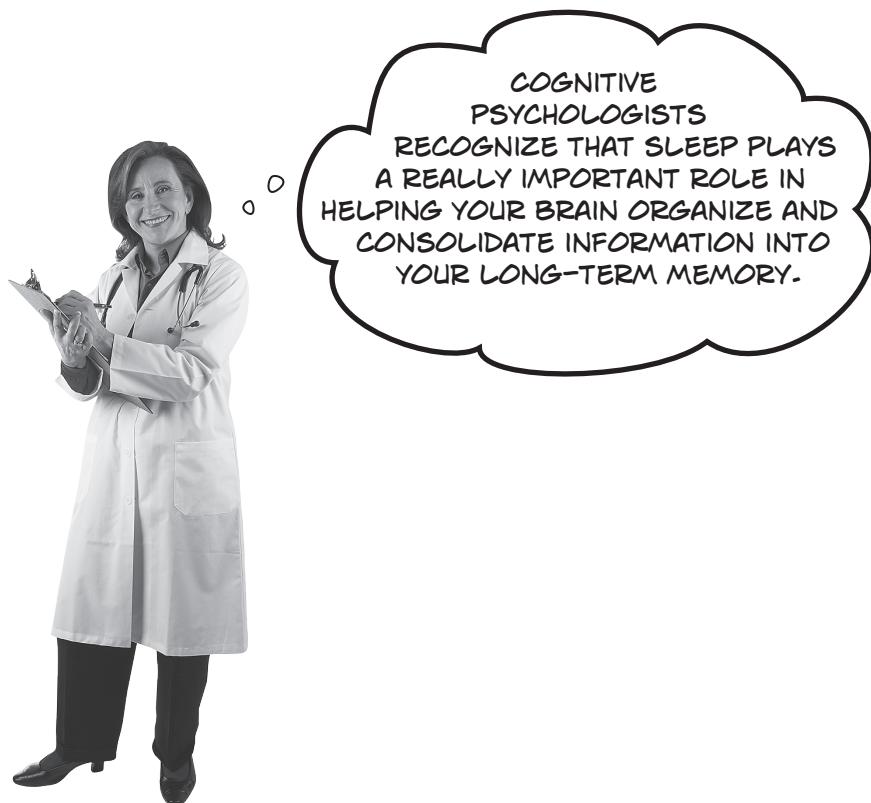


Yes! Cognitive psychologists call it *chunking*, and it's a really effective way of getting information into your long-term memory. When you have a collection of things that are strongly associated with one another, it gives your brain a sort of guideline for storing it. And the weaker associations with the other "chunks" give it a bigger framework for managing this large amount of information, so that it's all mutually reinforcing.

Here's how to do this next section

This next section consists of a series of questions grouped together by knowledge area. To make this as effective as possible:

- * **Make this the only PMP study activity you do today.**
- * **Give yourself plenty of time to do it.**
- * **Make sure you drink lots of water while you're answering the questions.**
- * **As you're answering the questions, think about each answer and only mark down one response, even if you're not 100% sure.**
- * **After you do each section, read through each question again.**
- * **Don't look at the answers until you've gone through all of the knowledge areas.**
- * **Make sure you get plenty of sleep the night after you do these questions.**



Integration and Overall PMBOK® Questions

1. You're managing a project for a military subcontractor to modify the software for a missile guidance system. You're planning the project, and need to take into account information about the company's operating environment. Which of the following is not an example of the factors you are looking at?

- A. Marketplace conditions
- B. The forecast for project completion, including ETC and TCPI
- C. Government standards you need to comply with
- D. The political climate that can affect your project

2. The CFO of a company tells you that you need to include a new feature in software that's being produced by a project you are managing. The deadline for the project is tight, and if you take on the extra work then the project will come in late. What best describes the first thing that you should do?

- A. Update the Project Management plan to make sure the new feature is included in the project.
- B. Tell the CFO that he needs to wait until you're working on the next version, and then submit a change request to the change control board.
- C. Tell the CFO that the deadline is too tight, and the feature can't be included.
- D. Evaluate the impact that the change will have on the project.

3. Which of the following best describes the role of the project sponsor?

- A. Assigning work to the project team
- B. Paying for the project
- C. Politically supporting the project inside the organization
- D. Defining the type of organization (matrix, functional, etc.)

4. Which of the following is not a part of the Project Management plan?

- A. The lifecycle selected for the project
- B. The level of implementation for each of the processes
- C. The organization's staffing and retention guidelines
- D. Techniques used to communicate with stakeholders

Scope Questions

5. You're managing an architecture project to design an extension on an existing building. One of the stakeholders has been adamant that the plans should not include an interior supporting wall, because she wants to be able to reconfigure the floorplan. Where do you document this information?

- A. Project scope statement
- B. Scope Management plan
- C. Work breakdown structure
- D. WBS dictionary

6. You're in the process of working with the project stakeholders, figuring out what they need, and writing it down. Which of the following is a tool or technique that you would use?

- A. Decomposition
- B. Observations
- C. Variance analysis
- D. Inspection

7. A project manager is analyzing deliverables and subdividing them into smaller, more manageable components. This project manager is performing which process?

- A. Control Scope
- B. Define Scope
- C. Collect Requirements
- D. Create WBS

8. A software project team lead is working with stakeholders to make sure that there's formal, documented acceptance of every one of the project deliverables. Which of the following best describes the work that she's doing?

- A. Performing variance analysis on the cost baseline
- B. Updating the traceability matrix
- C. Structuring and organizing the WBS
- D. Running the software and walking through it with the stakeholders

Time Questions

9. You're working on an IT project to set up a development environment, including designing and building a computer room, installing the operating systems and software, and performing a security evaluation. You need at least two weeks to order the hardware before you can configure it and install the operating systems. Which of the following best describes this relationship?

- A. Lead
- B. Lag
- C. Finish-to-Start (FS)
- D. Start-to-Start (SS)

10. You're planning an IT project to set up a development environment, including designing and building a computer room, installing the operating systems and software, and performing a security evaluation. Your project includes three different activities that involve three different network technicians splicing ends onto wires in order to build their own ethernet cables, because that's less expensive than buying prepackaged ones. Every ethernet cable must be tested with a qualification tester. That's an expensive piece of equipment, and there are only a few of them that must be shared among all of the technicians in the company. You need to plan your schedule based on the availability of the testing equipment. What's the best place to find that information?

- A. Staffing requirements
- B. Activity network diagram
- C. Resource calendar
- D. Activity resource requirements

11. You're working on an IT project to set up a development environment, including designing and building a computer room, installing the operating systems and software, and performing a security evaluation. Once the operating system on a machine is installed, it needs to be imaged and copied to three identical boxes. Which of the following best describes this relationship?

- A. Lead
- B. Lag
- C. Finish-to-Start (FS)
- D. Start-to-Start (SS)

12. You're working on an IT project to set up a development environment, including designing and building a computer room, installing the operating systems and software, and performing a security evaluation. Your team comes up with a best-case scenario for the activity that involves ordering and installing the equipment. If everything goes perfectly, they feel it will take five weeks. However, they think it's much more likely to take nine. A team member points out that on his last project, there was a major equipment delivery delay that cost the project an extra four weeks, and the rest of the team agrees that this is a possibility in a worst-case scenario. Use a three-point estimate to calculate how long you should expect this activity to take.

- A. 5 weeks
- B. 9 weeks
- C. 12 weeks
- D. 13 weeks

Cost Questions

13. Which of the following best describes funding limit reconciliation?

- A. Comparing your project's budget against the project's reserves
- B. Comparing your project's planned expenditures against the funding constraints
- C. Comparing your project's planned value against the actual costs
- D. Comparing your project's net present value against the internal rate of return

14. Your project has a budget at completion (BAC) of \$75,000, and you need to figure out if you're on track to meet it. You know that you've already spent \$56,000, and you're 70% done with the project. If your project continues expenditures at the current rate, what calculation do you need to perform to find the lowest that you can allow your CPI to go before you've exceeded your project's budget?

- A. TCPI
- B. SV
- C. SPI
- D. CV

15. You're managing a construction project to install 7,500 light switches in a new high-rise building. You've installed 3,575 of them so far, and you've spent \$153,500 of your total budget of \$245,000. Which of the following is true?

- A. The AC is \$153,500, so I'm ahead of schedule.
- B. The ETC is \$168,995, so I'm within my budget.
- C. The CV is \$36,880, so I've exceeded my budget.
- D. The CPI is .7597, so I've exceeded my budget.

16. You're managing a construction project, and you're estimating your project's activities using a spreadsheet that a consulting company created for you. You have to fill in the dry weight of the materials, the number of people required to do the work, the type of building you're working on, and other information about the project. Which best describes what you are doing?

- A. Parametric estimation
- B. Analogous estimation
- C. Bottom-up estimation
- D. Top-down estimation

Quality Questions

17. Which of the following is not considered when you are calculating cost of quality?

- A. How much it costs to repair deliverables when they don't meet requirements
- B. The cost of training the team to perform inspections
- C. The cost of working with customers who find problems with the work delivered to them
- D. The cost of gaining formal acceptance of project deliverables

18. Which of the following is not an example of quality assurance?

- A. Examining the way deliverables are produced to see if processes are being followed
- B. Examining deliverables to see if they meet requirements
- C. Examining a group of deliverables to figure out why they all had the same defect
- D. Examining the company's documentation on how processes are to be performed

19. Which of the following best describes a situation where statistical sampling is appropriate?

- A. You just got a shipment of 50,000 parts, and you need to figure out if enough of them are within tolerances to be used on your project.
- B. You need to figure out which defects are critical, and which can be delivered to your customer and repaired later.
- C. You need to use the rule of seven on a control chart.
- D. You need to determine if your project is ahead of schedule and within budget.

20. You're planning your project's quality activities. You know that as you go through your project, your team will find lots of ways to improve how your company does work in the future. You need a way to handle that information in a systematic manner. What document is best used to plan for this?

- A. Quality checklist
- B. Process Improvement plan
- C. Quality Management plan
- D. Quality metrics

Human Resource Questions

21. A project manager working in a project-based organization is putting a team together to perform a project. Which of the following is not a tool or technique that might be used to do this?

- A. Colocation
- B. Virtual teams
- C. Preassignment
- D. Negotiation

22. A project manager is building her team. She notices that team members are not collaborating efficiently, and she is concerned that this is leading to a destructive environment. Which of the following best describes the state that the team is in?

- A. Norming
- B. Forming
- C. Storming
- D. Performing

23. A project manager is running into trouble with his team, because they always come to meetings late. Which of the following is most likely to be the cause of this problem?

- A. The team resents the work that they're doing.
- B. The project manager needs to schedule meetings later in the day.
- C. The project manager was late to meetings himself, and this influenced the team.
- D. The team is in the storming phase of team development.

24. A project manager for a software project is well regarded by people in her company as an expert programmer. She has an especially good reputation among the senior managers of the company. The CTO of the company tells her that any time she runs into trouble, he'll back up any decision that she makes—and everyone on the team admires the CTO, and they have a lot of loyalty to him. Which best describes the power the project manager is exerting?

- A. Reward power
- B. Expert power
- C. Punishment power
- D. Referent power

Communications Questions

25. Bob and Sue are stakeholders in your project. Sue is in the high-power, low-interest quadrant of the power/interest grid. Bob is in the low-power, high-interest quadrant. Which of the following best describes the approach you should take:

- A. Sue needs to participate in every important meeting, while Bob needs to have his opinion heard in those meetings.
- B. You need to make sure that Bob is on the change control board, but Sue requires only minimum effort.
- C. You need to go out of your way to satisfy all of Sue's needs, while Bob has to be kept in the loop on important decisions.
- D. Sue needs to be managed closely, and you must satisfy Bob by making sure he feels his needs are being met.

26. A project manager is analyzing the communications requirements for a project. There are six team members, four stakeholders, and two subcontractors. He needs to find the number of potential communication channels. How many channels are there?

- A. 13
- B. 55
- C. 66
- D. 78

27. You're about to close your project when you are surprised to get an email from someone you've never spoken to before. He is very angry, because he's directly impacted by your project, and there are specific things he needs from it and you aren't delivering those things. Which best describes the communications process you are in?

- A. You did not manage communications effectively.
- B. You did not identify a project stakeholder.
- C. You did not encode your communications.
- D. You did not have a Stakeholder Management strategy.

28. You are in the process of making relevant information available to your project's stakeholders. Which of the following is not a tool or technique that you would use?

- A. Hard copies of documents interoffice-mailed to stakeholders
- B. Power/interest grid that includes all stakeholders
- C. Conference calls with stakeholders
- D. An online folder that contains project documents

Risk Questions

29. A project manager is analyzing project risks by using quantitative techniques to assign a numeric value to each of those risks. Which of the following tools and techniques is not used for this?

- A. EMV analysis that uses a decision tree
- B. Sensitivity analysis to determine which risks pose the biggest threat
- C. A Probability and Impact matrix that assigns numeric values to each risk priority
- D. A simulation that runs through many different project scenarios

30. One of your construction project team members warns you that your concrete supplier caused serious delays in his last project because he delivered the wrong kind of concrete. You discuss it with the team, and decide that you need to accept the possibility that this will happen. But you make back-up plans with an alternate provider by putting a down payment on an emergency shipment, just in case. This is an example of:

- A. Avoidance
- B. Transferrance
- C. Mitigation
- D. Acceptance

31. A project manager is forced to dip into his management reserve. Which of the following is the most likely cause of this?

- A. One of the risks on the risk register caused a budget overrun.
- B. The project went over budget because the project manager miscalculated his forecast.
- C. A risk that was never planned for occurred.
- D. The team's estimates were incorrect.

32. Your software project team informs you that another team working at the company built a tool that will save three weeks on the project. You ask the other team's project manager to have his team members share the tool with your team members. Which best describes this strategy?

- A. Exploiting
- B. Sharing
- C. Enhancing
- D. Accepting

Procurement Questions

33. A seller is in trouble because she took on a contract that overran its budget, and now her company has to eat the cost out of their own budget. Which of the following best describes his contract?

- A. Time and materials (T&M)
- B. Firm fixed price (FFP)
- C. Cost plus incentive fee (CPIF)
- D. Cost plus fixed fee (CPFF)

34. A project manager for a software project hires a subcontractor to build a module that will be used in the rest of the project. When it's time to integrate that module into the rest of the code, there are serious quality problems. The subcontractor claims that the module meets its requirements, but the project manager's lead developer says that the requirements have clearly been violated. The contract is unclear about how to handle the situation. It's clear that the contract needs to be amended to indicate a solution, but there is no agreement on the exact wording of the change. What best describes the next step for the project:

- A. The buyer and seller must proceed to claims administration.
- B. The buyer should file a lawsuit against the seller.
- C. The buyer should conduct an audit of the seller.
- D. The buyer and seller must adhere strictly to the wording of the contract.

35. A buyer and seller have a teaming agreement. Which of the following best describes their relationship?

- A. The seller and buyer both have team members on every project team.
- B. The buyer can dictate the structure of the seller's project teams.
- C. The seller is free to dictate deliverables and contract terms.
- D. The seller has input into project decisions, and representation in the buyer's management structure.

36. You're a project manager planning a project that requires that you hire a contractor. Before you can find sellers, you need to develop a document that defines the portion of the work that the contractor will do. Which of the following is not true about this document?

- A. It's based on the project scope baseline.
- B. It includes exact specifications for the deliverables the contract will produce.
- C. Its terms are either fixed price or cost reimbursable.
- D. It must completely define the work that the contractor must do.

Stakeholder Questions

37. Tom, a stakeholder in an IT project, has asked to be included in all of the status meetings and team communications. While he is not actually on the team or accountable for any deliverables, he cares about the outcome of the project and wants to be kept in the loop. Where would you plot him on a power/interest grid?

- A. High power, high interest
- B. High power, low interest
- C. Low power, high interest
- D. Low power, low interest

38. A project manager for an industrial design project is reviewing the work performance data that's being produced by his project team to determine whether or not changes need to be made in Stakeholder Management. When he finds a change, he writes up a request and incorporates all approved requests into the Project Management plan, project documents, and lessons learned. What process is he performing?

- A. Plan Stakeholder Management
- B. Identify Stakeholders
- C. Manage Stakeholder Engagement
- D. Control Stakeholder Engagement

39. Joanne, the sponsor for a software project, has been working with the senior management team in her company to cancel the project even though it's only just begun its planning processes. Which is the best classification for Joanne's engagement with the project?

- A. Unaware
- B. Resistant
- C. Supportive
- D. Leading

Great job! It looks like you're almost ready

If you've read all the chapters, done all the exercises, and taken all of the practice questions, then you have a solid grasp on the material for the PMP exam. You're *almost ready* to get certified! By the way, don't worry if you didn't get some of the questions on the past few pages. This was really hard stuff—some of it was even harder than the PMP exam. Remember, a great way to prepare is to write your own Question Clinic-style questions for anything that's giving you trouble.

So if you did
get them, you
should feel
very proud of
yourself!





Process Magnets Solutions

Can you put all of the processes in the right knowledge areas?
Give it a shot—and while you're at it, see if you can put them inside each knowledge area in the order that they're typically performed on a project.

Integration

- 1** Develop Project Charter
- 2** Develop Project Management Plan
- 3** Direct and Manage Project Work
- 4** Manage Project Knowledge
- 5** Monitor and Control Project Work
- 6** Perform Integrated Change Control
- 7** Close Project or Phase

Scope

- 1** Plan Scope Management
- 2** Collect Requirements
- 3** Define Scope
- 4** Create WBS
- 5** Validate Scope
- 6** Control Scope

Schedule

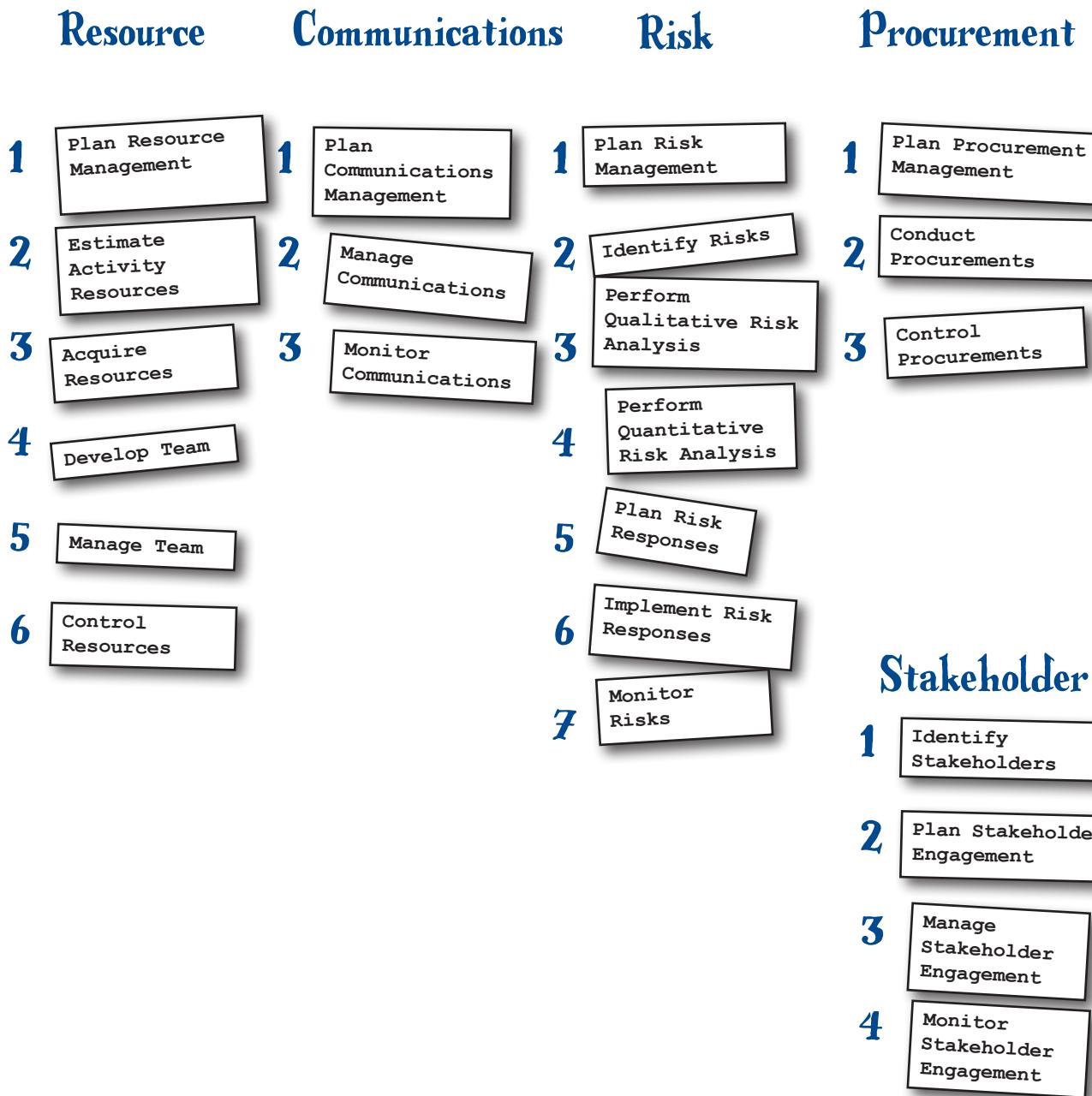
- 1** Plan Schedule Management
- 2** Define Activities
- 3** Sequence Activities
- 4** Estimate Activity Durations
- 5** Develop Schedule
- 6** Control Schedule

Cost

- 1** Plan Cost Management
- 2** Estimate Costs
- 3** Determine Budget
- 4** Control Costs

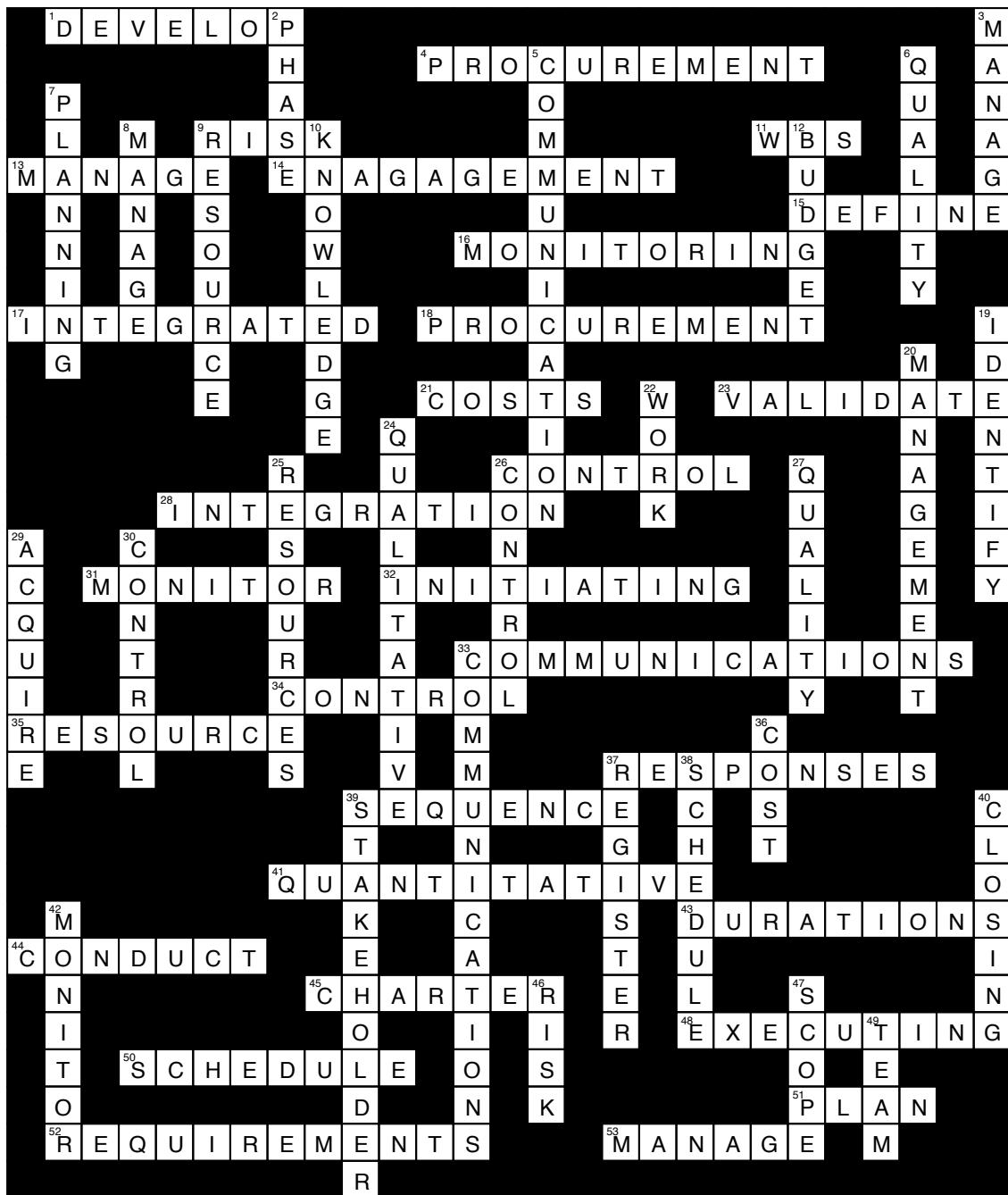
Quality

- 1** Plan Quality Management
- 2** Manage Quality
- 3** Control Quality





Processcross Solutions





These questions are all about specific things that you're likely to see on the exam. They're drawn from many different knowledge areas. Take some time and try to answer all of them—remember, these are a little harder than questions you'll see on the exam, since they're not multiple choice!

- When you're developing a project charter, what do you use to understand the reasons why it makes sense for your business to take on the project?

Business case document

- What do you call the point in a fixed-price contract where the seller assumes the rest of the cost?

Point of total assumption

- Which conflict resolution technique is most effective?

Problem solving or collaborating

- What's the range for a rough order of magnitude estimate?

-25% to +75%

- Which contract type is best when you don't know the scope of the work?

Time and materials

- What are you doing when you add resources to the critical path in order to shorten the schedule?

Crashing the schedule

- Which management theory states that employees can't be trusted and need to be constantly monitored?

McGregor's Theory X

- What are the top three causes of conflict on projects?

Resources, priorities, and schedules

- Customer satisfaction is part of which knowledge area?

Quality Management

- Which type of power is typically unavailable to project managers in a matrix organization?

Legitimate power

- Which form of communication is **always** necessary whenever you are performing procurement processes?

Formal written

- What's it called when you add up the costs of inspection, test planning, testing, rework (to repair defects discovered), and retesting?

Cost of quality

- What are the three characteristics of a project that differentiate it from a process?

Temporary, unique, and progressively elaborated

- Where would you find out details about a specific work package, such as an initial estimate or information about what account it should be billed against?

WBS dictionary

- What do you do when you and your team can't identify a useful response to a risk that you've identified?

Accept it

- What do you decompose work packages into before you can build your schedule?

Activities

- What's the float for any activity on the critical path?

Zero

- Research shows that project managers spend approximately how much of their time communicating?

90%

- What should you do with the factors that cause change?

Try to influence them

- Which two types of estimate require historical information?

Analogous and parametric

Sharpen your pencil Solution

You'll definitely get a bunch of calculation questions on the exam. Luckily, you've got a handle on them! Here's your chance to get a little more practice.

- How many lines of communication are there on a project with nine people (including the project manager)?

The formula for # lines of communication is: $\# \text{ lines} = n \times (n - 1) \div 2$

$$\text{So } \# \text{ lines} = 9 \times (9 - 1) \div 2 = 9 \times 8 \div 2 = 36 \text{ lines of communication}$$

- Your project has a budget at completion of \$250,000. You've completed half of the work, but your schedule says you should have completed 60% of the work. Calculate PV and EV.

The formulas are: $PV = BAC \times \text{scheduled \% complete}$ $EV = BAC \times \text{actual \% complete}$

$$\text{So the answers are: } PV = \$250,000 \times 60\% = \$150,000 \quad EV = \$250,000 \times 50\% = \$125,000$$

- Your project has a BAC of \$7,500. Your scheduled % complete is 35%, but your actual % complete is 30%. Calculate the SPI. What does that SPI tell you about your project?

The formula is: $SPI = EV \div PV$. So first calculate EV and PV: $EV = \$7,500 \times 30\% = \$2,250$
 $PV = \$7,500 \times 35\% = \$2,625$

Now calculate SPI: $SPI = \$2,250 \div \$2,625 = .86$ Since SPI is lower than 1, your project is behind schedule.

- You're managing a project with a team of eight people, plus you (as the project manager), when you added four team members. How many lines of communication were added?

We already figured out the team of 9 people in question 1—you have 36 lines of communication. The new team has four more team members, or a total of 13, so $\# \text{ lines} = 13 \times (13 - 1) \div 2 = 13 \times 12 \div 2 = 78 \text{ lines}$
So the number of lines added is 78 lines – 36 lines = 42 lines of communication

- You've got a project with a budget of \$500,000. Your project is 75% complete, and you have spent \$400,000 so far. Calculate the EAC and ETC. What does that tell you about the project?

The formulas are: $EV = BAC \times \% \text{ complete}$ $CPI = EV \div AC$ $EAC = BAC \div CPI$ and $ETC = EAC - AC$
First calculate $EV = \$500,000 \times 75\% = \$375,000$, and then calculate $CPI = \$375,000 \div \$400,000 = .94$

Now you can calculate $EAC = \$500,000 \div .94 = \$531,915$ and $ETC = \$531,915 - \$400,000 = \$131,915$
This means that you should expect to spend about \$131,915 before the project ends.

- You've identified two risks and an opportunity for your project. Risk A has a probability of 35% and a cost of \$500. Risk B has a probability of 60% and a cost of \$750. Opportunity C has a probability of 10% and a value of \$1,000. What's the total EMV of Risk A, Risk B, and Opportunity C?

To calculate EMV, add up the individual probabilities multiplied by costs (negative) or values (positive).

$$EMV = (.35 \times -\$500) + (.60 \times -\$750) + (.10 \times \$1,000) = -\$525$$

- Your project has a CPI of 1.2 and an EV of \$150,000. Calculate the actual cost of the project so far.

The formula is: $CPI = EV \div AC$. First fill in what we know: $1.2 = \$150,000 \div AC$

$$\text{Now flip it around: } AC = \$150,000 \div 1.2 = \$125,000$$

Integration Questions

1. B.

Since this question is asking about the company's operating environment, it's really asking you to figure out which of the answers is not an enterprise environmental factor. Marketplace conditions, government standards, and political climate are enterprise environmental factors, but forecasts aren't—that's a Cost Management output.

2. D.

Whenever your project's scope changes, that means you need to put your project through change control. That doesn't necessarily mean that you need to have your team change the way they'll work, or reject the change outright. The first step in evaluating any change is understanding the impact that it will have on the project.

3. B.

The main role of the sponsor is to provide funding for the project. That's why the sponsor is an important stakeholder. However, the sponsor does not necessarily have a specific role on the project beyond paying for it.

That doesn't mean that the sponsor can't also be involved in other things. A sponsor who's paying for a project also wants it to succeed, and will often fill other roles on the project as well.

4. C.

When you put together your Project Management plan, one of the first things that you do is select a project methodology (or lifecycle), and determine exactly how each of the processes will be implemented. Your Communications Management plan will definitely have specifics about how you communicate with your stakeholders, because that's a really important part of managing a project. But your Project Management plan doesn't typically include your company's policies. For example, guidelines about how your company hires and retains staff are usually set by an HR department, and they generally don't vary from project to project.

Staffing and retention guidelines are an example of one of your company's policies, and policies are enterprise environmental factors.

~~Scope Questions~~**5. A.**

This stakeholder wants to exclude something from the scope, and project exclusions—which identify what is out of scope for the project—should always be documented in the project scope statement. (You might also consider it a constraint—technically, it's both—but constraints are also documented in the project scope statement.)

This will also be a project requirement, so it will end up in a requirements document as well. But that wasn't one of the choices in the question!

6. B.

When you're talking to project stakeholders and documenting their needs, you're collecting requirements. "Observations" is a technique used in the Collect Requirements process. And that makes sense—you often need to observe people doing their jobs in order to figure out how they'll use your project's deliverables.

7. D.

When a project manager analyzes deliverables and subdivides them into smaller components, he is using decomposition, which is the only tool or technique in the Create WBS process.

8. D.

When a project team lead—who, in this case, is acting as the project manager—is gathering formal acceptance of deliverables, she is performing the Validate Scope process. That process's tools and techniques include inspection, and a walkthrough is a very common way to inspect a deliverable.

Answers

~~Time Questions~~

9. A.

When one activity (such as ordering hardware) must take place a certain amount of time before another activity (installing the operating systems), that's called a lead.

10. C.

The resource calendar has information on which resources—which includes equipment and material, as well as people—are available at specific times. You'll typically use it to estimate resource utilization, which you'll need to do when you're building the schedule for this project.



Did you think that the resource calendar applied only to human resources? Any scarce piece of equipment is also a resource, and you can use a resource calendar to make sure it's available when your team needs it.

11. C.

A Finish-to-Start (FS) relationship is the most common sort of predecessor that you'll see in a project schedule. That's what you call it when one activity (imaging the machine) starts as soon as another one is finished (the operating system is installed).

12. B.

This question is asking you to apply a three-point estimate. The optimistic estimate is 5 weeks, the most likely is 9 weeks, and the pessimistic is 13, so the three-point estimate is $(5 + 4 \times 9 + 13) \div 6 = 9$ weeks.

~~Cost Questions~~

13. B.

Funding limit reconciliation means checking the project's expenditures—how much you've already spent—against any limits that your company has on the commitments of funds. Companies typically don't allow project managers to throw unlimited amounts of money at the project, so this makes sure that the project can be done within the company's guidelines...so you can catch cost overruns before you've spent more than you're allowed to spend! This is how you know you haven't blown your budget—by comparing it against the hard limits set by your company.

14. A.

When you're asked to figure out the lower limit of your CPI to keep your project within its budget, you're being asked to calculate the to-complete performance index (TCPI). If you've got a BAC, an AC, and a % complete, then you know enough to compute the EAC, so you should use the formula $TCPI = (BAC - EV) \div (EAC - AC)$.



The numbers in this question were a red herring. You didn't need them to come up with the answer.

15. D.

The first step in figuring this out is to determine the actual % complete, which you can do by figuring that you've installed 3,570 of the total 7,500 light switches, or $3,570 \div 7,500 = 47.6\%$. Then you can use the formulas, which show you that CPI is .7597, telling you that you've exceeded your budget:

$$\text{Actual \% complete} = 47.6\%$$

$AC = \$153,500$ (but since this doesn't tell you anything about your schedule, answer A is incorrect)

$$EV = BAC \times \text{actual \% complete} = \$245,000 \times 47.6\% = \$116,620$$

$$CV = EV - AC = \$116,620 - \$153,500 = -\$36,880$$
 (since the CV is negative, you're below your budget, so answer C is incorrect; the CV in this case is negative)

$$CPI = EV \div AC = \$116,620 \div \$153,500 = .7597$$

$$EAC = BAC \div CPI = \$245,000 \div .7597 = \$322,495$$

$$ETC = EAC - AC = \$322,495 - \$153,500 = \$168,995$$
 (which doesn't actually tell you whether or not you're within your budget, so answer B is incorrect)

16. A.

A really common way of doing parametric estimation involves entering numbers into a spreadsheet that performs calculations based on historical data gathered from previous projects.

Answers~~Quality Questions~~**17. D.**

Gaining formal acceptance of project deliverables is part of Scope Verification, which is NOT a quality activity, so it's not part of the cost of quality. All of the other answers involve costs incurred in either finding defects or dealing with them once they've been found, and that's all part of cost of quality.

18. B.

When you're performing quality assurance, that means that you're looking at the way that people are doing their jobs. Often, it means that you're taking a step back to look at the big picture—if many defects have the same root cause, if all of the processes are documented, and if they're being followed properly. However, if you're looking at individual deliverables, then you're doing inspection, which is part of quality control, not quality assurance.

A lot of the time, when you're performing quality assurance, you're looking at ongoing processes and not just projects.

19. A.

Statistical sampling helps you make decisions about a large number of items without having to look at every single one of them.

20. B.

The Process Improvement plan is a plan that you build as part of the Plan Quality Management process that helps you improve the way your company does its work. This is what you use to help your team think “outside” of your project, and look at the company's overall process or methodology for doing projects.

~~Human Resource Questions~~

21. A.

Colocation means having most or all of your team members working in the same location. This is an important tool for running a team, but the question is asking about acquiring a team. Virtual teams, preassignment, and negotiation are all tools and techniques of Acquire Project Team.

22. C.

Many teams go through five stages of development: forming, storming, norming, performing, and adjourning. The storming stage occurs early on in team development, before the team members are really comfortable with one another or the work. During this stage, they often have trouble collaborating, and are not necessarily open to one another's ideas.

23. C.

One of the most important interpersonal and team skills that a project manager has is influencing, and leading by example is a very effective way to do this. But when a project manager sets a bad example, it is almost certain to be reflected in the behavior or attitude of the team.



Even if the team is in the storming phase of team development, they should still be expected to act in a professional manner—and this includes showing up to meetings on time.

24. D.

Referent power means that you have the power or ability to attract others and build loyalty. One effective way that people often wield referent power is to take advantage of the loyalty that the team already has to someone high up in the company—in this case, the CTO.

Answers

Communications Questions

25. C.

Since Sue is in the high-power, low-interest quadrant, she needs to be kept satisfied. This means that she has to feel that her needs are actually being met, but since she's not following the project on a day-to-day basis, the only way you can do that is by delivering a final product that meets those needs. Bob is low-power, high-interest, so he needs to be kept informed. This means that he needs to feel like he's constantly in the loop on important decisions, even if he won't actively be taking part in them.

26. D.

This is a basic “lines of communication” problem—you need to figure out how many people are communicating. In this case it’s six team members, four stakeholders, two subcontractors...and don’t forget the project manager! That’s $6 + 4 + 2 + 1 = 13$ people. The formula is $n(n - 1) \div 2 = 13(12) \div 2 = 78$.

27. B.

The definition of a stakeholder includes “anyone who is directly impacted by your project.” That means this person is a stakeholder! Since you never spoke to this person, you failed to identify him as a stakeholder, and as a result you did not meet his needs.

Tools and techniques like a Stakeholder Management strategy or stakeholder register are great, but they don't work well if you haven't identified all of the project's stakeholders.



28. B.

When you’re making relevant information available to your project’s stakeholders, you’re performing the Manage Communications process. The power/interest grid is a useful tool, but it’s not part of Manage Communications.

Answers~~Risk Questions~~**29. C.**

The question asked for “quantitative techniques,” which means that it’s asking about tools and techniques in the Perform Quantitative Risk Analysis process. Even though the Probability and Impact matrix assigns numbers to risks, it’s not one of those tools and techniques—in fact, it’s not a quantitative technique at all! It’s a qualitative technique, because it’s used for prioritization and categorization.

30. C.

This is an example of risk mitigation, because you are taking steps to deal with the problem just in case it happens.

↑ Did the word “accept” throw you? Make sure that you always read the whole question, and don’t just take a single word out of context!

31. C.

The management reserve is the part of the budget reserved for unplanned risks. If a risk was on the risk register, it was planned for, and the contingency reserve is used to pay for it. In this case, since the management reserve was used, that means the risk wasn’t planned for at all.

32. A.

When the other team built that tool, that presented an opportunity. Asking the team to share the tool with you is your way of taking advantage of it. That’s called exploiting the opportunity.

↑ Even though the word “share” appeared in the question, since only one party—your team!—is benefiting from the action, you’re exploiting the opportunity, not sharing it. Since your use of the tool doesn’t benefit the other team at all, this isn’t an opportunity for them.

Answers

~~Procurement Questions~~

33. B.

The firm fixed price contract is the riskiest type of contract that a seller can take on. When the project's costs exceed the price of the contract, the seller has to pay for the overrun.



This is usually bad for the buyer, too!
Contracting works best when it's a win-win
situation for both the buyer and the seller.

34 A.

Claims administration is what you do when there are contested changes to the contract, and the seller and buyer can't reach an agreement on the change. Any time you see a dispute or appeal between the buyer and seller and there's no clear resolution, that's where claims administration comes into play.

35. D.

When a buyer and seller have a teaming agreement, the seller acts as a partner with the buyer. It's not just a typical "here's the terms, you go off and do the work" relationship that a lot of sellers and buyers have. Instead, the buyer asks for the seller's input, and makes the seller an active part of the management of the project.

When a seller works on a project with a teaming agreement, the team members from both the buyer's and seller's teams usually have a lot of mutual respect. That's why this is a really effective way to do procurement.



36. C.

A document that defines the portion of work the contractor will do is the procurement statement of work (SOW). It's a clear, concise, unambiguous, and complete document that describes the work that must be done, and can include specifications of deliverables. But it doesn't include contract terms—those terms are part of the contract itself.

~~Stakeholder Questions~~

37. C.

Tom is a low-power, high-interest stakeholder. The project manager on the project should work to keep him informed.

38. D.

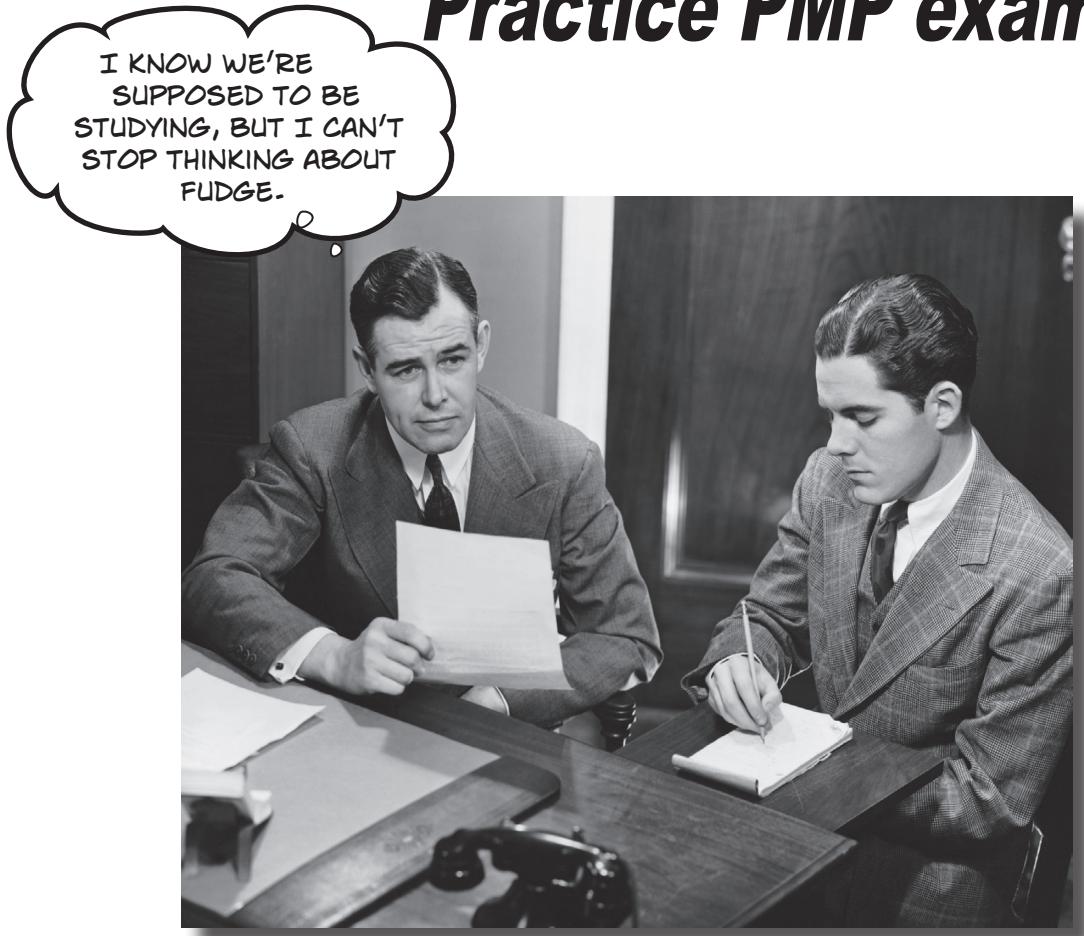
The project manager is performing the Control Stakeholder Engagement process. The outputs of Monitor Stakeholder Engagement are work performance information, change requests, Project Management plan updates, project document updates, and organizational process asset updates. The question mentioned most of these outputs.

39. B.

A resistant stakeholder is a stakeholder who doesn't want the project or decision you're making to happen. Even though Joanne is the sponsor for the project, she's actively working to cancel it, which shows that she doesn't really want it to happen.

16 Practice makes perfect

Practice PMP exam



Bet you never thought you'd make it this far! It's been a long journey, but here you are, ready to review your knowledge and get ready for exam day. You've put a lot of new information about project management into your brain, and now it's time to see just how much of it stuck. That's why we put together this 200-question PMP practice exam for you, completely updated for the 2018 exam. It looks just like the one you're going to see when you take the real PMP exam. Now's your time to flex your mental muscle. So take a deep breath, get ready, and let's get started.

Exam Questions

- 1. The terms of union contracts are considered _____ in your project plan.**
 - A. Assumptions
 - B. Constraints
 - C. Requirements
 - D. Collective bargaining agreements
- 2. A project manager is reporting the final status of the closed contract to the stakeholders. Which form of communication is appropriate?**
 - A. Informal written
 - B. Informal verbal
 - C. Formal written
 - D. Formal verbal
- 3. Which of the following is not a tool or technique of the Control Quality process?**
 - A. Inspection
 - B. Quality audits
 - C. Pareto charts
 - D. Statistical sampling
- 4. You have just delivered a product to your client for acceptance when you get a call that some features they were expecting are missing. What's the first thing you should do?**
 - A. Get your team together and reprimand them for building a product that doesn't meet user expectations.
 - B. Tell the client that the product passed all of your internal quality inspections and scope verification processes, so it must be fine.
 - C. Tell the team to start building the missing features into the product right away.
 - D. Call a meeting with the client to understand exactly what is unacceptable in the product and try to figure out what went wrong along the way.
- 5. Which of the following is not a tool or technique of Estimate Costs?**
 - A. Bottom-up
 - B. Parametric
 - C. Cost aggregation
 - D. Analogous

Exam Questions

- 6. Which of the following is not a source of information about specific project constraints and assumptions?**
- A. The Scope Management plan
 - B. Requirements documentation
 - C. The project scope statement
 - D. The scope baseline
- 7. A project manager uses a facilitator to gather opinions from experts anonymously. What risk identification tool or technique is being performed?**
- A. Brainstorming
 - B. Delphi technique
 - C. Interviews
 - D. SWOT analysis
- 8. Joe is an excellent programmer. He was promoted to the role of project manager because he understands technology better than anyone else in the company. Unfortunately, he is having trouble doing the project management job and his projects are failing. What is this an example of?**
- A. Gold plating
 - B. Halo effect
 - C. Preassignment
 - D. Ground rules
- 9. When are the most expensive defects most likely to be introduced into a product?**
- A. When the product is being assembled
 - B. When the product is being designed
 - C. When the Quality Management plan is being written
 - D. When the product is being reviewed by the customers

Exam Questions

10. You are the project manager for a railroad construction project. Your sponsor has asked you for a forecast for the cost of project completion. The project has a total budget of \$80,000 and CPI of .95. The project has spent \$25,000 of its budget so far. How much more money do you plan to spend on the project?

- A. \$59,210
- B. \$80,000
- C. \$84,210
- D. \$109,210

11. Which of the following best describes decomposition?

- A. Waiting for a task to expire so that it can break down into smaller tasks
- B. Taking a deliverable and breaking it down into the smaller work packages so that it can be organized and planned
- C. Categorizing work packages
- D. Dividing work packages into deliverables that can be planned for

12. Which is the best definition of quality?

- A. A product made of very expensive materials
- B. A product made with a lot of care by the team who built it
- C. A product that satisfies the requirements of the people who pay for it
- D. A product that passes all of its tests

13. Which of the following is not a project constraint?

- A. Cost
- B. Resources
- C. Procurements
- D. Scope

14. What is a risk owner?

- A. The person who monitors the watchlist that contains the risk
- B. The person who meets with stakeholders to explain the risk
- C. The person who makes a risk happen
- D. The person who is responsible for the response plan for the risk

15. You are currently performing the Conduct Procurements process. You are considering two bids from companies on your qualified sellers list. Your project is on a tight budget, and you have been instructed by senior management to consider the cost over any other criteria. You used the company that submitted the lower bid on a previous project, and you were not happy with its work. The company that submitted the higher bid has a

Exam Questions

reputation for treating its clients well, flying project managers first-class, and giving them accommodations in five-star hotels. What is the best way to handle this situation?

- A. Select the company with the lowest bid.
- B. Give the manager at the company with the higher bid information that will allow him to tailor his bid so that it better meets your needs.
- C. Rewrite the RFP so that the company with the lowest bid is excluded.
- D. Select the company with the higher bid.

16. Which of the following shows roles and responsibilities on your project?

- A. Bar chart
- B. Resource histogram
- C. RACI matrix
- D. Resource Management plan

17. A project manager is working in a country where it is customary to pay the police for private protection services, and those costs have increased the AC. This has affected his earned value calculations. When he reviews the budget with his company's management, his supervisor tells him that in another country, those costs would be considered a bribe, and questions whether they should be added to the budget. What is the best way for the project manager to proceed?

- A. Do not pay the police for private protection services, because that would be a bribe.
- B. Pay the police for private protection services, because it is customary in the country they are operating in.
- C. Consult the Cost Management plan about payment.
- D. Initiate cost control to update the cost baseline.

18. Which of the following is a "hygiene factor" under Herzberg's Motivation-Hygiene Theory?

- A. Recognition for excellent work
- B. Self-actualization
- C. Good relations with coworkers and managers
- D. Clean clothing

19. A bar chart showing the number and type of resources you need throughout your project is called a(n)

- A. Organizational chart
- B. Resource schedule
- C. Resource histogram
- D. Staffing timetable

Exam Questions

20. Brandi is a project manager on a software project. About halfway through development, her team found that they had not estimated enough time for some of the technical work they needed to do. She requested that the new work be added to the scope statement and that the time to do the work be added to the schedule. The change control board approved her change. What's her next step?

- A. Update the scope and schedule baselines to reflect the approved change.
- B. Start doing the work.
- C. Gather performance metrics on the team's work so far.
- D. Manage Quality

21. You are managing a software project. You are partway through the project, and your team has just delivered a preliminary version of part of the software. You are holding a weekly status meeting when one of the team members points out that an important stakeholder is running into a problem with one of the features of the current software. The team member feels that there is a risk that the stakeholder will ask for a change in that feature, even though that change would be out of scope of the current release—and if the stakeholder requests that change, there is a high probability that the change control board would approve the change. What is the best action to take next?

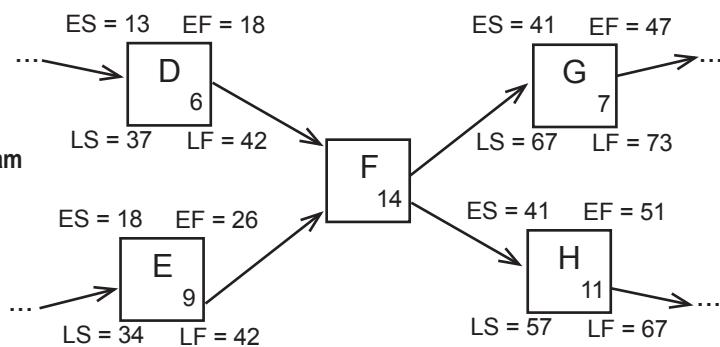
- A. Mitigate the risk by asking a team member to get familiar with the feature of the software that might be changed.
- B. Schedule a meeting with the stakeholder to discuss the risk.
- C. Add the risk to the risk register and gather information about its probability and impact.
- D. Add the risk to the issue log and revisit it when there is more information.

22. Tom is the project manager of an accounting project. He has just finished defining the scope for the project and is creating the WBS. He goes to his organizational process asset library and finds a WBS from a past project to use as a jumping-off point. Which of the following describes the asset that Tom is using?

- A. Decomposition
- B. Delphi technique
- C. Brainstorming
- D. Templates

23. Given this portion of the network diagram to the right, what's the LS of activity F?

- A. 27
- B. 40
- C. 43
- D. 56



Exam Questions

24. You are the project manager for a software development project. When you need to get staff from the manager of the QA department, he suggests a few test engineers with performance problems for your team. Which is the best response to this situation?

- A. Stop talking to the QA manager.
- B. Call a meeting with the QA manager to try to figure out why he suggested those candidates and how the two of you can work together to find team members with suitable skills and interests for your team.
- C. Tell the QA manager that the staffing problems are really no big deal, and you're sure that the two of you can eventually figure out the right answer together.
- D. Tell the manager that you know which team members you want for your team and he needs to give them to you.

25. You are managing a construction project using a firm fixed price (FFP) contract. The contract is structured so that your company will be paid a fee of \$85,000 to complete the work. There was a \$15,000 overhead cost that your company had to cover. It's now three months into the project, and your costs have just exceeded \$70,000. The project has now consumed the entire fee, and your company will now be forced to pay for all costs on the project from this point forward. What's the best way to describe this situation?

- A. The project manager has overspent the budget.
- B. The project is overdrawn.
- C. The project has reached the point of total assumption.
- D. The project has ceased to be a profit center for the company.

26. Which of the following is not an input of the Close Project or Phase process?

- A. Project Management plan
- B. Project management methodology
- C. Accepted deliverables
- D. Organizational process assets

27. You are managing a software engineering project. While investigating the cause of a low SPI, you discover that your team is having trouble completing their object design tasks, which are on the critical path. One of your team members tells you that her friend at another company sent her a copy of a software package it owns that will help your team meet its deadline. Without that software package, your project will probably be late. But you don't have enough money in the budget to purchase it. What's the best way to handle this situation?

- A. Tell the team member not to use the software, and accept that the project will be late.
- B. Use the software so that your project comes in on time.
- C. Purchase the software so that you have a licensed copy.
- D. Find a way to add resources to the object design activity or move it off of the critical path.

Exam Questions

28. You are managing a project with a total budget of \$450,000. According to the schedule, your team should have completed 45% of the work by now. But at the latest status meeting, the team reported that only 40% of the work has actually been completed. The team has spent \$165,000 so far on the project. How would you best describe this project?

- A. The project is ahead of schedule and within its budget.
- B. The project is behind schedule and within its budget.
- C. The project is ahead of schedule and over its budget.
- D. The project is behind schedule and over its budget.

29. Which of the following is the correct order of the Monitoring and Controlling processes for Scope Management?

- A. First Validate Scope, then Control Scope.
- B. First Control Scope, then Validate Scope.
- C. Both happen simultaneously.
- D. There is not enough information to decide.

30. Which of the following is not part of a typical change control system?

- A. Approval
- B. Change control board
- C. Project management information system
- D. Stakeholder analysis

31. One way the Close Project or Phase process differs from Control Procurements is:

- A. Procurement closure involves verification that all work and deliverables are acceptable, whereas Close Project or Phase does not.
- B. Close Project or Phase is only a subset of Control Procurements.
- C. The Control Procurements process means verifying that the project is complete or terminated; Close Project or Phase is the process of tying up all of the activities for every management process group.
- D. The Control Procurements process is performed by the seller; Close Project or Phase is performed by the buyer.

32. Which of the following contracts has the most risk for the buyer?

- A. Cost plus fixed fee (CPFF)
- B. Time and materials (T&M)
- C. Cost plus award fee (CPAF)
- D. Fixed price (FP)

Exam Questions

33. You are managing a software project. During a walkthrough of newly implemented functionality, your team shows you a new feature that they have added to help make the workflow in the product easier for your client. The client didn't ask for the feature, but it does look like it will make the product easier to use. The team developed it on their own time because they wanted to make the client happy. You know this change would never have made it through change control. What is this an example of?

- A. Gold plating
- B. Scope creep
- C. Alternatives analysis
- D. Schedule variance

34. The project manager for a construction project discovers that the local city council will vote on a zoning change that would open up a new neighborhood to commercial building. She contacts other construction companies in the area that would benefit from the change to ask them to attend the council meeting in order to convince the city council to vote for the change. A "Yes" vote will benefit all of the companies. This is an example of which risk response strategy?

- A. Mitigate
- B. Share
- C. Exploit
- D. Enhance

35. You are managing a construction project. During your risk identification interviews, you learn that there has been a string of construction site thefts over the past few months in the area where you will be building your project. The team agrees that it's unlikely that people will be able to steal from your site. Even if thieves could get around your security, it's even more unlikely that your project will lose a significant amount of material if a theft does occur. You decide to monitor the risk from time to time to be sure that it continues to have a low probability and impact. Where do you record the risk so that you don't lose track of it?

- A. In a trigger
- B. On a watchlist
- C. In the Probability and Impact matrix
- D. In the Monte Carlo analysis report

Exam Questions

36. Which of the following is not a characteristic of the Project Management plan?

- A. Collection of subsidiary plans
- B. Formal, written communication
- C. A bar chart that shows the order of tasks and their resource assignments
- D. Must be approved by project sponsor

37. A team member approaches you with a change that could cut your schedule down by a month. What is the first thing you should do?

- A. Write up a change request and see if you can get it approved.
- B. Make the change; it's going to save time and nobody will want the project to take longer than it should.
- C. Figure out the impact on the scope of the work and the cost before you write up the change request.
- D. Tell the team member that you've already communicated the deadline for the project, so you can't make any changes now.

38. A project manager is faced with two team members who have conflicting opinions. One team member explains her side of the conflict. The other team member responds by saying, "I know you'll never really listen to my side, so let's just go with her opinion and get back to work." This is an example of:

- A. Withdrawal
- B. Compromise
- C. Smoothing
- D. Forcing

39. You're managing a construction project to install several hundred air conditioner panels in a new office building. Every floor has identical panels. The customer, a construction contracting company, has provided specifications for the installation. The team is using a process to install and verify each panel. As the team completes each panel, your team's quality control inspector measures it and adds the data point to a control chart. You examine the control chart, and discover that the process is out of control and you need to take a close look at it immediately. Which of the following best describes what you found on the control chart?

- A. At least seven consecutive measurements are either above or below the mean but within the control limits.
- B. At least one point is inside of the control limits.
- C. At least seven consecutive measurements are inside of the control limits.
- D. At least one point is above or below the mean.

40. A senior manager is presenting to your client's board of directors about your project. As part of managing communications, you must deliver status updates and other project materials to him via overnight mail. If the materials do not arrive tomorrow, your company will miss a major contract deadline and you will lose future business from this important client. The deadline cannot be negotiated. The team worked right up to the last minute in order to give you the files. Due to a traffic jam, you are running late and the overnight delivery company will close in five minutes. You can only make it if you drive over the speed limit. Which of the following is correct?

Exam Questions

- A. You must drive over the speed limit so that you can save the client relationship.
- B. You must stay within the speed limit, even if you lose the client.
- C. Update the organizational process assets to reflect the change.
- D. You can use the earned value metrics to show that the SPI is over 1, meaning the project is not late.

41. You are planning a project that uses the same team as a project that is currently being performed by your company. What should you consult to find information about when those people will be available for your project?

- A. The project schedule for your project
- B. The project manager for the project that the team is working on
- C. The Staffing Management plan for the project that the team is working on
- D. The Communications Management plan for your project

42. When is the best time to have project kickoff meetings?

- A. At the beginning of the project
- B. When each deliverable is created
- C. At the start of each phase
- D. When the Communications Management plan is approved

43. Which of the following is not a tool in Identify Risks?

- A. Brainstorming
- B. Risk urgency assessment
- C. Delphi technique
- D. SWOT analysis

44. You are a project manager for a software project. Your team buys a component for a web page, but they run into defects when they use it. Those defects slow your progress down considerably. Fixing the bugs in the component will double your development schedule, and building your own component will take even longer. You work with your team to evaluate the cost and impact of all of your options and recommend hiring developers at the company that built the component to help you address problems in it. That will cost more, but it will reduce your delay by a month. What is your next step?

- A. Fix the component.
- B. Write up the change request and take it to the change control board.
- C. Start Plan Procurements so you can get the contract ready for the vendor.
- D. Change the scope baseline to include your recommendation.

Exam Questions

45. You are developing the project scope statement for a new project. Which of the following is not part of creating a project scope statement?

- A. Validate Scope
- B. Using the project charter
- C. Alternatives identification
- D. Obtaining plan approval

46. A change has occurred on your project. You've documented the change, filled out a change request, and submitted that request to the change control board (CCB). What's the next thing that must happen on the project?

- A. A senior manager decides whether or not to make the change and informs the project management team of the decision.
- B. The project manager informs the CCB whether or not to approve the change.
- C. Stakeholders on the CCB use expert judgment to evaluate the requested change for approval.
- D. The project manager meets with the team to analyze the impact of the change on the project's time, scope, and cost.

47. You are managing a design project. You find that bringing all of your team members into a single room to work increases their communication, and helps build a sense of community. This is referred to as a:

- A. War room
- B. Virtual team
- C. Socially active team
- D. Common area

48. You are a project manager on a construction project. You have just prepared an RFP to send around to electrical contractors. You get a call from your uncle who owns an electrical contracting company. He wants to bid on your project. You know he's done good work before, and it may be a good fit for your company. How do you proceed?

- A. You disclose the conflict of interest to your company, and disqualify your uncle's company.
- B. You disclose the conflict of interest to your company, and make the selection based on objective criteria.
- C. You disclose the conflict of interest to your company, and provide your uncle with information that the other bidders don't have so that he has a better chance of winning the contract.
- D. You do not disclose the conflict of interest, and give your uncle the bid.

49. You are managing a software project. You are partway through the project, and your team has just delivered a preliminary version of part of the software. Your team gives a demonstration to the project sponsor and key stakeholders. Later, the sponsor informs you that there is an important client who will be using the software your team is building, and whose needs are not being met. As a result, you must now make a large and expensive change to accommodate that client. What is the best explanation for this?

Exam Questions

- A. The sponsor is being unreasonable.
 - B. Stakeholder analysis was not performed adequately.
 - C. The team made a serious mistake and you need to use punishment power to correct it.
 - D. You do not have enough budget to perform the project.
- 50. A team member is showing up late to work and leaving early, and it is affecting the project. The project manager decides that the team member must be reprimanded. Which of the following is the best way to handle this situation?**
- A. In a one-on-one meeting with the team member
 - B. At the next team meeting
 - C. In a private meeting with the team member and his functional manager
 - D. Over email
- 51. The scope baseline consists of:**
- A. The Scope Management plan, the project scope statement, and the WBS
 - B. The Scope Management plan, requirements documents, and the WBS
 - C. The Scope Management plan, the WBS, and the WBS dictionary
 - D. The project scope statement, the WBS, and the WBS dictionary
- 52. You are managing a construction project that is currently being initiated. You met with the sponsors, and have started to work on identifying stakeholders. You've documented several key stakeholders and identified their needs. Before you can finish initiating the project, your company guidelines require that you make a rough order of magnitude estimate of both time and cost, so that the sponsor can allocate the final budget.**
- What's the range of a rough order of magnitude (ROM) estimate?**
- A. -10% to +10%
 - B. -25% to +75%
 - C. -50% to +100%
 - D. -100% to +200%
- 53. Which of the following processes is in the Initiating process group?**
- A. Develop Project Charter
 - B. Develop Project Management Plan
 - C. Define Scope
 - D. Define Activities

Exam Questions

54. Mary is a project manager at a consulting company. The company regularly builds teams to create products for clients. When the product is delivered, the team is dissolved and assigned to other projects. What kind of organization is she working for?

- A. Weak matrix
- B. Projectized
- C. Functional
- D. Strong matrix

55. An important part of performing stakeholder analysis is documenting quantifiable expectations. Which of the following expectations is quantifiable?

- A. The project must improve customer satisfaction.
- B. The project should be higher quality.
- C. The project must yield a 15% reduction in part cost.
- D. All stakeholders' needs must be satisfied.

56. At the close of your project, you measure the customer satisfaction and find that some customer needs were not fully met. Your supervisor asks you what steps you took on your project to improve customer satisfaction. Which subsidiary plan would you consult to determine this information?

- A. Quality Management plan
- B. Communications Management plan
- C. Staffing Management plan
- D. Risk Management plan

57. Which of the following describes the contents of a Staffing Management plan?

- A. Organizational chart, training needs, estimated labor cost, and release criteria
- B. Sponsor, organizational chart, validate scope plan, and schedule
- C. RACI matrix, organizational chart, performance improvement plan, and budget
- D. Resource histogram, training needs, recognition and rewards, and resource calendar

Exam Questions

58. Dave is the project manager for a construction team that is building a gazebo. When the project first started, he met with the stakeholders to define the scope. The sponsors mentioned that the gazebo is a really important part of their daughter's wedding ceremony that was planned for seven months from then. In fact, they said that if the gazebo couldn't be completed in seven months, it wouldn't be worth it for them to even start the project. Dave wrote down the seven-month deadline to put in his project scope statement. In which section of the document did the deadline appear?

- A. Project deliverables
- B. Project objectives
- C. Project constraints
- D. Project assumptions

59. Which conflict resolution technique is most effective?

- A. Withdrawal
- B. Compromise
- C. Smoothing
- D. Colaborating

60. Which of the following is not an input to Control Quality?

- A. Deliverables
- B. Work performance data
- C. Organizational process assets
- D. Test and evaluation documents

61. You have identified an opportunity to potentially increase the project's value. Which of the following is an example of enhancing that opportunity?

- A. By forming a partnership with another company, you will increase the project's value for both companies.
- B. By taking additional actions, you increase the potential reward without reducing its probability.
- C. By taking out insurance, you can reduce potential costs to the project.
- D. By documenting the opportunity in the register, you can keep track of it and ensure it gets exploited.

62. Which of the following best describes the Plan-Do-Check-Act cycle?

- A. Invented by Joseph Juran, it's a way of tracking how soon defects are found in your process.
- B. Invented by Walter Shewhart and popularized by W. E. Deming, it's a method of making small changes and measuring the impact before you make wholesale changes to a process.
- C. Made popular by Phillip Crosby in the 1980s, it's a way of measuring your product versus its requirements.
- D. It means that you plan your project, then do it, then test it, and then release it.

Exam Questions

63. You are developing the project charter for a new project. Which of the following is not part of the enterprise environmental factors?

- A. Lessons learned from previous projects
- B. Knowledge of which departments in your company typically work on projects
- C. The work authorization system
- D. Government and industry standards that affect your project

64. You are managing a construction project to install new door frames in an office building. You planned on spending \$12,500 on the project, but your costs are higher than expected, and now you're afraid that your project is spending too much money. What number tells you the difference between the amount of money you planned on spending and what you've actually spent so far on the project?

- A. AC
- B. SV
- C. CV
- D. VAC

65. Tom is the project manager on a construction project. Midway through his project, he realizes that there's a problem with the lumber they've been using in a few rooms and they're going to have to tear down some of the work they've done and rebuild. One of his team members suggests that the defect isn't bad enough to cause all of that rework. Tom says that he's worked on a project that made this same mistake before and they ended up having to redo the work when inspectors looked at the house. He convinces the team member that it's probably better to fix it now than later. What kind of power is he using to make the decision?

- A. Legitimate
- B. Expert
- C. Referent
- D. Reward

66. Which of the following is not one of the most common sources of project conflict?

- A. Schedules
- B. Priorities
- C. Resources
- D. Costs

Exam Questions

67. Your company's quality assurance department has performed a quality audit on your project. They have found that your team has implemented something inefficiently, and that could lead to defects. What's the next thing that should happen on your project?

- A. You work with the quality department to implement a change to the way your team does their work.
- B. You document recommended corrective actions and submit them to the change control board.
- C. You add the results of the audit to the lessons learned.
- D. You meet with the manager of the quality assurance department to figure out the root cause of the problem.

68. A junior project manager at your company does not know how to perform earned value analysis. You spend a weekend with him to teach him how to do this. This is an example of:

- A. Coaching
- B. Fraternizing, and should be discouraged
- C. Unpaid overtime
- D. Giving access to proprietary information, and should be reported to PMI

69. Your client has terminated your project before it is complete. Which of the following is true?

- A. You must stop all work and release the team immediately.
- B. You must work with the team to document the lessons learned.
- C. You must keep the team working on the project to give your senior management time to talk to the client.
- D. You must update the Project Management plan to reflect this change.

70. When you look at a control chart that measures defects in the product produced by your project, you find that seven values are showing up below the mean on the chart. What should you do?

- A. Look into the process that is being measured; there's probably a problem there.
- B. Ignore the anomaly; this is the rule of seven, so statistically the data doesn't matter.
- C. This indicates that the mean is too high.
- D. You should adjust your lower control limit—the values indicate a problem with where the limits have been set.

71. When do you perform stakeholder analysis?

- A. During the Initiating process group
- B. When developing the project charter
- C. When creating the Project Management plan
- D. When putting changes through change control

Exam Questions

72. You have just been authorized to manage a new project for your company. Which of the following best describes your first action?

- A. Create the work breakdown structure.
- B. Develop the Project Management plan.
- C. Start working on the project charter.
- D. Figure out who has a stake in the project.

73. You're the project manager on a software project that is planning out various approaches to technical work. There's a 20% chance that a component you are going to license will be difficult to integrate and cost \$3,000 in rework and delays. There's also a 40% chance that the component will save \$10,000 in time and effort that would have been used to build the component from scratch. What's the EMV for these two possibilities?

- A. \$13,000
- B. \$7,000
- C. \$3,400
- D. -\$600

74. You are managing a software engineering project when two team members come to you with a conflict. The lead developer has identified an important project risk: you have a subcontractor that may not deliver on time. Another developer doesn't believe that the risk is likely to happen; however, you consult the lessons learned from previous projects and discover that subcontractors failed to deliver their work on two previous projects. You decide that the risk is too big; you terminate the contract with the subcontractor, and instead hire additional developers to build the component. Both team members agree that this has eliminated the risk. Which of the following best describes this scenario?

- A. Transference
- B. Mitigation
- C. Avoidance
- D. Acceptance

75. Which of the following best describes the contents of a WBS dictionary entry?

- A. The definition of the work package including its net present value
- B. Work package ID and name, statement of work, required resources, and Monte Carlo analysis
- C. Work package ID and name, statement of work, risk register, earned value calculation, scheduled complete date, and cost
- D. Work package ID and name, statement of work, responsible organization, schedule milestones, quality requirements, code of account identifier, required resources, cost estimate

Exam Questions

76. Two of your project team members approach you with a conflict that they are having with each other over the technical approach to their work. One of the two people is very aggressive, and tries to get you to make a decision quickly. The other team member is quiet, and seems less willing to talk about the issue. The conflict is starting to cause delays, and you need to reach a decision quickly. What's the best approach to solving this conflict?

- A. Tell the team members that they need to work this out quickly, because otherwise the project could face delays.
- B. Since it's a technical problem, tell the team members that they should take it to the functional manager.
- C. Collaborate with the team to solve the issue, even though one team member is hesitant.
- D. Escalate the issue to your manager.

77. Tom is a project manager on an industrial design project. He is always watching when his team members come into the office, when they take their breaks, and when they leave. He periodically walks around the office to be sure that everyone is doing work when they are at their desks and he insists that he make every project decision, even minor ones. What kind of manager is he?

- A. Theory X
- B. Theory Y
- C. Cost cutter
- D. Effective

78. You are the project manager on a construction project. As you're planning out the work your team will do, you divide up all of the work into work packages and create a WBS that shows how they fit into categories. For each one of the work packages, you write down details such as initial estimates and information about what account it should be billed against. Where do you store all of that information?

- A. Scope Management plan
- B. WBS
- C. WBS dictionary
- D. Project scope statement

79. You are managing a project with an EV of \$15,000, PV of \$12,000, and AC of \$11,000. How would you best describe this project?

- A. The project is ahead of schedule and within its budget.
- B. The project is behind schedule and within its budget.
- C. The project is ahead of schedule and over its budget.
- D. The project is behind schedule and over its budget.

Exam Questions

80. You are using a Pareto chart to examine the defects that have been found during an inspection of your product. Which process are you performing?

- A. Manage Quality
- B. Plan Quality Management
- C. Control Quality
- D. Validate Scope

81. You are initiating a project that has a virtual team. Half of your team members will be located in another country, where they are working for a subcontractor. The subcontractor's team members speak a different language than your team does. When you need to get information to them, it must first be translated. This is an example of:

- A. Encoding
- B. Transmission
- C. Decoding
- D. Acknowledgment

82. Complete the following sentence: "The later a defect is found, _____."

- A. the easier it is to find
- B. the more expensive it is to repair
- C. the less important it is to the product
- D. the faster it is to repair

83. Your top team member has performed extremely well, and you want to reward her. She knows that you don't have enough money in the budget to give her a bonus, so she approaches you and requests an extra day off, even though she is out of vacation days. She asks if she can take one of her sick days, even though the company doesn't allow that. Which of the following is correct?

- A. You should give her the time off, because McClelland's Achievement Theory states that people need achievement, power, and affiliation to be motivated.
- B. You should give her the time off, because Expectancy Theory says that you need to give people an expectation of a reward in order to motivate them.
- C. You should give her the time off because a Theory Y manager trusts the team.
- D. You should not give her the time off.

84. Which of the following is not a tool or technique of Perform Qualitative Risk Analysis?

- A. Risk urgency assessment
- B. Expected monetary value analysis
- C. Probability and Impact matrix
- D. Risk categorization

Exam Questions

85. While creating a project charter, you discover a new project management software tool has come onto the market. You spend the weekend taking an online tutorial to learn about it. This is an example of:

- A. An assigned project manager using authority and responsibility
- B. Not paying for copyrighted software
- C. Contributing to the Project Management Body of Knowledge
- D. Enhancing personal professional competence

86. Joe is a project manager on an industrial design project. He has found a pattern of defects occurring in all of his projects over the past few years, and he thinks there might be a problem in the process his company is using that is causing it. He uses Ishikawa diagrams to come up with the root cause for this trend over projects so that he can make recommendations for process changes to avoid this problem in the future. What process is he performing?

- A. Plan Quality Management
- B. Manage Quality
- C. Control Quality
- D. Perform Qualitative Risk Analysis

87. You are managing a software engineering project when two team members come to you with a conflict. The lead developer has identified an important project risk: you have a subcontractor that may not deliver on time. The team estimates that there is a 40% chance that the subcontractor will fail to deliver. If that happens, it will cost an additional \$15,250 to pay your engineers to rewrite the work, and the delay will cost the company \$20,000 in lost business. Another team member points out an opportunity to save money in another area to offset the risk: if an existing component can be adapted, it will save the project \$4,500 in engineering costs. There is a 65% probability that the team can take advantage of that opportunity. What is the expected monetary value (EMV) of these two things?

- A. -\$14,100
- B. \$6,100
- C. -\$11,175
- D. \$39,750

88. Your project team has completed the project work. All of the following must be done before the project can be closed except:

- A. Ensure that the schedule baseline has been updated.
- B. Get formal acceptance of the deliverables from the customer.
- C. Make sure the scope of the project was completed.
- D. Verify that the product acceptance criteria have been met.

89. During procurement closure, a procurement audit includes all of the following except:

- A. Reviewing the contract terms to ensure that they have all been met
- B. Identifying successes and failures that should be recognized
- C. Documenting lessons learned
- D. Using the payment system to process consideration as per the terms of the contract

Exam Questions

90. You are reviewing performance goals to figure out how much bonus to pay your team members. What document would you consult to find your team's bonus plan?

- A. The reward and recognition plan
- B. The Staffing Management plan
- C. The Resource Management plan
- D. The project's budget

91. You're managing a construction project to install several hundred air conditioner panels in a new office building. You have completed 350 panels out of a total of 900 planned panels, but according to your schedule you should have completed 400 of them. Your company's contract states that you'll be paid a fixed price of \$75 per panel. You've spent \$45,000 so far on the project. Which of the following best describes your situation?

- A. The CPI is .813, which means your project is currently over your budget.
- B. The CV is -\$4,350, which means your project is currently over your budget.
- C. The TCPI is 1.833, which is the minimum CPI you need to stay within budget.
- D. The SPI is .84, which means your project is behind schedule.

92. Your team has identified a risk with some of the chemicals you are using on your highway construction project. It is really difficult to mix them just right and, based on past projects, you've figured out that there's a high probability that about 14% of the chemical supply will be lost in mixing problems. You decide to buy an extra 15% of the chemicals up front so that you will be prepared for those losses and your project won't be delayed. Which response strategy are you using?

- A. Avoid
- B. Accept
- C. Mitigate
- D. Transfer

93. A project manager is planning the staffing levels that will be needed through the course of her project. She figures out the number of people that will be needed in each role over time and displays that information in a chart as part of her Staffing Management plan. What is that chart called?

- A. Gantt chart
- B. RACI matrix
- C. Organization chart
- D. Resource histogram

Exam Questions

94. You are working on a construction project. You, your team, and your senior manager all feel that the work is complete. However, one of your important clients disagrees, and feels that one deliverable is not acceptable. What is the best way to handle this conflict?

- A. Consult the contract and follow its claims administration procedure.
- B. Renegotiate the contract.
- C. File a lawsuit to force the stakeholder to accept the deliverable.
- D. Terminate the contract and follow any termination procedure in the contract.

95. A notice sent to a subcontractor about the contract is an example of which kind of communication?

- A. Informal verbal
- B. Formal written
- C. Formal verbal
- D. Informal written

96. You need to determine when to release resources from your project. Which part of the Staffing Management plan will be most useful for this?

- A. Resource histogram
- B. Safety procedures
- C. Recognition and rewards
- D. Training needs

97. Which of the following is not a type of communication?

- A. Formal written
- B. Paralingual
- C. Nonverbal
- D. Noise

98. A company is about to begin work on a large construction project to build four new buildings for a bank that wants to open new branches. The sponsor is writing a project charter. She recalls that a previous project the company performed for another bank ran over budget because the team had underestimated the effort required to install the reinforced walls in the vault. The previous project manager had documented the details of the lessons learned from this project. Where should the sponsor look for these lessons learned?

- A. The project records management system
- B. The company's organizational process assets
- C. The project's work performance information
- D. The project's performance reports

Exam Questions

99. The customer has reviewed the deliverables of a project and finds that they are acceptable, and must now communicate that acceptance to the project manager. Which form of communication is appropriate?

- A. Informal written
- B. Informal verbal
- C. Formal written
- D. Formal verbal

100. Which of the following is not found in a project charter?

- A. The summary budget
- B. High-level requirements
- C. Procedures for managing changes to contracts
- D. Responsibility and name of the person authorized to manage the project

101. In which plan do you define the processes that will be used to keep people informed throughout the project?

- A. Staffing Management plan
- B. Project Management plan
- C. Schedule Management plan
- D. Communications Management plan

102. Which enterprise environmental factor defines how work is assigned to people?

- A. RACI matrix
- B. Project management information system (PMIS)
- C. Resource histogram
- D. Work authorization system

103. You are managing a software engineering project when two team members come to you with a conflict. The lead developer has identified an important project risk: you have a subcontractor that may not deliver on time. Another developer doesn't believe that the risk is likely to happen; however, you consult the lessons learned from previous projects and discover that subcontractors failed to deliver their work on two previous projects. The lead developer suggests that you have two team members take three weeks to research the component being built by the subcontractor, and come up with some initial work that you can fall back on in case that subcontractor does not deliver. You decide to follow the lead developer's advice over the objections of the other team member. Which of the following best describes this scenario?

- A. Transference
- B. Mitigation
- C. Avoidance
- D. Acceptance

Exam Questions

104. You are managing a project with AC = \$25,100, ETC = \$45,600, VAC = -\$2,100, BAC = \$90,000, and EAC = \$92,100. Your sponsor asks you to forecast how much money you expect to spend on the remainder of the project. Which is the best estimate to use for this forecast?

- A. \$45,600
- B. \$87,400
- C. \$90,000
- D. \$92,100

105. Which is the best description of project scope?

- A. All of the features and deliverables your project will deliver
- B. All of the products your project will make
- C. All of the people involved in your project
- D. All of the work you will do to build the product

106. Which of the following best describes the main purpose of the project charter?

- A. It authorizes the project manager to work on the project.
- B. It identifies the sponsor and describes his or her role on the project.
- C. It contains a list of all activities to be performed.
- D. It describes the initial scope of the work.

107. You have been hired by a contractor who wants you to manage a construction project for one of his clients. The project team has been working for six weeks. You need to determine whether the team is ahead of or behind schedule. Which of the following tools, techniques, activites, or other project artifacts is the best one for you to consult?

- A. Work performance data
- B. Project management software
- C. Schedule change control system
- D. Bottom-up estimating

108. You are managing an accounting project when a new CFO is hired at your company. He'll be affected by all accounting projects in your company. What's the best thing for you to do?

- A. Show him the project charter so that he knows that you are in charge of the project
- B. Work with him to understand the current requirements and determine if he has new ones to add to the project
- C. Keep working on the project and get his feedback when he can review the finished product
- D. Add him to the communications plan

Exam Questions

109. You're managing an industrial design project. Your project is currently in the Initiating phase. The project charter has been created, and you are working on identifying the stakeholders. Which of the following is not something that you should do?

- A. Review lessons learned from prior projects
- B. Perform a stakeholder analysis
- C. Review procurement documents
- D. Create the change control system

110. Alberto is the project manager of a software implementation project. His company has made an organization-wide decision to move to a new accounting and human resources software package. He has read that some projects to implement the same package have resulted in the loss of personnel data when they tried to import it into the new system. He backs up the data so that it could be restored in the event of such a problem but also buys insurance to cover the cost of keying in the data manually if the implementation doesn't work. Which response strategies are Alberto using?

- A. Mitigating and accepting
- B. Mitigating and avoiding
- C. Mitigating and transferring
- D. Mitigating and sharing

111. Rekha is a project manager on a large construction project. Late in the project, her client demands a big change. She assesses the impact of the change and tells the client how much time and money it will cost. But the client says that he doesn't have the time or budget to allow the change. What's the best way for Rekha to handle this situation?

- A. Have her senior managers meet with the client to explain the situation.
- B. Hold a meeting with the client to figure out why he's asking for the change.
- C. Do nothing; she's the project manager, so she sets the rules.
- D. Have the client find more money for the budget.

112. You are conducting a status meeting and monitoring your risk register when you discover a risk that remains even after you implement all of your response strategies. What kind of risk is this and what should you do about it?

- A. It's a secondary risk; you don't need to worry about it.
- B. It's a residual risk; you need to plan a response strategy for it.
- C. It's a residual risk; you don't need to plan a response strategy for it because you've already implemented all of the risk responses you can plan for.
- D. It's a contingency reserve. You should only use it if the first risk occurs.

Exam Questions

113. Rekha is a project manager on a large construction project. Late in the project, her client demands a big change. She assesses the impact of the change and tells the client how much time and money it will cost. But the client won't allow any change to the schedule and won't pay anything more for change. Rekha explains that the proposed change is well outside the documented scope of the original work. The client tells Rekha that he doesn't care what was in the original scope and that she needs to implement the change with no impact to schedule or budget. What conflict resolution technique is the client using?

- A. Collaborating
- B. Withdrawal
- C. Smoothing
- D. Forcing

114. Which of the following is not a tool of the Define Scope process?

- A. Expert judgment
- B. Decomposition
- C. Multicriteria decision analysis
- D. Facilitation

115. Which of the following best describes the records management system?

- A. A system to store contracts and project records for future project managers to reference
- B. A library that stores the lessons learned from past projects
- C. A filing system to store paid invoices
- D. A system to store human resource records, salary information, and work performance history

116. A project manager is negotiating with a contractor. Neither has a good idea of how long the project will take, or how much the materials will cost. Which contract type is most appropriate for this project?

- A. Cost plus fixed fee (CPFF)
- B. Time and materials (T&M)
- C. Cost plus award fee (CPAF)
- D. Firm fixed price (FFP)

117. Which is not an example of cost of quality?

- A. The cost of inspecting your product to be sure that it meets requirements
- B. The cost of reviewing documents used to produce your product to be sure that they do not have defects
- C. The cost of training your team on techniques that will help them avoid defects
- D. The cost of contracting another company to build part of the product

Exam Questions

118. Which of the following is not a stakeholder?

- A. A project team member
- B. An attorney from your company's competitor
- C. A representative from your project team's union
- D. The project sponsors

119. What is the main output of the Define Scope process?

- A. Requirements documentation
- B. Scope definition
- C. Scope dictionary
- D. Project scope statement

120. Paul is a project manager for an industrial design project. The project has a 60% chance of making the company \$230,000 over the next year. It has a 40% chance of costing the company \$150,000. What's the project's EMV?

- A. \$138,000
- B. \$60,000
- C. \$78,000
- D. \$230,000

121. While identifying risks for a new construction project, you discover that a chemical you are using on your building cannot be applied in rainy conditions. You also learn that your project will be ready for the chemical application around the time when most of the rainfall happens in this part of the country. Since the project can't be delayed until after the rainy season and you need to make sure the building gets the chemical coating, you decide that your team will just have to allow enough time in the schedule for nonworked rain days.

This is an example of which strategy?

- A. Mitigate
- B. Exploit
- C. Accept
- D. Transfer

122. You are acquiring a project team, and as part of that process you must interview new project managers for your company. One of the candidates claims to be a PMP-certified project manager, but you discover that she has never taken the PMP exam. What is the best way to handle this situation?

- A. Consult the Resource Management plan to see if PMP certification is a resource requirement.
- B. Report the person to your manager.
- C. Report the person to PMI.
- D. Call the police.

Exam Questions

123. Which of the following types of power is the most effective in leading teams?

- A. Expert
- B. Referent
- C. Reward
- D. Punishment

124. You are being hired to manage a highway construction project for a contractor working for Smith County. The sponsor is a project officer who works for the Smith County municipal government. You have three separate teams working all three shifts, with a separate foreman for each team. Each team has members from two different unions, and each union has its own representative. Who is the best person to approve the project charter?

- A. The project manager
- B. The Smith County project officer
- C. The team foreman
- D. The two union representatives

125. Which of the following is not an input of the Control Procurements process?

- A. Work performance data
- B. Procurement Management plan
- C. Agreements
- D. Procurement documents

126. While working on the WBS for a large project that spans multiple teams, you meet with a fellow project manager to discuss his portion of the work. He tells you in confidence that he lied about having a PMP certification, and never actually passed the exam. What is the best way to handle this situation?

- A. Report the person to PMI.
- B. Report the person to his manager.
- C. Ask him to tell the truth to his manager.
- D. Do nothing because you were told this in confidence.

127. Your team has recommended a change to the Validate Scope process. What's the first thing you should do?

- A. Implement the change.
- B. Analyze the change versus the Project Management plan to see what its impact will be.
- C. Write up a change request.
- D. Tell your team that the process has already been decided and they should follow it.

Exam Questions

128. Your project just completed, and one of your subcontractors has sent you floor seats to the next big hockey game to thank you for your business. What is the best way to respond?

- A. Thank the subcontractor, but do not give him preference in the next RFP.
- B. Thank the subcontractor, but politely refuse the gift.
- C. Ask for tickets for the entire team, so that it is fair to everyone.
- D. Report the subcontractor to PMI.

129. A project manager discovers that a project problem has occurred. The problem was never discussed during risk planning activities or added to the risk register, and it will now cost the project money. What is the best response?

- A. Don't take any action, just accept that there's a problem that the team did not plan for.
- B. Stop all project activity and approach senior management for advice.
- C. Add the risk to the risk register and gather information about its probability and impact.
- D. Use the management reserve to cover the costs of the problem.

130. You are managing a large construction project that's been broken down into subprojects (or phases). Each of these subprojects is scheduled to take between three and six months to complete. At the end of each sub-project, you plan to go through the closing processes and document lessons learned. Which of the following best describes what you must do at the beginning of each subproject or phase?

- A. Make sure you don't involve the team, to avoid introducing too much project management overhead.
- B. Identify the stakeholders.
- C. Use the earned value technique to decide whether or not to finish the project.
- D. Release all resources from the project and contact sellers to renegotiate all contracts.

131. Which of the following is not an output of the Monitor Stakeholder Engagement process?

- A. Change requests
- B. Deliverables
- C. Updates to the Project Management plan
- D. Project documents updates

132. There are 17 people on a project. How many lines of communication are there?

- A. 136
- B. 105
- C. 112
- D. 68

133. Which of the following project selection methods is not a comparative approach (or benefit measurement model)?

Exam Questions

- A. Linear programming
- B. Murder boards
- C. Benefit-cost ratios
- D. Peer review

134. You're managing a team of project managers, and as part of developing the team you hold a PMP study group so that you and your coworkers can work together to study for the exam. One person recently took and passed the exam, and has offered to give you all of the questions he can remember. How should you respond?

- A. Accept the questions, but to be fair to everyone in the study group you should make sure everyone gets a copy.
- B. Refuse the offer, but encourage other study group members to make up their own minds.
- C. Refuse the offer, and report the person to your manager.
- D. Refuse the offer, and report the person to PMI.

135. The project charter is typically approved by the project sponsor, although some charters can be approved by key stakeholders instead. Which of the following best describes the role of the project sponsor on the project?

- A. The sponsor manages the project.
- B. The sponsor provides funding for the project.
- C. The sponsor verifies that all of the work was completed.
- D. The sponsor negotiates all contracts.

136. Two of your project team members approach you with a conflict that they are having with each other over the technical approach to their work. One of the two people is very aggressive, and tries to get you to make a decision quickly. The other team member is quiet, and seems less willing to talk about the issue. The conflict is starting to cause delays, and you need to reach a decision quickly. You spend the weekend studying conflict resolution techniques, which is an example of:

- A. Contributing to the Project Management Body of Knowledge
- B. Maslow's Hierarchy of Needs
- C. Enhancing personal professional competence
- D. Collaborating

137. You are managing a software project. The stakeholders have found a few requirements that were missed in the initial project scope statement. You put the change requests through change control and they are approved, so you need to update the scope statement to include the new work. Where can you find the most updated version of the scope statement?

- A. In the configuration management system
- B. In the document repository
- C. In the Project Management plan
- D. In the Communications Management plan

Exam Questions

138. After a status meeting, one of your team members, John, pulls you aside and tells you that he was insulted by a comment from another team member. He felt that the comment was racist. You meet with the team member who made the comment, Suzanne, but she says that the other team member's performance has been very poor. She has never made a comment like this before at the company. You review the records, and see that she is correct—he has consistently delivered lower-quality work than any other team member. What is the best way to handle this situation?

- A. At the next team meeting, reprimand John for his poor performance and Suzanne for the racist comment.
- B. Get John additional help for his poor performance.
- C. Reprimand Suzanne in private for her racist comment, and follow any company policies for reporting racism among employees.
- D. Suzanne has never had this problem before, so she should be given another chance.

139. You're managing a project that is currently executing. You're evaluating the work being performed by constantly measuring the project performance, and recommending changes, repairs, and corrections where necessary. What process are you performing?

- A. Integrated Change Control
- B. Monitor and Control Project Work
- C. Control Scope
- D. Communications Management

140. Which of the following helps you determine whether a process is stable or has predictable performance?

- A. Scatter chart
- B. Control chart
- C. Cause-and-effect diagram
- D. Pareto chart

141. As you complete each deliverable for your project, you check that it is correct along with your stakeholders and sponsors. Which process are you performing?

- A. Define Scope
- B. Define Activities
- C. Validate Scope
- D. Control Scope

142. You are a project manager on a large military contract that involves 7 subcontractor companies and a total of 1,253 team members, 752 stakeholders and sponsors, and 14 project managers (including you). You need to get a handle on the communications channels, because otherwise your project will devolve into chaos. How many potential channels of communication are there on this project?

Exam Questions

- A. 2,019
- B. 91
- C. 2,037,171
- D. No way to determine

143. Which of the following is not true of obtaining project plan approval?

- A. Until you obtain plan approval, you don't need to put changes to it through change control.
- B. Change control makes sure that only approved changes can make it into the approved plan.
- C. Only one person needs to approve the Project Management plan and that's the project manager.
- D. It's important for the entire team to buy into the Project Management plan for it to be successful.

144. Customer satisfaction should be measured at the end of the project to maintain long-term relationships. Which of the following is not always an aspect of customer satisfaction?

- A. The product meets its stated and unstated requirements.
- B. The project is profitable.
- C. The product is high quality.
- D. The customer's needs are met.

145. A member of your seven-person project team comes up with a controversial idea. Two others agree that it should be pursued. Two members of the team are opposed to it, while the remaining two have a different approach. You end up going with the controversial idea. This is an example of:

- A. Unanimity
- B. Majority
- C. Plurality
- D. Dictatorship

146. You have been hired by a contractor who wants you to manage a construction project for one of his clients. The project team has been working for two months, and is 35% done with the job. Two of your team members come to you with a conflict about how to handle the ongoing maintenance for a piece of equipment. You know that they can safely ignore the problem for a while, and you're concerned that if your project falls behind schedule before next week's stakeholder meeting, it will cause problems in the future. You tell the two team members that the problem really isn't as bad as they think it is, and if they take a few days to cool off about it you'll help them with a solution. This approach to conflict resolution is known as:

- A. Withdrawal
- B. Compromise
- C. Smoothing
- D. Forcing

Exam Questions

147. Which of the following tools is used to document the lessons that were learned when the contract was administered?

- A. Quality audit
- B. Buyer-conducted performance review
- C. Contract review
- D. Procurement audit

148. You are managing a project to build a new wing onto a local school building over a summer break. One night, the school and your construction site are destroyed by a tornado. Your client demands that you continue work despite the disaster, but you consult the contract, and find a clause that states that you are not responsible for any more work. This is referred to as:

- A. A force majeure clause
- B. An "act of God" clause
- C. Mitigation
- D. An ex parte communication

149. A project manager is running into problems with the team. People are repeatedly running into trouble over seemingly small problems, such as who takes notes at meetings, what dress is appropriate for the office, and who people need to notify when they take a day off. The problems started out small, but as more people run into more problems the situation is rapidly escalating. This situation is most likely caused by a lack of:

- A. Sensitivity training
- B. Common courtesy
- C. A reward system
- D. Ground rules

150. You are a project manager for a software project. As you are defining the scope of the work you need to do, you sit down with all of the project's stakeholders and record all of the requirements you can get from them. Which of the following is not a valid requirement from stakeholder analysis?

- A. The work the team does must be better than they did on their last project.
- B. There can be no more than 5% schedule variance on the project.
- C. The quality of the product must fit within organizational metrics for software quality.
- D. The budget must be within 10% of our projected cost.

151. There have been several rounds of layoffs at your company. Now your project team is worried about their job security, and you've noticed that their performance has decreased significantly because of it. This is predicted by which motivational theory?

- A. McGregor's Theory of X and Y
- B. Maslow's Hierarchy of Needs

Exam Questions

- C. McClelland's Achievement Theory
- D. Herzberg's Motivation-Hygiene Theory

152. Which of the following is not included in a cost of quality calculation?

- A. Team members' time spent finding and repairing defects
- B. Quality managers' time spent writing quality standards
- C. Project managers' time spent creating the Project Management plan
- D. Team members' time spent reviewing specifications, plans, and other documents

153. Which of the following contracts has the most risk for the seller?

- A. Cost plus fixed fee (CPFF)
- B. Time and materials (T&M)
- C. Cost plus percentage of costs (CPPC)
- D. Firm fixed price (FFP)

154. You are managing an industrial design project for an important client. Two of your team members have a disagreement on project priorities. One person wants to do certain activities first, while the other feels they should be left until the end of the project. You work with both people to forge a compromise where those activities are neither first nor last, but instead done in the middle of the project. Nobody is particularly unhappy with this solution. Another name for a compromise is a:

- A. Win-win solution
- B. Win-lose solution
- C. Lose-lose solution
- D. Standoff solution

155. A project manager on a construction project includes a line item in the budget for insurance for the equipment and job site. This is an example of:

- A. Transference
- B. Mitigation
- C. Avoidance
- D. Acceptance

156. You are talking to experts and gathering independent estimates for your contract. Which of the following best describes what you are doing?

- A. Plan Procurement Management
- B. Conduct Procurements
- C. Control Procurements
- D. Close Procurements

Exam Questions

157. A project manager is creating a report of the final status of a closed project to the stakeholders. Which of the following is not used in a final project report to communicate the status of a project?

- A. Variance information
- B. Lessons learned
- C. Scope baseline
- D. Status of deliverables

158. You are the project manager for a railroad construction project. Your sponsor has asked you for a forecast for the cost of project completion. Which of the following is the best metric to use for forecasting?

- A. EV and AC
- B. SV and CV
- C. ETC and VAC
- D. SPI and CPI

159. Information about the project must be distributed to all stakeholders. Which of the following process outputs is used to report the status and cost of project activities?

- A. Work performance data
- B. Issue logs
- C. Status reports
- D. Project records

160. A company uses a management technique that employs quality assurance techniques to continuously improve all processes. This is called:

- A. Just-in-time management
- B. Kaizen
- C. Ishikawa diagrams
- D. Inspection

161. You are initiating a project that has a virtual team. Half of your team members will be located in another country, where they are working for a subcontractor. The subcontractor's team members speak a different dialect of English than your team does. After a conference call to review the project charter, two of your team members make jokes about the way your subcontractor's team members speak. What is the best way to handle this situation?

- A. Correct the team members individually, and hold a training session for your team to help remove communication barriers.
- B. Immediately correct the two people in front of the rest of the team.
- C. Report the team members to senior management and recommend that they be punished.
- D. Remove noise from the communication by contacting the subcontractor and requesting that the team adjust the way they speak.

Exam Questions

162. Mike is a project manager for an IT technology implementation project. He is using an Ishikawa diagram to figure out what could cause potential risks on his project. Which process is he doing?

- A. Identify Risks
- B. Perform Qualitative Risk Analysis
- C. Control Quality
- D. Plan Risk Responses

163. Amit is the manager of a software project. His client has agreed on a project scope statement at the beginning of the project, but whenever the client verifies deliverables, she comes up with features that she would like to add into the product. Amit is working with the client to find what requirements were missed in the planning stages of the project and how to plan better in the future. What is the best description of his project's current situation?

- A. Gold plating
- B. Scope creep
- C. Alternatives analysis
- D. Schedule variance

164. You are executing a project, and as part of developing the project team you create materials for a PMP training seminar. Afterward, you decide to offer it to all other project managers in your company to help them obtain enough hours to qualify to take the PMP exam. This is an example of:

- A. Organizational process assets
- B. Contributing to the Project Management Body of Knowledge
- C. Cheating, which should be reported to PMI
- D. Lessons learned

165. You are managing a construction project to install wiring in an office building. While verifying that the scope of the work has been completed, you discover that one of your team members has taken a box of cable from the job site so he can wire his attic. What is the best way to respond?

- A. Do nothing.
- B. Report the team member to your manager.
- C. Report the team member to PMI.
- D. Call the police.

166. You are working with potential sponsors to determine which project your company will pursue. Based on the benefit-cost (BCR) ratios, which of the following four projects should you recommend?

- A. Project A has a BCR of 5:2
- B. Project B has a BCR of 5:4
- C. Project C has a BCR of 3:1
- D. Project D has a BCR of 2:1

Exam Questions

167. Which of the following are examples of the kinds of power?

- A. Legitimate, expert, reward, political, and bargaining
- B. Legitimate, expert, reward, political, and punishment
- C. Legitimate, expert, reward, economic, and bargaining
- D. Legitimate, expert, reward, referent, and punishment

168. You're managing a software project. Your team has discovered a problem, and as a result you've requested a change. The change will cost the project an extra three weeks, but without it several stakeholders might have problems with the final product. What's the next thing that you should do?

- A. Instruct the team to make the change.
- B. Call a meeting with each stakeholder to figure out whether or not to make the change.
- C. Document the change and its impact, and put it through the change control system.
- D. Don't make the change because it will delay the project.

169. Which of the following is not part of the Close Project or Phase process?

- A. Making sure that all exit criteria have been met.
- B. Obtaining formal acceptance of all deliverables from all stakeholders.
- C. Moving the project's deliverables to the next phase or into production.
- D. Writing down lessons learned.

170. Which of the following is a valid way to break down the work in a WBS?

- A. By risk or quality metric
- B. By product feature or unit of work
- C. By project phase or project deliverable
- D. By charge code or initial estimate

171. Which of the following is an output of Direct and Manage Project Work?

- A. Work performance data
- B. Statement of work
- C. Issue log
- D. Agreements

Exam Questions

172. You are working on a construction project. You, your team, and your senior manager all feel that the work is complete. Your stakeholders have communicated their final acceptance of the project. You are now meeting with your team to update the organizational process assets with a record of knowledge gained about the project to help future project managers with their projects. This is best described as:

- A. Lessons learned
- B. Project records
- C. Project management information system (PMIS)
- D. Work performance information

173. Which of the following is not true about the project charter?

- A. It formally assigns the project manager.
- B. It is always created by the project manager.
- C. It contains external constraints and assumptions.
- D. It includes a high-level milestone schedule.

174. You're managing a construction project to install several hundred air conditioner panels in a new office building. Every floor has identical panels. The customer, a construction contracting company, has provided specifications for the installation. The team is using a process to install and verify each panel. As the team completes each panel, your team's quality control inspector measures it and identifies defects. The root cause of each defect is identified. He keeps track of each step in this process and marks each one complete as it is finished. Which is the best tool to use for this?

- A. Control chart
- B. Fishbone diagram
- C. Checksheets
- D. Pareto chart

175. Which risk analysis tool is used to model your risks on a computer to show random probabilities?

- A. Computerized risk audit
- B. Monte Carlo analysis
- C. EMV analysis
- D. Delphi technique

176. Which of the following best describes when you perform the Monitor and Control Project Work process?

- A. Continuously throughout the project
- B. As soon as every deliverable is completed
- C. At scheduled milestones or intervals during the project
- D. At the end of every project phase

Exam Questions

177. Which of the following is not an output of Monitor and Control Project Work?

- A. Project Management plan updates
- B. Change request status updates
- C. Change requests
- D. Project document updates

178. You are the project manager of a software project. Two developers, Bill and Alfredo, are having an argument about how to implement a feature. Bill thinks that it's more important that the project get done quickly, so he's suggesting that you reuse some work that's been done on a previous project to get started. Alfredo thinks that that work doesn't apply to this project and will just waste time. Bill is almost always right about these things and he's very influential on the team, so it's important that you keep him happy. What should you do?

- A. Since you do want to get the project done quickly, you side with Bill.
- B. Side with Alfredo; it could end up taking longer in the end.
- C. Call a meeting to hear both sides of the situation and decide in favor of the solution that is best supported by objective evidence.
- D. Call a meeting in private with Bill to hear more about his position.

179. Which of the following is not an example of a deliverable?

- A. Project Management plan
- B. Project schedule
- C. Work breakdown structure
- D. Parametric estimation

180. Which is not an input to the Create WBS process?

- A. Project scope statement
- B. Organizational process assets
- C. Requirements documentation
- D. WBS dictionary

181. Which of the following is not an artifact that can be generated in the process of finalizing all activities for a project?

- A. Updates to the lessons learned register
- B. A final product, result, or service
- C. Updates to the business documents
- D. A final report

Exam Questions

182. At the beginning of the project, you hold a meeting with all of the stakeholders in your project in order to figure out how everyone will communicate as the work goes on. Which of the following terms best describes that meeting?

- A. Qualitative analysis
- B. Status meeting
- C. Communication plan meeting
- D. Kickoff meeting

183. You are managing a project with 23 team members and 6 key stakeholders. Two team members identify a problem with the current approach. Addressing that problem will require changes to the project plan and its subsidiary plans. One of the stakeholders previously indicated that any delays are unacceptable, and your team members tell you that it's possible the change could cause the team to miss at least one critical deadline. What is the best way to deal with this situation?

- A. Analyze the impact that the change will have on the work to be done, the schedule, and the budget.
- B. Deny the change because any delays are unacceptable.
- C. Gather consensus among the team that you should make the change before approaching the stakeholders, so that they can see the team supports making the change.
- D. Make the change to the project plan and subsidiary plans, and ask the team to implement the change.

184. You have been asked to select from three projects. Project A has a net present value of \$54,750 and will take six months to complete. Project B has a net present value of \$85,100 and will take two years to complete. Project C has a net present value of \$15,000 and a benefit-cost ratio of 5:2. Which project should you choose?

- A. Project A
- B. Project B
- C. Project C
- D. There is not enough information to decide.

185. Which of the following is a defect?

- A. A mistake made by a team member on the job
- B. A change that the team needs to make in how they do the work
- C. A Project Management plan that does not meet its requirements
- D. A change request that's been rejected by the change control board

Exam Questions

186. A project manager is faced with two team members who have conflicting opinions. One team member explains her side of the conflict, and presents a possible solution. But before the other team member starts to explain his side of things, the project manager says, “I’ve heard enough, and I’ve decided to go with the solution I’ve heard.” This is an example of:

- A. Withdrawal
- B. Compromise
- C. Smoothing
- D. Forcing

187. As you determine the acceptance criteria, constraints, and assumptions for the project you record them in which document?

- A. Project Management plan
- B. Project scope statement
- C. Project charter
- D. Communications Management plan

188. You’ve been hired by a large consulting firm to evaluate a software project for them. You have access to the CPI and EV for the project, but not the AC. The CPI is .92, and the EV is \$172,500. How much money has actually been spent on the project?

- A. \$158,700
- B. \$172,500
- C. \$187,500
- D. There is not enough information to calculate the actual cost.

189. Approved changes are implemented in which process?

- A. Direct and Manage Project Work
- B. Monitor and Control Project Work
- C. Perform Integrated Change Control
- D. Develop Project Management Plan

190. You’ve been hired by a large consulting firm to lead an accounting project. You determine the needs of the project and divide the work up into work packages so that you can show how all of it fits into categories. What are you creating?

- A. A WBS
- B. A schedule
- C. A project scope statement
- D. A contract

Exam Questions

191. Over half of conflicts on projects are caused by:

- A. Bad habits, defects, technology
- B. Resources, priorities, schedules
- C. Budget, carelessness, personalities
- D. Technology, money, personalities

192. Which of the following is not a tool or technique of Monitor Risks?

- A. Bringing in an outside party to review your risk response strategies
- B. Revisiting your risk register to review and reassess risks
- C. Using earned value analysis to find variances that point to potential project problems
- D. Gathering information about how the work is being performed

193. You work for a consulting company and your team has implemented an approved scope change on your project. You need to inform your client that the change has been made. What's the best form of communication to use for this?

- A. Formal verbal
- B. Formal written
- C. Informal written
- D. Informal verbal

194. Which of the following is not typically found in a project charter?

- A. Project requirements
- B. Authorization for a project manager to work on a project
- C. Work packages decomposed into activities
- D. An initial set of schedule milestones

195. What are the strategies for dealing with positive risks?

- A. Avoid, mitigate, transfer, accept, exploit
- B. Transfer, mitigate, avoid, exploit, avoid
- C. Exploit, share, enhance, accept, escalate
- D. Mitigate, enhance, exploit, accept, escalate

196. In which process do you create the risk breakdown structure?

- A. Identify Risks
- B. Plan Risk Responses
- C. Perform Qualitative Risk Analysis
- D. Plan Risk Management

Exam Questions

197. As you are executing your project, you are constantly checking your risk register to be sure that you have planned responses for all of your risks. At one team status meeting, you find that a lower-priority risk has suddenly become more likely. Where do you keep information about low-priority risks?

- A. Triggers
- B. The watchlist
- C. Risk Management plan
- D. Qualitative analysis documents

198. Which of the following are not all examples of project documents?

- A. Scope baseline, project funding requirements, stakeholder requirements
- B. Activity list, stakeholder register, risk register
- C. Forecasts, risk register, quality metrics
- D. Basis of estimates, resource requirements, statement of work

199. You're managing a project with a schedule performance index (SPI) of 1.07 and a cost performance index (CPI) of 0.94. How would you best describe this project?

- A. The project is ahead of schedule and within its budget.
- B. The project is behind schedule and within its budget.
- C. The project is ahead of schedule and over its budget.
- D. The project is behind schedule and over its budget.

200. Which of the following is the best example of a reward system?

- A. The team member who works the hardest will receive \$1,000.
- B. Everyone will get a bonus of \$500 if the project meets its quality goals, \$500 if it meets its budget goals, and \$600 if it comes in on time.
- C. The five team members who put in the most hours will get a trip to Disneyland.
- D. The team will only get a bonus if the project comes in 50% under budget, schedule, and quality metric goals; even though the team leads know this goal is unrealistic, they agree that it will motivate the team to work harder.

Before you look at the answers...

Before you find out how you did on the exam, here are a few ideas to help make the material stick to your brain. Remember, once you look through the answers, you can use these tips to help you review anything you missed.

➊ Don't get caught up in the question.

If you find yourself a little confused about a question, the first thing you should do is try to figure out exactly what it is the question is asking. It's easy to get bogged down in the details, especially if the question is really wordy. Sometimes you need to read a question more than once. The first time you read it, ask yourself, "What's this question *really* about?"



This is especially useful for conflict resolution questions—the ones where you're presented with a disagreement between two people and asked how you'd handle it.

➋ Try this stuff out on your job.

Everything you're learning about for the PMP exam is really practical. If you're actively working on projects, then there's a really good chance that some of the ideas you're learning about can be applied to your job. Take a few minutes and think about how you'd use these things to make your projects go more smoothly.

➌ Write your own questions.

When you write your own question, you do a few things:

➊ You reinforce the idea and make it stick to your brain.

➋ You think about how questions are structured.

➌ By thinking of a real-world scenario where the concept is used, you put the idea in context and learn how to apply it.

And all that helps you recall it better! ▶

➍ Get some help!

Have you joined your **local PMI chapter**? It's one of your most valuable resources to help you prepare for the exam—maybe even more valuable than this book! Most PMI chapters have a PMP study group that you can join. That's a great way to find other people who are also studying for the exam.

Also the authors of this book have been known to post occasional exam tips, tricks, and career advice. Follow them on Twitter:

@AndrewStellman @JennyGreene

Answers

~~Exam Questions~~

1. Answer: B

When you work with a union, then the union contract can have an impact on your project. That means you need to consider the union itself a stakeholder, and when you do your planning you need to make sure any union rules and agreements are considered as constraints.

2. Answer: C

All project reports must be communicated as formal written documents. Not only that, but anything that has to do with a contract definitely needs to be formal written.

3. Answer: B

Quality audits are when your company reviews your project to make sure that you are following all of the processes in your company correctly. They are a tool of the Manage Quality process.

4. Answer: D

You can't do anything about the problem until you understand it. You should meet with the client to get a better understanding of what went wrong and why the product is not meeting their needs.

5. Answer: C

Cost aggregation is used to build your budget, but it is not a tool for cost estimation. Bottom-up, parametric, and analogous estimation techniques are used for both cost and time estimates.

6. Answer: A

The project Scope Management plan is a really important tool in your project. It tells you exactly how you'll create the project scope, define the WBS, verify that the work has been done, and make changes to the scope. But it doesn't tell you about specific assumptions that you and the team have made, or constraints on your project. To find those, you should look in the requirements documentation and the project scope statement.

The scope baseline contains the WBS and project scope statement, so you'll find constraints and assumptions there, too!

Answers

~~Exam Questions~~

7. Answer: B

The Delphi technique is a way to get opinions and ideas from experts. This a technique involves a facilitator who uses questionnaires to ask experts about important project risks. The facilitator takes those answers and circulates them—keeping each expert anonymous so he or she can give honest feedback.

8. Answer: B

The halo effect is when you put someone in a position he can't handle, just because he's good at another job. Just because Joe is a great programmer, that doesn't mean he'll be a good project manager.

9. Answer: B

The most expensive defects are the ones introduced when the product is being designed. This is a little counterintuitive at first, but it really makes sense once you think about how projects are run. If your team introduces a defect into a product while it's being assembled, then they have to go back and fix it. But if there's a flaw in the design, then you have to halt production and go back and figure out all the things that flaw affected. You may have to order new parts, reassemble components, and maybe even go back and redesign the product from the ground up.



That's why your Quality Management processes are so focused on reviewing EVERY deliverable—not just the final product, but all of the components, designs, and specifications, too.

10. Answer: A

This question is asking you to create a forecast using estimate to complete (ETC), which uses CPI to project how much money is likely to be spent for the rest of the project. The first step is to plug the numbers into the formula $EAC = BAC / CPI$, which yields $EAC = \$80,000 / .95 = \$84,210$. That's how much money you're likely to spend on the project. Now you can figure out $ETC = EAC - AC = \$84,210 - \$25,000 = \$59,210$.

~~Exam Questions~~

11. Answer: B

Decomposition is the main tool for creating the WBS. It just means breaking the work down into smaller and smaller pieces based on how your company does the work until it is small enough to categorize and organize hierarchically.

12. Answer: C

Quality Management is all about making sure that the product you are building conforms to your customer's requirements. If you have done a good job of gathering and understanding those requirements, all of the measurements you take on your project should help you see if what you are building will satisfy your clients in the end.

13. Answer: C

The most important project constraints that you'll see on the exam are scope, quality, schedule, budget, resources, and risk. Any change to one of those constraints affects the others. It's important to balance all of these constraints throughout your project.

14. Answer: D

Every risk should have a risk owner listed in the register. That person is responsible for keeping the response plan up to date and making sure the right actions are taken if the risk does occur.

15. Answer: A

There are a few really important ethical issues in this question. Your senior management was clear about the rules: go with the lowest bidder. And that's what you should do. But on top of that, you shouldn't choose your sellers based on perks that you'll get—that's called a bribe. And you should always refuse bribes.

16. Answer: C

The RACI matrix shows roles and responsibilities on your project. RACI stands for Responsible, Accountable, Consulted, Informed. Some people on your project will be responsible for activities; others might be accountable for them. The RACI matrix is a table that shows people and how they relate to the work that is being done.

Answers

~~Exam Questions~~

17. Answer: B

Some questions on the exam might ask you about how to operate in another country. In this case, the question is about whether or not something is a bribe. Clearly, if it's a bribe, you can't pay it. But is it? If a payment to a government official (or anyone else) is customary, then it's not a bribe. You should go ahead and pay the police—as long as it's acceptable and legal in that country.

(Sometimes a bribe isn't money. Sometimes it's not 100% clear if something even is a bribe. But if you see an exam question where you're getting any reward for doing your normal job, make sure you treat that reward as a bribe—and refuse it!)

18. Answer: C

Herzberg's Motivation-Hygiene Theory states that people need things like good working conditions, a satisfying personal life, and good relations with the boss and coworkers—these are called “hygiene factors.” Until people have them, they generally don't care about “motivation factors” like achievement, recognition, personal growth, or career advancement.

19. Answer: C

The resource histogram is a bar chart that shows your staffing needs over time. If you need more testers in the end of the project than you do while you're building a product, for example, you can forecast how many you will need and what their skill level needs to be from the beginning. That way, you'll be sure that they're available when you need them.

20. Answer: A

When a change has been approved, you always need to update the baseline and then implement the change. That way, you will be sure to track your performance versus the new scope and schedule expectations, not the old ones.

21. Answer: C

Your risk register is one of the most important project management tools that you have—that's why you review it and go over your risks at every meeting. Any time you come across a new risk, the first thing you should do is document it in the risk register. It's really easy to lose track of risks, especially when you're running a big project. By adding every risk to the register, you make sure that you don't forget about any of them. So once you've identified the risk, what's the next step? You analyze the impact and probability of the risk! That's what the Perform Qualitative Risk Analysis process is for. You shouldn't take any other action until you've analyzed the risk. The reason is that it might turn out that the risk is very unlikely, and there might be another risk with a higher probability and larger impact that deserves your attention.

Answers

~~Exam Questions~~

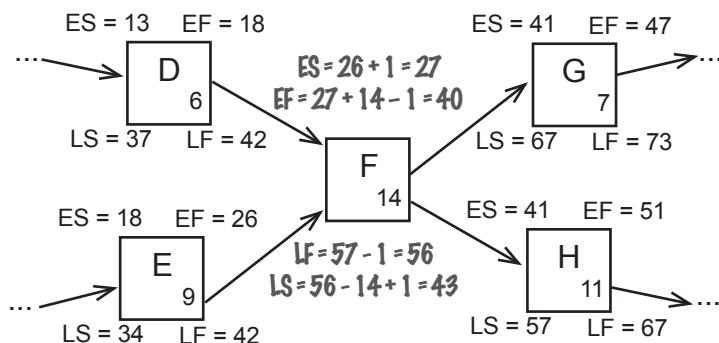
22. Answer: D

Tom is using a template. As your company completes projects, the documents created along the way are stored in an organizational process asset library. The WBSes from those past projects can be a great way to be sure that you are thinking of all of the work that you will need to do from the very beginning. Your project will never match the old WBS exactly, but there could be work packages listed there that you might not have thought of on your own but really are necessary in your project.

While a template is definitely one of your organization's process assets, it's NOT a tool or technique of the Create WBS process. It's an input!

23. Answer: C

To calculate the LS for activity F, we first need to find its LF by taking the lower LS of G or H, 57, and subtracting 1: the LF for F is $57 - 1 = 56$. Now we can calculate LS by subtracting duration and adding 1: $LS = 56 - 14 + 1 = 43$.



24. Answer: B

You need to figure out the root cause of the problem if you are going to find a lasting solution to it. The best choice is to meet with the manager and understand why he offered the team members to you and what you can do to work together to find the right people for your team. It's possible that he has some information about those staff members that make them a good fit after all.

25. Answer: C

The point of total assumption is the point at which the seller assumes the costs. In a firm fixed-price contract, this is the point where the costs have gotten so large that the seller basically runs out of money from the contract and has to start paying the costs.

26. Answer: B

The project management methodology describes the process (or lifecycle) that you use to manage your project. It really doesn't have anything to do with closing a project or phase. The other three answers, however, do! You need the Project Management plan to give you the procedure for closing the project phase. You need the accepted deliverables to verify that they're complete. And you need your organizational process assets for lessons learned and closure guidelines.

Answers~~Exam Questions~~**27. Answer: A**

As a certified project management professional, it's your duty to respect copyrights. Purchased software is copyrighted, and you cannot use it without a license. Ever. If you don't have the budget to buy it, you can't use it.

When a question says that you don't have enough money in the budget to do something that will keep your project from being late, then your project will be late. That's why time and cost are two of the constraints you have to deal with.

28. Answer: B

If you want to evaluate how the project is doing with respect to the schedule and budget, you need to calculate CPI and SPI. The first step is to write down the information you have so far: BAC = \$450,000, planned % complete = 45%, actual % complete = 40%, and AC = \$165,000. Now you can calculate PV = BAC × planned % complete = \$450,000 × 45% = \$202,500. And you can calculate EV = BAC × actual % complete = \$450,000 × 40% = \$180,000. Now you have the information you need to calculate CPI and SPI. CPI = EV / AC = \$180,000 / \$165,000 = 1.09, which is above 1.0—so your project is within its budget. And you can calculate SPI = EV / PV = \$180,000 / \$202,500 = .89, which is below 1.0—so your project is behind schedule.

29. Answer: D

Sometimes Validate Scope happens before Control Scope, and sometimes it happens afterward—and sometimes it happens both before AND afterward. That actually makes a lot of sense when you look at what those two processes do, and how they interact with each other. You always perform some Validate Scope activities at the end of your project, because you need to verify that the last deliverable produced includes all of the work laid out for it in the scope statement. Most projects will almost certainly have gone through Control Scope before then. So it might seem like Control Scope always happens before Validate Scope. But you don't just perform Validate Scope at the end—you actually do it after every deliverable is created, to make sure that all the work for that deliverable was done. Not only that, but sometimes Validate Scope fails because your team didn't do all of the work that was needed—that's why change requests are an output of Validate Scope. And if those changes include scope changes, then your project will end up going through Control Scope again—possibly for the first time in the project, if this is the first scope change you've had to make. So Control Scope can happen before Validate Scope, but it can happen afterward as well. That's why there's no prescribed order for those two processes: they can happen in any order.

30. Answer: D

Stakeholder analysis is important, but it's not part of change control.

Change control is how you deal with changes to your Project Management plan. And a change control system is the set of procedures that lets you make those changes in an organized way. A typical change control system includes a change control board, utilizes a project management information system, and ends with either approval or rejection.

~~Exam Questions~~**31. Answer: C**

When you're performing the **Control Procurements** process, you're closing out work done by a seller for a contract. Doing that involves a few steps: you verify that all of the work and deliverables are acceptable, you finalize any open claims, and in case of early termination, you follow the termination clause in the contract. On the other hand, when you're performing the Close Project or Phase process, you're finalizing all of the various activities that you do across all of the process groups, and you're also verifying that the work and deliverables are complete.

32. Answer: B

Of all of the contract types listed in the question, the time and materials (T&M) contract is the riskiest kind of contract for the buyer, because if the cost of the materials gets really high then it's passed along to the buyer—and the seller doesn't have any incentive to keep it down! (It's true that cost plus award fee (CPAF) could involve paying an additional fee to the seller, but that fee is based entirely on the buyer's subjective evaluation of the seller's performance, which lowers the risk.)

33. Answer: A

Unplanned work done by the team is always gold plating, even if it makes the client happy. But if the client never asked for it, it's not scope creep because the project's planned scope never changed.

Gold plating is when you or your team add more work to the project that was not requested by the sponsor or client. It is always a bad idea to gold-plate a project because the impact is sometimes not immediately known. Sometimes, a feature that might seem really useful to your team is actually a detriment to the client. Gold-plated features can also introduce bugs that slow down later development.

34. Answer: B

The project manager is asking the other companies to help her make this opportunity happen and they can all share in its benefits.

35. Answer: B

A watchlist is where you keep risks that don't have a high enough probability or impact to make it into the risk register but still need to be monitored. By recording the risk in a watchlist, you will have a reminder to check to be sure that circumstances haven't changed as your project goes on. That should give you enough time to come up with a risk response strategy if circumstances do change over time.

Answers

Exam Questions

36. Answer: C

The Project Management plan is not a bar chart (or a Gantt chart). It's the collection of all of the planning documents you create through all of the knowledge areas within the five process groups. It describes how your project will handle all of the activities associated with your project work.

37. Answer: C

Just because the change will help the project's timeline doesn't mean that it will be an overall benefit to the project. It's important to check how the project will impact the other two constraints as part of your change request. Once you know all the facts about the change, the change control board can make an informed decision about how to proceed.

38. Answer: A

Withdrawal happens when someone gives up and walks away from the problem, usually because he's frustrated or disgusted. If you see a team member doing this, it's a warning sign that something's wrong.

39. Answer: A

A control chart is a really valuable tool for visualizing how a process is doing over time. By taking one measurement after another and plotting them on a line chart, you can get a lot of great information about the process. Every control chart has three important lines on it: the mean (or the average of all data points), an upper control limit, and a lower control limit. There's an important rule called the rule of seven that helps you interpret control charts. That rule tells you that if you find seven consecutive measurements that are on the same side of the mean, there's something wrong. That's because it's extremely unlikely for seven measurements like that to occur—it's much more likely that there's a problem with your process. If you can figure out an improvement to fix that, you'll have a lot fewer defects to repair later!

40. Answer: B

The PMP Code of Professional Conduct states that you must follow every law, no matter how trivial. Any time you see a question that asks about breaking a law, your answer should always be the choice that doesn't break it—no manner how minor the infraction, and how serious the consequences.

Answers

~~Exam Questions~~**41. Answer: C**

The Staffing Management plan tells you everything that you need to know about when resources will be released from a project. Since the team you need for your project is currently on another project, that project's Staffing Management plan will tell you when they will be released from that project and available for yours.

42. Answer: C

If your project is broken up into phases, you should have a kickoff meeting at the start of each phase. You use that meeting to talk about lessons learned from past projects and establish the way people will communicate as the project work goes on.

Brainstorming and the Delphi technique are both part of information-gathering techniques, which is one of the tools and techniques of Identify Risks.

43. Answer: B

A risk urgency assessment is a tool of Perform Qualitative Risk Analysis. Identify Risks is all about finding risks. Perform Qualitative Risk Analysis is about ranking them based on what your team thinks their impact and probability will be for your project.

44. Answer: B

Once you've figured out the impact of the change to your schedule, budget, and scope, the next step is to take the change request to the change control board. If they approve your recommendation, then the request to repair the defects will be approved and you can update your baseline and implement the change.



(If you're wondering why the defect repairs are recommended rather than approved, it's because they still need to go through change control! After all, there are some defects that are just not worth repairing, but only the stakeholders on the change control board can determine which ones are worth it and which ones aren't.)

45. Answer: A

Validate Scope is the Monitoring and Controlling process for the Scope Management knowledge area. It doesn't have anything to do with planning out the scope of the project—you do it as you complete each project phase to make sure that your team has completed all of the project work.

46. Answer: C

A change control board (or CCB) is a group of people that approves or rejects changes. It usually includes the sponsor, which makes sense because the sponsor is the one funding the project. It's

Answers

~~Exam Questions~~

not the project manager's job to tell the CCB whether or not to approve a change—they use their expert judgment to figure out whether or not the change is valuable. It is the project manager's job to make sure the impact of the change on the triple constraint (time, scope, and cost) is evaluated, but that impact analysis should happen before the change request is sent to the CCB.

47. Answer: A

Colocation means that you have all of your team located in the same room. When you do this, you can increase communication and help them build a sense of community. Sometimes the room the colocated team meets in is called a war room.

When bidders are competing for a contract, you must make sure they all have the same information so that no one bidder is given an unfair advantage. That's why a bidder conference is a great tool—it gives all bidders access to the same information.

48. Answer: B

Any time there's a conflict of interest, it's your duty to disclose it to your company. After that, you should always proceed based on your company's policies. If there are no specific policies about that, then make sure that the conflict does not affect your decisions.

49. Answer: B

Stakeholder analysis means talking to the stakeholders and figuring out their needs, and it's something that you do when you're defining the project scope. If there's an important client who has needs that your project is supposed to fulfill, that client is always a stakeholder. And if your project is not meeting that client's needs, then you didn't do a good enough job when you were performing stakeholder analysis!

50. Answer: A

Punishment power is exactly what it sounds like—you correct a team member for poor behavior. Always remember to do this one-on-one, in person, and in private! Punishing someone in front of peers or superiors is extremely embarrassing, and will be really counterproductive.

Punishment isn't usually the best way to handle a situation, but if it's the only option, make sure you do it right.

51. Answer: D

The scope baseline is made up of the project scope statement, the WBS, and the WBS dictionary. The WBS dictionary is considered a supporting document to the WBS, so if the WBS were to change, then the dictionary would, too.

Exam Questions

52. Answer: B

A rough order of magnitude (ROM) estimate is an estimate that is very rough. According to the *PMBOK Guide*, you should expect a ROM estimate to be anywhere from -25% to +75% of the actual result. That means that if your ROM estimate for a project is six months, then you should expect the actual project to be anywhere from three months to nine months.

53. Answer: A

It's pretty easy to remember which processes are in the Initiating group, because there are only two of them! But more importantly, it's useful to know what you need to do when you initiate a project. First you need to create the project charter (by performing the Develop Project Charter process), which authorizes the project manager to do the work. And then you need to identify your stakeholders (by performing the Identify Stakeholders process), which helps you understand who needs your project done and what interest they have in it.

54. Answer: B

Mary is working for a projectized organization. In those companies, the project manager has authority over the team as well as the project.

55. Answer: C

It's very hard to figure out whether or not your project is successful unless you can measure that success. That's why you need to come up with goals that have numbers attached to them—which is what *quantifiable* means. Of all four answers, only answer C has a goal that you can actually measure.

56. Answer: A

Customer satisfaction is an important part of modern quality management. Remember, customer satisfaction is about making sure that the people who are paying for the end product are happy with what they get. But the way that you make sure that your customers are happy is by meeting their needs—and you do that by ensuring the product the team builds meets the customer's requirements. That's what Quality Management is all about, and it's an important reason why you do it.

Answers

~~Exam Questions~~

57. Answer: D

The Staffing Management plan always includes a resource histogram, so that should be your first clue about which one of these answers is right. The resource histogram shows what kind of resource is needed through each week of your project and how many staff members you need. When planning out your staffing needs, you need to take into account the training it will take to get them up to speed as well as the kinds of incentives you are going to offer for a job well done. Resource calendars are important too; they'll tell you when your staff members will be available. You need to think about what staff members need to get done before they are released to work on other projects.

58. Answer: C

Since the project absolutely must be completed in seven months for it to be worth doing, the deadline is a constraint. It must be met for the project to be considered successful.

59. Answer: D

Collaborating means working with the team to figure out the cause of the problem and fix it. That's the best way to be sure that the right decision is made.

60. Answer: D

The most important part of the Control Quality process is that your team has to inspect each deliverable in order to verify that it meets its requirements. So what do you need to do that? Well, obviously you need the deliverables! And quality checklists are really useful, too, because they help you inspect each deliverable. You need work performance data, because that tells you how well the team is doing the job. But test and evaluation documents aren't an input—they're the output!

61. Answer: B

There are four things you can do with any opportunity. You can exploit it by making sure you do everything you can to take advantage of it. You can share it by working with another company in a way that gives you a win-win situation. You can enhance it by figuring out a way to increase its value. Or, if there's no way to take advantage of it, you can just accept it and move on. In this case, taking additional actions that will increase the potential reward is enhancing the opportunity.

~~Exam Questions~~**62. Answer: B**

The Plan-Do-Check-Act cycle is a way of making small improvements and testing their impact before you make a change to the process as a whole. It comes from W. Edwards Deming's work in process improvement, which popularized the cycle that was originally invented by Walter Shewhart in the 1930s.

63. Answer: A

Lessons learned are part of the organizational process assets, not enterprise environmental factors. Your company's enterprise environmental factors tell you about how your company typically does business—like how your company's departments are structured, and the regulatory and industry environment your company operates in. An important enterprise environmental factor that you'll run across when you're planning a project is the work authorization system. That's your company's system to determine who is supposed to be working on what, and when the work should get done.

Just remember, lessons learned are
your most important organizational
process assets.

64. Answer: C

The cost variance (CV) is the difference between the amount of money you planned on spending and the total that you've spent so far. This should make sense—if your CV is negative, it means that you've blown your budget.

65. Answer: B

Tom is using expert power. Since he's been through this problem before, his team is more likely to accept his authority. Expert power is the best form of power to use when making project decisions. The team will respect decisions that are based on experience and expertise.

66. Answer: D

It's important to know that resources, schedules, and priorities cause 50% of project problems and conflicts. Sure, it's important for the PMP exam. But even more importantly, if you're trying to solve a problem by looking for the root cause of a conflict, the odds are that you'll find that cause in one of those three areas!

Answers

~~Exam Questions~~

67. Answer: B

Quality audits are when your company reviews your project to see if you are following its processes. The point is to figure out if there are ways to help you be more effective by finding what you are doing on your project that is inefficient or that causes defects. When you find those problem areas, you recommend corrective actions to fix them.



Any time you create recommended corrective actions, they go through change control.

68. Answer: A

Coaching is an important interpersonal skill for any project manager to have. Any time you do coaching, mentoring, training, or anything else to help others learn about project management, you're not only helping your team member, you're also contributing to the Project Management Body of Knowledge.

69. Answer: B

Even if a project is shut down before the work is completed, you still need to document the lessons learned and add them to the organizational process assets. In fact, if a project is terminated early, that's probably the best time to do that! When a project goes seriously wrong, then there are always important lessons that you can learn—even if it wasn't your fault!

70. Answer: A

Seven values on one side of the mean in a control chart indicate a problem with the process that is being measured.

71. Answer: A

Stakeholder analysis is one of the tools and techniques of the Identify Stakeholders process. And that shouldn't really be a surprise. After all, the goal of stakeholder analysis is to write down the needs of your stakeholders. Identify Stakeholders is the only process in the Stakeholder Management knowledge area that is part of the Initiating process group.

72. Answer: D

Take a look at the answers to this question. What do you see? A list of processes—“Create WBS,” “Develop Project Management Plan,” “Develop Project Charter,” and “Identify Stakeholders.” Your job is to figure out which of these processes comes next. So what clues do you have to tell you where you are in the project lifecycle? Well, you've just been authorized to manage a new project. Since the project charter is what authorizes a project manager to work on a project, it means that the Develop Project Charter process has just been performed. So which of the processes in the list comes next? The other Initiating process: Identify Stakeholders.

~~Exam Questions~~**73. Answer: C**

The expected monetary value (or EMV) of the problems integrating the component is the probability (20%) times the cost (\$3,000), but don't forget that since it's a risk, that number should be negative. So its EMV is $20\% \times \$3,000 = -\600 . The savings from not having to build the component from scratch is an opportunity. It has an EMV of $40\% \times \$10,000 = \$4,000$. Add them up, and you get $-\$600 + \$4,000 = \$3,400$.

74. Answer: C

The best thing that you can do with a risk is avoid it—if you can prevent it from happening, it definitely won't hurt your project. The easiest way to avoid a risk is to cut it out of your project entirely; in this case, getting rid of the subcontractor avoids the risk.



Sometimes avoiding one risk can lead to another. It's possible that there was a reason that you went with the subcontractor in the first place, and now you've exposed the project to a different risk! That's why Risk Management is so important.

75. Answer: D

The WBS dictionary always corresponds to an entry in the WBS by name and work package ID. So that's the easiest way to cross-reference the two. The statement of work describes the work that will be done. The responsible organization is the team or department who will do it. Schedule milestones are any set dates that will affect the work. The quality requirements describe how you will know if the work has been done properly. The resource and cost estimates are just a list of how many people will be needed to do the work and how much it will cost. Answer A couldn't be right because net present value doesn't have anything to do with individual work packages. The other options mention earned value and Monte Carlo analysis, which have nothing to do with Scope Management either.

76. Answer: C

The best way to resolve any problem is to collaborate with the team to figure out the source of the problem and then resolve the root cause of the conflict. Any time you have an opportunity to use different perspectives to solve the problem, you should do it. Remember, one of the most important things that a project manager does is make sure that team conflicts get resolved.

77. Answer: A

Tom is a Theory X manager. He believes that employees need to be watched all of the time and that all of his team members are selfish and unmotivated.

Answers

Exam Questions

78. Answer: C

The WBS dictionary is the companion document to the WBS. It gives all the details that you know about each work package in the WBS, including estimates and billing information.

79. Answer: A

This is a calculation question that's asking you to use SPI and CPI to evaluate your project. Luckily, it's easy to do that! First calculate $SPI = EV / PV = \$15,000 / \$12,000 = 1.25$ —so your project is ahead of schedule. Then calculate $CPI = EV / AC = \$15,000 / \$11,000 = 1.36$ —so your project is within its budget.

80. Answer: C

Whenever you use a Pareto chart to examine the results of an inspection of your product, you are in Control Quality. If you were examining the process your company uses to build multiple projects, you would be in Perform Quality Assurance.

81. Answer: A

Translating your communications into a different language so that they can be transmitted to someone else is an example of encoding.

82. Answer: B

The reason we work to do quality planning up front is that it is most expensive to deal with problems if you find them late in the project. The best case is when you never inject the defects in the first place; then it doesn't cost anything to deal with them. Prevention is always better than inspection.

83. Answer: D

You must always follow your company's policy—it's your ethical duty as a project manager. You should find some other way to reward her that is not against your company's rules.

Answers~~Exam Questions~~**84. Answer: B**

Perform Qualitative Risk Analysis is all about prioritizing each risk, and figuring out its probability and impact. It's an important part of risk planning. But it's not about coming up with specific numbers! That's what Perform Quantitative Risk Analysis is for—and EMV analysis is part of quantitative (not qualitative) analysis, because it's where you assign numeric values to risks.

Remember, quantitative means numbers and qualitative means judgments!

85. Answer: D

The PMP Code of Professional Conduct tells us that an important part of any project manager's career is enhancing personal professional competence. This means increasing your knowledge and applying it so that you can improve your ability to manage projects.

86. Answer: B

Joe is doing root-cause analysis on process problems: that's Manage Quality. Remember, Control Quality is when you are trying to find problems in your work products through inspection. Manage Quality is when you are looking at the way your process affects the quality of the work you are doing.

87. Answer: C

To calculate the expected monetary value (EMV) of a set of risks and opportunities, multiply each probability by its total cost and add them together. In this question, the cost of the risk is $-\$15,250 + -\$20,000 = -\$35,250$, so its EMV is $40\% \times -\$35,250 = -\$14,100$. The value of the opportunity is $\$4,500$ and its probability is 65%, so its EMV is $65\% \times \$4,500 = \$2,925$. So the total EMV for the two is $-\$14,100 + \$2,925 = -\$11,175$.

Don't forget that the cost of a risk is negative, and the cost of an opportunity is positive.

88. Answer: A

Before you can close your project, there are a few things you need to do. Remember the acceptance criteria in the scope statement? Well, those criteria need to be met. And you need to get formal written acceptance from the customer. And every work item in the WBS needs to be completed.

Until the customer accepts the final product, your project isn't done!

89. Answer: D

Once you've closed out a procurement, it's important to conduct a procurement audit. This is where you go over everything that happened on the project to figure out the lessons learned, and

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look for anything that went right or wrong. However, consideration—or payment—is not part of an audit (unless there was a problem processing or paying it).

90. Answer: B

The Staffing Management plan includes a “Reward and Recognition” section that describes how you’ll reward your team for good performance. It also contains training requirements and release criteria.

91. Answer: C

It's pretty obvious just from a quick glance at the numbers that this project is in trouble. The total budget for completion is 900 panels \times \$75 per panel = \$67,500, and your actual costs are already \$45,000. But if you look at all the answers, every one of them could potentially be correct: you know that you're pretty far below budget, so the CPI will be below 1 and the CV will be negative. And since you should have completed 400 panels, you're behind schedule, so you know your SPI will also be below 1. So which of the answers is right? There's only one way to find out: do the calculations. Actual % complete is $350 \div 900 = 38.9\%$ so PV = $\$67,500 \times .389 = \$26,258$. Planned % complete is $400 \div 900 = 44.4\%$, so PV = $\$67,500 \times .444 = \$29,970$. CPI = $\$26,258 \div \$45,000 = .584$, and CV = $\$26,258 - \$45,000 = -\$18,742$, so neither of those numbers matches the answers for A and B. And for answer D, SPI = $\$26,258 \div \$29,970 = .876$, which doesn't match, either. But for answer C, TCPI = $(\$67,500 - \$26,258) \div (\$67,500 - \$45,000) = 1.833$, which does match the answer. Answer C is correct.

That's why the payment system is one of the Control Procurements tools and techniques, and not part of Close Procurements—you can't close out the contract until it's been paid.

There's no such thing as a “Reward and Recognition plan” in the PMBOK Guide.

92. Answer: C

By buying the extra chemical stock, you are mitigating the risk.

93. Answer: D

A resource histogram is just a way to visualize the number of people in each role that you will need on your project as time goes on. Once you have figured out your schedule and the order of activities, you figure out how many people it's going to take to do the work and plot that out over time. Then you have a good idea of what the staffing needs of your project will be.

94. Answer: A

Answer D is wrong because you can't just terminate a contract, since it's legally binding. But if a contract does eventually get terminated early during claims administration, you do have to follow any termination procedures in the contract.

When there's a dispute between a buyer and a seller, that's called a claim. Most contracts have some language that explains exactly how claims should be resolved—and since it's in the contract, it's legally binding, and both the buyer and seller need to follow it. Usually it's not an option to renegotiate a contract, especially at the end of the project after the work is complete, and lawsuits should only be filed if there are absolutely, positively no other options.

~~Exam Questions~~**95. Answer: B**

Any time you have any communication having to do with the contract, it's always formal written communication.

96. Answer: A

One of the most important elements of the Staffing Management plan is the timetable, which tells you who will work on what, and when they will be released from the project. One of the most common ways of showing the timetable is the resource histogram (or staffing histogram). That timetable will let you know exactly when you plan to release your project resources.

97. Answer: D

While noise can interfere with communication, it's not a communication type.

98. Answer: B

Lessons learned from past projects are always part of a company's organizational process assets, and are usually stored in a process asset library. The other three answers are important project tools, but they're not where you find lessons learned.

All the answers to that question sounded good, right? Just remember, lessons learned are your most important organizational process assets!

99. Answer: C

Once your project team is done with the work, it's time to check the deliverables against the scope statement, WBS, and Scope Management plan. If your deliverables have everything in those documents, then they should be acceptable to stakeholders. When all of the deliverables in the scope are done to their satisfaction, then you're done with the project! What comes next? Formal acceptance, which means you have written confirmation from the stakeholders that the deliverables match the requirements and the Project Management plan. Since this communication is a project document, it's formal written communication.

100. Answer: C

The procedure for managing changes to a contract is found in the Contract Management plan. The other three answers are all things you typically find in a project charter.

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101. Answer: D

The Communications Management plan defines all of the processes that will be used for communication on the project.

102. Answer: D

The work authorization system is a part of your company's enterprise environmental factors, and it's generally part of any change control system. It defines how work is assigned to people. If work needs to be approved by specific managers, the work authorization system will make sure that the right people are notified when a staff member's work assignments change.

103. Answer: B

Risk mitigation means taking some sort of action that will cause a risk, if it materializes, to do as little damage to your project as possible. Having team members spend time doing work to prepare for the risk is a good example of risk mitigation.

104. Answer: A

Sometimes you don't need to do any calculations when you run across a question like this. The question asked you which number to use for a forecast of how much money you expect to spend on the rest of the project. Well, isn't that the definition of ETC? Since you were given the value of ETC, you could just use that number!

105. Answer: D

Product scope means the features and functions of the product or service being built. Project scope means the work that's needed to build the product.

106. Answer: A

The project charter does several important things: it lays out the project requirements, describes an initial summary milestone schedule, documents the business case, and identifies initial risks, assumptions, and constraints. But most importantly, a project charter identifies the project manager, and assigns him or her the authority necessary to get the job done.

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107. Answer: A

Work performance data is what you're doing when you look at the work that the team is performing in order to determine whether the project is ahead or behind schedule. A really good way to do that is to use schedule variance (SV) and schedule performance index (SPI) calculations.

108. Answer: B

Since the CFO is affected by your project, that means he's a stakeholder. The best thing you can do in this situation is get the new stakeholder's opinion incorporated in the project up front. It's important that all of the project stakeholders understand the needs and objectives that the project is meant to address. The worst case is to have the stakeholder's opinion incorporated at the end of the project—that could mean a lot of rework or even an entirely unacceptable product.

109. Answer: D

An important part of identifying stakeholders is reviewing lessons learned from prior projects (because they may help you identify stakeholder issues early), performing stakeholder analysis (which often involves a power/interest grid), and reviewing procurement documents (because a contract often brings extra stakeholders with it). However, you don't create the change control system in the Initiating phase—that's something that you do as part of your project planning activities.

110. Answer: C

The project manager is mitigating the risk by backing up the data so that it doesn't get lost. He is transferring it to the insurance company by insuring the company for the cost of rekeying the information.

111. Answer: B

This project is not in good shape. The client has needs that aren't being met, but there may not be enough time or money to meet them. What's the project manager going to do? Well, the first thing that you should do any time you have a problem is try to figure out what's causing it. All of the other answers involved taking some sort of action, and you should never take action until you've figured out the root cause of the problem.

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112. Answer: C

Residual risks are risks that remain even after you have planned for and implemented all of your risk response strategies. They don't need any further analysis because you have already planned the most complete response strategy you can in dealing with the risk that came before them.

113. Answer: D

The client is trying to command Rekha to do what he says even though she has good reasons for not doing it. He isn't working to solve the problem, he's just forcing the resolution to go his way.

114. Answer: B

Decomposition doesn't have anything to do with Define Scope—it's how you decompose tasks in the Create WBS process. The other answers are all tools of the Define Scope process. Note that facilitation is part of interpersonal and team skills, and multicriteria decision analysis is part of decision making.

115. Answer: A

The records management system is one of the tools that you use in the Close Procurements process. It's what you use to store your contracts and any related documents, so that future project managers can refer to them in future projects.

116. Answer: B

Time and materials (T&M) contracts are used in labor contracts. In a T&M contract, the seller pays a rate for each of the people working on the team plus their material costs. The "time" part means that the buyer pays a fixed rate for labor—usually a certain number of dollars per hour. And the "materials" part means that the buyer also pays for materials, equipment, office space, administrative overhead costs, and anything else that has to be paid for.

117. Answer: D

Any activity that helps you find, prevent, or fix defects in your product is included in the cost of quality. The activities you do to build the product don't count toward that number.

~~Exam Questions~~**118. Answer: B**

A stakeholder is anyone who is affected by the cost, time, or scope of your project. And that includes unions—if you have team members who are in a union, then you always need to consider that union as a stakeholder and make sure its needs are met. However, you don't need to consider the needs of your company's competitors.

119. Answer: D

The project scope statement defines the scope of work for the project. It's where everyone comes to a common understanding about the work that needs to be accomplished on the project.

120. Answer: C

$\$230,000 \times 0.70 = \$138,000$ savings, and $\$150,000 \times 0.40 = -\$60,000$ expenses. Add them together and you get \$78,000.



When you calculate EMV, anything that saves your project money is counted as positive, and anything that costs it money is negative. Multiply each by the probability and add them together.

121. Answer: C

This is an example of accepting a risk. The team can't do anything about the weather, so the project manager has accepted the fact that they could end up being delayed by it.

122. Answer: C

If you discover that someone claims to have the PMP credential but is not actually certified, you must contact PMI immediately so that it can take action.

123. Answer: A

The most effective type of power for a project manager is expert power. That's when your team respects you because they know that you know what you are talking about.

124. Answer: B

Since the Smith County project officer is the sponsor, he's the person who is best suited to sign the charter. A project charter is typically approved and signed by the sponsor. Some projects

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are approved by key stakeholders, but they are never approved by project managers (since the project manager is only granted authority once the project is signed) or team members.

125. Answer: B

Control Procurements is the Monitoring and Controlling process for Procurement Management. It's when you run into a change that has to be made to a specific contract. You use work performance information to determine how the contract is going, and the contract and procurement documents to see exactly what everyone's on the hook for. But you don't actually see the Procurement Management plan as an input to Control Procurements.

126. Answer: A

If you discover that someone claims to have the PMP credential but is not actually certified, you must contact PMI immediately so that it can take action.

127. Answer: B

You may get a question on the exam that asks what to do when you encounter a change. You always begin dealing with change by consulting the Project Management plan.

128. Answer: B

The PMP Code of Professional Conduct says that you're not allowed to accept any kind of gift, not even if it's after the project has finished. That would be the same thing as taking a bribe.

129. Answer: D

This is a tough situation for any project manager. You've got a problem that's happened, and you didn't plan for it. Now it's going to cost you money. What do you do? Well, you can't just accept it and move on—that's only something you do with risks that have no other option. You have options with a problem that happens during your project. And you can't just go to the boss, because you're the project manager and it's your job to figure out what to do. There's no use in doing risk planning, because you already know the probability (100%) and impact (the cost of fixing the problem). So what do you do?

That's where your reserve comes in. There are two kinds of reserves: a contingency reserve and a management reserve. The contingency reserve is what you use for "known unknowns"—you use it to pay for risks that you've planned for. But this situation isn't like that. That's why you tap into the management reserve. That's the money in the budget you set aside for "unknown unknowns"—problems that you didn't plan for but which came up anyway.

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130. Answer: B

When you have a project that's broken up into subprojects or phases, it's important that you perform the Initiating processes at the beginning of the project. Answer B is the one that best describes something that happens during the processes in the Initiating group—performing the Identify Stakeholders process.

131. Answer: B

This question looks hard, but it's actually pretty easy if you remember that Control Stakeholder Engagement is just an ordinary Monitoring and Controlling process—it's the one for the Stakeholder Management knowledge area. Once you know that, it's easy to pick out the output that doesn't fit! When you're handling a change in a Monitoring and Controlling process, you update your project plan and project documents, and you request changes. But you don't create deliverables.

132. Answer: A

The formula for lines of communication is $n \times (n-1) / 2$. So the answer to this one is $(17 \times 16) / 2 = 136$.

133. Answer: A

There are two kinds of project selection methods. Benefit measurement models, or comparative methods, are used to compare the benefits and features of projects. Mathematical models use complex formulas to determine which project has the most value to the company. You should get familiar with some of the more common comparative approaches to project selection, like murder boards, benefit-cost ratios, and peer reviews.

134. Answer: D

If you find out that someone is cheating on the PMP exam by distributing questions that are on it, you must report that person to PMI immediately. If that person is a PMP-certified project manager, he will be stripped of his certification.

135. Answer: B

The project sponsor is the person (or people) that pays for the project. Sometimes this means the sponsor directly provides funding; other times, it means the sponsor is the person who signs the organizational approval to assign resources. Either way, you can usually tell who the sponsor is by finding the person who can approve or deny the budget.

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136. Answer: C

An important part of any project manager's career is enhancing personal professional competence. This means increasing your knowledge and applying it so that you can improve your ability to manage projects.

The "document repository" sounded good, but you won't find that term anywhere in the PMBOK Guide. Watch out for made-up terms on the exam!

137. Answer: A

The configuration management system is there to be sure that everybody on the team has the most updated version of all of the project documents. Whenever a project document is changed, it is checked into the configuration management system so that everyone knows where to go to get the right one.

138. Answer: C

Project managers must have a "zero tolerance" policy on racist remarks, or any other cultural insensitivity. If there is an incident involving racism, sexism, or any other kind of discrimination, your top priority is to correct that. Every company has a policy that guides how you handle this kind of situation, so a question involving racism will usually involve the company's policy or HR department.

139. Answer: B

An important part of making sure that your project goes well is keeping an eye on the work, and that's what the Monitor and Control Project work process is for. It's where you constantly evaluate the work being done, and any time you see a problem you recommend changes, defect repairs, and preventive and corrective actions.

The rule of seven tells you that seven consecutive data points outside of the control limits indicate that the process may have a problem. But not all questions about control charts will ask you about the rules of seven.

140. Answer: B

A control chart is a tool that helps you analyze a process and determine if it's stable, or if the results of that process are predictable. It typically consists of a plot of process measurements or outputs on a scale that includes statistically calculated upper and lower control limits, so that you can identify measurements that indicate process instabilities.

~~Exam Questions~~**141. Answer: C**

You need to make sure that what you're delivering matches what you wrote down in the scope statement. That way, the team never delivers the wrong product to the customer. As you complete each deliverable, you work with the stakeholders and the sponsor to make sure that you did the right work.

142. Answer: C

Even though the numbers are large, this is a simple application of the channels of communication formula: $\# \text{ lines} = n \times (n - 1) \div 2$. There is a total of $1,253 + 752 + 14 = 2,019$ people. So the number of channels is $2019 \times 2018 \div 2 = 2,037,171$. That's a pretty staggering number, but it's realistic for a large project—and it's why Communications Management is such an important part of a project manager's toolbox.

143. Answer: C

It's not enough that the project manager approves of the Project Management plan; it needs to be approved by all of the stakeholders in the project. Everyone on the team should feel comfortable with the processes that are going to be used to do the work.

144. Answer: B

Customers can be satisfied even when a project is not profitable—customer satisfaction isn't always about money. Rather, customer satisfaction is about making sure that the people who are paying for the end product are happy with what they get. When the team gathers requirements for the specification, they try to write down all of the things that the customers want in the product so that you know how to make them happy. Some requirements can be left unstated, too. Those are the ones that are implied by the customer's explicit needs. In the end, if you fulfill all of your requirements, your customers should be satisfied.

145. Answer: C

Plurality is an example of a group decision-making technique in which a decision can be made by the largest block of people in the group, even if they don't have a 50% majority.

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146. Answer: C

Smoothing is minimizing the problem, and it can help cool people off while you figure out how to solve it. But it's only a temporary fix, and does not really address the root cause of the conflict.

147. Answer: D

Once you've closed out a contract, it's important to conduct a procurement audit. This is where you go over everything that happened on the project to figure out the lessons learned, and look for anything that went right or wrong.

148. Answer: A

"Force majeure" is a kind of clause that you'll see in a contract. It says that if something like a war, riot, or natural disaster happens, you're excused from the terms of the contract.

149. Answer: D

Ground rules help you prevent problems between team members, and let you establish working conditions that everyone on the team can live with. You set up the ground rules for a project to help guide people in their interactions with each other. Make sure you discuss the ground rules with the team during the kickoff meeting!

150. Answer: A

Saying that the work must be "better" is subjective. Requirements gathered in stakeholder analysis need to be quantifiable. That way, the team has a goal they can shoot for and you can always tell how close to or far from it you are.

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151. Answer: B

Maslow's Hierarchy of Needs says that people have needs, and until the lower ones (like acceptance on the team, job safety, or job security) are satisfied, they won't even begin to think about the higher ones (fulfilling their potential and making a contribution).

Cost of quality doesn't include the time the project manager spends putting together the Project Management plan—except for the time spent on the quality portions!

152. Answer: C

Cost of quality is what you get when you add up the cost of all of the prevention and inspection activities you are going to do on your project. It doesn't just include the testing. It includes any time spent writing standards, reviewing documents, meeting to analyze the root causes of defects, reworking to fix the defects once they're found by the team—absolutely everything you do to ensure quality on the project.

153. Answer: D

A firm fixed price (FFP) contract means that the buyer pays one amount regardless of how much it costs the seller to do the work. A fixed-price contract only makes sense in cases where the scope is very well known. If there are any changes to the amount of work to be done, the seller doesn't get paid any more to do it.

So if the costs get really high, then the buyer has to swallow them.

154. Answer: C

A lot of people think compromise is a great way to handle conflicts. But any time there's a compromise, it means that everyone needs to give up something. That's why compromise is often called a lose-lose solution. It's always better to solve the problem and fix the root cause of the conflict. You should only force people to compromise if that's the only option.

Insurance is just a contract that you use to pay a company to take on some of your risk.

155. Answer: A

One effective way to deal with a risk is to pay someone else to accept it for you. This is called transference. The most common way to do this is to buy insurance.

156. Answer: B

When you're working with procurements, independent estimates is one of the tools and techniques of the Conduct Procurements process. It certainly sounds a lot like something you'd

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do while planning out your procurements. Don't forget that the Conduct Procurements process involves finding sellers as well as carrying out the work to complete the contract. That's why you use things like bidder conferences and qualified seller lists in Conduct Procurements.

157. Answer: C

The scope baseline is not a particularly useful thing once a project's done. A baseline is what you use to measure any changes to the project—whenever there's a change, you always want to compare it against the baseline. But once the project is done, the baseline isn't necessary anymore.

158. Answer: C

Forecasting is a cost monitoring tool that helps you predict how much more money you'll need to spend on the project. So which of the cost metrics would you use to do that? There are two useful numbers that you can use for forecasting. One of them is called estimate to complete (ETC), which tells you how much more money you'll probably spend on your project. And the other one, variance at completion (VAC), predicts what your variance will be when the project is done.

159. Answer: A

You create one of the most important outputs of your entire project when the team is doing the project work. Work performance data tells you the status of each deliverable in the project, what the team's accomplished, and all of the information you need to know in order to figure out how your project's going. But you're not the only one who needs this—your team members and stakeholders need to know what's going on, so they can adjust their work and correct problems early on. One thing to keep in mind: work performance data means data generated from raw observations. Performance data can be collected and analyzed to create work performance information, and it's that information that's used to create status reports. Understanding the relationship between work performance data, work performance information, and work performance reports will definitely help you on the exam.

Did you think the answer was "Status reports"? You generally won't see that as a valid answer on the exam. The PMBOK Guide is clear on this: a PM's job is to plan the work and control the project, not just gather and report status.

160. Answer: B

Kaizen is a Japanese word that means "improvement"—and it's also a management technique that helps your company use problem solving to constantly find new ways to improve. Kaizen focuses on making small improvements and measuring their impact. It's a philosophy that guides management, rather than a particular way of doing quality assurance.

Ishikawa diagrams—or fishbone diagrams—are an important tool that's used in Kaizen.

Answers~~Exam Questions~~**161. Answer: A**

The PMP Code of Professional Conduct requires cultural sensitivity to others. It's unacceptable to belittle people based on how they speak, the way they dress, or any other aspect of their cultural background. If you see a member of your team doing this, it's your responsibility to do what's necessary to correct the behavior and prevent it from happening in the future.

Don't assume that every time you see a fishbone diagram the question is talking about Control Quality.

162. Answer: A

Diagramming techniques (including Ishikawa diagrams and flowcharts) are a tool of the Identify Risks process. You use them to find the root cause of defects in Quality Management processes, but they can also be useful in finding the risks that can lead to trouble in Risk Management.

**163. Answer: B**

The project's scope is changing every time the client is asked to verify the product—that's scope creep. The best way to avoid that is to be sure that the project scope statement that is written in the planning stages of the project is understood and agreed to by everyone on the project. Scope changes should never come late in the project; that's when they cost the most and will jeopardize the team's ability to deliver.

164. Answer: B

Any time you hold a seminar, give a talk, write an article, or help others learn about project management, you're contributing to the Project Management Body of Knowledge.

This is an important part of every PMP-certified project manager's career!

**165. Answer: D**

If you discover that someone has broken the law, it is your duty to call the authorities and report that person. You need to do this, even if it seems like the offense is minor.

166. Answer: C

When you're asked to use benefit-cost (BCR) ratios to select a project, always choose the project with the highest BCR because that's the project that gives you the most benefit for the least cost. An easy way to do it is to divide: Project A has a BCR of 5:2, and $5 / 2$ is 2.5. Do that with all four projects, and you find that project C has the highest BCR.

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167. Answer: D

Legitimate power is the kind of power you have when you tell someone who reports to you to do something. Expert power is when your opinion carries weight because people know that you know what you're talking about. Reward power is when you promise a reward for doing as you ask. Referent power is when people do what you say because of your association with somebody else. Punishment power is when people do what you say because they are afraid of the consequences.

168. Answer: C

Every change request needs to be evaluated to determine whether or not the change should be made. That's what we do in the Perform Integrated Change Control process—every change is analyzed to determine its impact. It's then documented as a change request and put into the change control system. That's where the stakeholders on the CCB determine if the change should be made.

169. Answer: B

By the time the Close Project or Phase process happens, you should have already gotten formal written acceptance for the deliverables. That's what the Validate Scope process is for, and you verify that formal acceptance in the Close Project or Phase process.

170. Answer: C

The WBS work packages can be displayed by project phase or by project deliverable. It depends on how your company needs to see the work organized. If you use the same phased lifecycle for all projects, it can be easier to show all of the work as it breaks down within each phase. If you have various teams depending on the deliverables your team will produce, it can make sense to break the work down by project deliverable.

171. Answer: A

The two main outputs of Direct and Manage Project Work are deliverables and work performance data. Work performance data is a name for all of the actual data that comes from the work your team is doing.

~~Exam Questions~~**172. Answer: A**

Lessons learned are some of your most important organizational process assets. At the end of every project, you sit down with the project team and write down everything you learned about the project. This includes both positive and negative things. That way, when you or another project manager in your company plans the next project, you can take advantage of the lessons you learned on this one.

It's really important that you work with the team to write down the lessons you've learned, because they have a lot of insight into what went right and wrong on the project.

173. Answer: B

The project charter is often created without the project manager's involvement. Sometimes it is handed to the project manager by the sponsor or high-level manager.

174. Answer: C

Checklists are a great way to keep a tally of any quality-related activities you need to repeat while controlling quality or performing quality assurance on your project.

175. Answer: B

Monte Carlo analysis is a way of seeing what could happen to your project if probability and impact values changed randomly.

176. Answer: A

One of the most important things that you do as a project manager is to constantly monitor the project for changes, and take the appropriate action whenever you make a change. But changes don't happen on any sort of schedule—if they did, it would make project management a whole lot easier! That means you need to continuously monitor your project to figure out whether or not its plans and scope need to change.

You can think of change requests as what you get when someone finds a problem and needs to make a change. Once you've figured out whether or not to do that change (in Perform Integrated Change Control), you give the person an update on its status.

177. Answer: B

This question is basically asking you the difference between change requests and change request status updates. Change request status updates are outputs from Perform Integrated Change Control, not Monitor and Control Project Work.

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178. Answer: C

You can't know the answer to technical questions as well as your team. So, while it's important to understand both sides of the issue, your job is to make sure that problems are solved and fairly evaluated.

179. Answer: D

Parametric estimation is a tool for creating estimates. It's not a deliverable.

180. Answer: D

The WBS dictionary is an output of the Create WBS process. It is created along with the WBS and gives all of the details about each work package in the WBS.

181. Answer: C

This question asked about artifacts generated by the process of finalizing all activities for the project. That's another way of asking about the outputs of the Close Project process. Business documents are an input to Close Project, not an output.

Keep an eye out for questions that describe processes instead of using their names. You'll see that a lot on the exam.

182. Answer: D

The kickoff meeting gets all of the stakeholders together to explain how communication will go. That way, everyone knows who to talk to if things go wrong or they run into any questions.

183. Answer: A

Not every change needs to be made. Before you make any change, you always need to evaluate its impact on the triple constraint—time, cost, and scope—and how those changes will affect the quality of the deliverables. Until you analyze that impact, there's no way to know whether or not it makes sense to make the change.

Exam Questions

184. Answer: B

The idea behind net present value (or NPV) is that you can compare potential projects by figuring out how much each one is worth to your company right now. You figure out a project's NPV by coming up with how much the project is worth, and then subtracting how much it will cost. If you're asked to choose between projects and given the NPV of each of them, choose the one with the biggest NPV. That means you're choosing the one with the most value!

185. Answer: C

It's easy to get change, defects, and corrective actions mixed up—they're all words that sound suspiciously similar! Just remember: a defect is any deliverable that does not meet its requirements. A defect is *not* always caused by a mistake—defects can come from lots of sources, and team members' errors only cause some defects. For example, plenty of defects are caused by equipment problems.

Don't forget that the Project Management plan itself is a deliverable! That means that it can have defects, too—a lot of companies have specific standards and requirements that every project plan must meet. And if a defect is found in the plan after the work has started, then you need to go through change control to repair it!

186. Answer: D

Forcing means putting your foot down and making a decision. One person wins, one person loses, and that's the end of that.

187. Answer: B

The project scope statement is where you figure out exactly what your stakeholders need, and turn those needs into exactly what work the team will do to give them a great product. Any constraints or assumptions that need to be made to determine the work need to be written down in the scope statement as well.

188. Answer: C

You can figure out the actual cost that was spent on a project, even if all you're given are some of the project metrics. In this case, if you only have CPI and EV, you can figure out the AC by writing down the formula that has all three of them: $CPI = EV / AC$. Now flip the formula around: $AC = EV / CPI = \$172,500 / .92 = \$187,500$.

Answers

~~Exam Questions~~

189. Answer: A

Changes are found in Monitor and Control Project Work; they are approved in Perform Integrated Change Control, and implemented in Direct and Manage Project Execution. When you are monitoring and controlling the project work, you are always looking for changes that might need to be made to your plan and assessing their impact. Then you present those changes to the change control board for approval. If they approve, you implement them in the Direct and Manage Project Execution process—that's where all the work gets done.

190. Answer: A

A work breakdown structure is the best way to visualize all of the work that will be done on your project. It divides all of the work up into work packages and shows how it fits into higher-level categories. By looking at the WBS, you can communicate to other people just how much work is involved in your project.

191. Answer: B

Over half of the conflicts on projects come from resources, priorities, and schedules. It can be tough to get resources assigned to projects, especially if they have skills that are in high demand. Sometimes multiple projects (and even roles within projects) are vying to get top priority. Finally, you probably don't need to think too hard to remember a conflict about schedules on a project you've worked on—many projects start with overly aggressive deadlines that cause conflicts from the very beginning.

192. Answer: D

When do you gather work performance information? You do it when you're reporting on the performance of the team—that's why it's a tool and technique of the Control Communications process. But that's not something you do during Control Risks—work performance information is an input to that process, which means it needs to be gathered *before* you start controlling your risks.



Some questions on the PMP exam will describe tools or techniques rather than using their names. A question might say “bringing in an outside party to review your risk response strategies” instead of “risk audit.” You’re actually asked about concepts you’ve learned, not just about a bunch of things you’ve memorized.

~~Exam Questions~~

193. Answer: B

You should always use formal written communication when you are communicating with clients about changes in your project.

194. Answer: C

The project charter is created long before you start identifying work packages and activities. Those things are done as part of the project planning, which happens only after the project charter is completed.

195. Answer: C

Positive risks are opportunities that could happen on your project. The strategies for dealing with them are all about making sure that your project is in a position to take advantage of them or at least share in them with other projects if possible.

196. Answer: D

The RBS is part of the Risk Management plan. It's structured very similarly to a WBS. The RBS helps you to see how risks fit into categories so you can organize your risk analysis and response planning.

197. Answer: B

Sometimes you'll find that some risks have obviously low probability and impact, so you won't put them in your register. Instead, you can add them to a watchlist, which is just a list of risks that you don't want to forget about, but you don't need to track as closely. You'll check your watchlist from time to time to keep an eye on things.

198. Answer: A

Everything listed in each of the answers is a project document...except for the scope baseline. The baselines and subplans are all part of the Project Management plan, so they don't fall under the heading of "project documents."

Answers

~~Exam Questions~~

199. Answer: C

When you're looking at CPI and SPI numbers, remember: lower = loser. If your CPI is below 1.0, then your project is over its budget. If the SPI is below 1.0, then the project is behind schedule. In this case, the project is ahead of schedule, since its SPI is above 1.0. But it's over its budget, because it's got a CPI that's below 1.0.

200. Answer: B

The key to a good bonus system is that it must be achievable and motivate everyone in the team to work toward it. If you are only rewarding one team member or a few people in the group, the rest of the team will not be motivated. Also, making the goals too aggressive can actually demotivate people.

So how'd you do?

PMI uses a scoring system called the "Modified Agnoff Technique" (which it explains in the PMP Handbook, available for download from their website), which makes it a little hard to predict exactly how you'll do. But if you're scoring in the 80% to 90% range on this exam, then you're in really good shape.

The End

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