Certified Associate in Project Management (CAPM)® Exam Prep

Chapter 11 – Project Risk Management

Workbook
Risk Management

- The processes concerned with conducting risk management planning, identification, analysis, responses and monitoring and control on a project.
- Updated throughout the project.
- Increase the probability and impact of *positive risks* & decrease the probability and impact of *negative risks*. 

![Risk Management Diagram]
Risk Management

*Risk* – an uncertain event or condition that, if realized, has a positive or negative impact on at least one project objective (such as time, cost, scope or quality).

*Risks can have one or more causes and one or more impacts.*
Risk Management

Types of Risks

- **Known Risks** – Can be analyzed, possible to plan. Contingency reserve or other plans.

- **Unknown Risks** – Cannot be managed proactively. General contingency or management reserve.
Risk Management

Key Terms

- Risk Tolerance
- Risk Averse
- Risk Factors
  - Probability & impact
  - The range of possible outcomes
  - Expected timing in the project life-cycle
Risk Management

11.1 Plan Risk Management

- The process of deciding how to approach & conduct risk management activities for a project.
- Ensure that the level, type & visibility of risk management are commensurate with both the risk & importance of the project.
- Provide sufficient resources & time for risk management activities.
- Establish an agreed-upon basis for evaluating risks.
Risk Management

11.1 Plan Risk Management

Inputs
1. Project management plan
2. Project charter
3. Stakeholder register
4. Enterprise environmental factors
5. Organizational process assets

Tools &
1. Analytical techniques
2. Expert judgment
3. Meetings

Outputs
1. Risk management plan
Risk Management

Included in the Risk Management Plan

- Methodology
- Roles and Responsibilities
- Budgeting
- Timing
- Risk Categories (RBS)
- Revised stakeholder tolerances
- Reporting formats
- Tracking
- Definitions of probability and impact
- Matrices
Risk Management
Scales for Impact and Probability

- **Linear**
  - .1, .3, .5, .7, .9

- **Non-Linear**
  - .05, .10, .20, .40, .80

- **Relative**
  - Very low, low, medium, high, very high
## Risk Management
### Sample Impact Matrix

### Defined Conditions for Impact Scale of a Risk on Major Project Objectives

<table>
<thead>
<tr>
<th>Project Objectives</th>
<th>Very Low / .05</th>
<th>Low / .10</th>
<th>Medium / .20</th>
<th>High / .40</th>
<th>Very High / .80</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insignificant cost increase</td>
<td>&lt;10% cost increase</td>
<td>10%-20% cost increase</td>
<td>20%-40% cost increase</td>
<td>&gt;40% cost increase</td>
<td></td>
</tr>
<tr>
<td>Insignificant time increase</td>
<td>&lt;5% Time increase</td>
<td>5%-10% time increase</td>
<td>10%-20% time increase</td>
<td>&gt;20% time increase</td>
<td></td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scope decrease barely noticeable</td>
<td>Minor areas of scope affected</td>
<td>Major areas of scope affected</td>
<td>Scope reduction unacceptable to sponsor</td>
<td>Product of project is effectively unusable</td>
<td></td>
</tr>
<tr>
<td><strong>Quality</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality degradation barely noticeable</td>
<td>Only very demanding applications are affected</td>
<td>Quality reduction requires sponsor’s approval</td>
<td>Quality reduction unacceptable to sponsor</td>
<td>Product of project is effectively unusable</td>
<td></td>
</tr>
</tbody>
</table>

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Risk Management

11.2 Identify Risks

- Determine which risks might affect the project and documents their characteristics
  - Project Manager
  - Project Team
  - Stakeholders
  - Subject matter experts
  - People outside the project
11.2 Identify Risks

**Inputs**
1. Risk management plan
2. Cost management plan
3. Schedule management plan
4. Quality management plan
5. Human resource management plan
6. Scope baseline
7. Activity cost estimates
8. Activity duration estimates
9. Stakeholder register
10. Project documents
11. Procurement documents
12. Enterprise environmental factors
13. Organizational process assets

**Tools & Techniques**
1. Documentation reviews
2. Information gathering techniques
3. Checklist analysis
4. Assumption analysis
5. Diagramming techniques
6. SWOT analysis
7. Expert judgment

**Outputs**
1. Risk register
Risk Management
Tools & Techniques

- Information gathering
  - Brainstorming
  - Delphi Technique – reduce bias
  - Interviews
- Assumption analysis
- SWOT
- Checklist analysis – be careful
- Diagramming
  - Cause and effect
  - Flow charts
  - Influence diagrams
Risk Management
The Risk Register

- List of identified risks
- And possibly
  - List of potential responses
  - Root causes
  - Updated risk categories
11.3 Perform Qualitative Risk Analysis

- Prioritizing the identified risks for further action (including further analysis or response planning).
- Uses the probability and impact scoring defined in Plan Risk Management.
11.3 Perform Qualitative Risk Analysis

**Inputs**
1. Risk management plan
2. Scope baseline
3. Risk register
4. Enterprise environmental factors
5. Organizational process assets

**Tools & Techniques**
1. Risk probability and impact assessment
2. Probability and impact matrix
3. Risk data quality assessment
4. Risk categorization
5. Risk urgency assessment
6. Expert judgment

**Outputs**
1. Project document updates
## Risk Management

### Probability & Impact Matrix

<table>
<thead>
<tr>
<th>Probability</th>
<th>Risk Score = P x I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.05</td>
</tr>
<tr>
<td>0.9</td>
<td>0.045</td>
</tr>
<tr>
<td>0.7</td>
<td>0.035</td>
</tr>
<tr>
<td>0.5</td>
<td>0.025</td>
</tr>
<tr>
<td>0.3</td>
<td>0.015</td>
</tr>
<tr>
<td>0.1</td>
<td>0.005</td>
</tr>
</tbody>
</table>
11.4 Perform Quantitative Risk Analysis

- Analyzes the effect of those risk events that have been prioritized as potentially and substantially impacting the project’s competing demands, and assigns a numerical rating to those risks.

- Also presents a quantitative approach to making decisions in the presence of uncertainty.
Risk Management

11.4 Quantitative Risk Analysis

**Inputs**
1. Risk management plan
2. Cost management plan
4. Schedule management plan
5. Enterprise environmental factors
5. Organizational process assets

**Tools & Techniques**
1. Data gathering & representation techniques
2. Quantitative risk analysis & modeling techniques
3. Expert judgment

**Outputs**
1. Project documents updates
Risk Management

Data Modeling – Simulation

- Monte Carlo Simulations
  - Cost – Use WBS or similar breakdown
  - Schedule – Use PDM

Data Modeling – Sensitivity Analysis

- Determine the most potential impact.
- Impact of single element of uncertainty when all other elements are held at baseline.
Risk Management
Expected Monetary Value (EMV)

- Calculates the average outcome when future events are uncertain

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Cost</th>
<th>Probability</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimistic Outcome</td>
<td>$150,000</td>
<td>.20</td>
<td>$30,000</td>
</tr>
<tr>
<td>Likely Outcome</td>
<td>$225,000</td>
<td>.50</td>
<td>$112,500</td>
</tr>
<tr>
<td>Pessimistic Outcome</td>
<td>$300,000</td>
<td>.30</td>
<td>$90,000</td>
</tr>
</tbody>
</table>

$232,500
Risk Management

Decision Tree Analysis

Choice Event

Conservative Event

Aggressive Event

Chance Event

Outcome | EMV
---|---
$250K | $150K
-$100K | -$40K
-$45K | -$9K
$20K | $16K

Conservative EMV = $7,000
Aggressive EMV = $110,000
Risk Management

A. Cost of Choice
   - OTS
     - Well received
       - $72.5K
     - Rejected
       - $66K
   - Develop
     - Well received
       - $195K
     - Rejected
       - $128K
   - OTS or Develop
     - $250K
     - $350K
     - $300K
     - $150K
     - $410K

B. Probability & Outcome
   - 65% $550K
   - 35% $150K

C. Outcome Minus Cost
   - $300K

D. Probability

E. Final Outcomes
   - OTS
     - $72.5K
   - Develop
     - $66K

A. Cost of Choice
   - OTS
     - Well received
       - $72.5K
     - Rejected
       - $66K
   - Develop
     - Well received
       - $195K
     - Rejected
       - $128K
   - OTS or Develop
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     - $350K
     - $300K
     - $150K
     - $410K

B. Probability & Outcome
   - 65% $550K
   - 35% $150K

C. Outcome Minus Cost
   - $300K

D. Probability

E. Final Outcomes
   - OTS
     - $72.5K
   - Develop
     - $66K
Risk Management

11.5 Plan Risk Responses

- Developing options and determining actions to enhance opportunities and reduce threats to the project's objectives.

- Addresses the risks by their priority, inserting resources and activities into the budget, schedule, and project management plan, as needed.
Inputs
.1 Risk management plan
.2 Risk register

Tools & Techniques
.1 Strategies for negative risk or threats
.2 Strategies of positive risks or opportunities
.3 Contingent response strategy
.4 Expert judgment

Outputs
.1 Project management plan updates
.2 Project document updates
Risk Management
Response Strategies

<table>
<thead>
<tr>
<th>Threats</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid</td>
<td>Exploit</td>
</tr>
<tr>
<td>Transfer</td>
<td>Share</td>
</tr>
<tr>
<td>Mitigate</td>
<td>Enhance</td>
</tr>
<tr>
<td>Accept</td>
<td></td>
</tr>
</tbody>
</table>
Risk Management

Risk Register Updates

- Impacts to the project
- Owner
- Analysis data
- Selected strategy
- Action items
- Fallback plans

- Symptoms/warning signs (Triggers)
- Budget and schedule updates to be made
- Contingency requests, requirements, plans
Risk Management

11.6 Control Risks

- Identifying, analyzing, and planning for newly arising risks.
- Keeping track of identified risks and those on the watchlist.
- Monitoring trigger conditions for contingency plans.
- Reviewing the execution of risk responses while evaluating their effectiveness.
- Reanalyzing existing risks.
- Monitoring residual risks.
Risk Management
11.6 Control Risks

Inputs:
1. Project management plan
2. Risk register
3. Work performance data
4. Work performance reports

Tools & Techniques:
1. Risk reassessment
2. Risk audits
3. Variance & trend analysis
4. Technical performance measurement
5. Reserve analysis
6. Meetings

Outputs:
1. Work performance information
2. Change requests
3. Project management plan updates
4. Project document updates
5. Organizational process assets updates
Risk Management

Results of Risk Monitoring & Control

- Workarounds
- Contingency plans
- Residual risks – expected to remain
- Secondary risks – result of responses
- Contractual updates
Risk Management
Project Risk Management – Summary
- Six (6) processes
- Activities of Monitor & Control Risks
- Seven types of risk responses
- Risk register
- Definition of risk, positive and negative
- Solving & interpreting decision trees & EMV
Risk Management

Project Risk Management – Summary

- Delphi technique
- SWOT analysis
- Risk data quality assessment
- Sensitivity analysis
- Qualitative vs. Quantitative analysis
- Interpret quantitative probability and outcome data chart
Questions and Answers
Review Questions:

EMV Lab Quiz:

1. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $10,000 with a probability of 20%, a most likely case estimate of U.S. $12,000 with a probability of 50%, and a worst case estimate of U.S. $14,400 with a probability of 30% what is the EMV for the project?
   A. U.S. $12,320
   B. U.S. $12,400
   C. U.S. $13,010
   D. U.S. $13,260

2. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $15,000 with a probability of 30%, a most likely case estimate of U.S. $19,500 with a probability of 50%, and a worst case estimate of U.S. $26,325 with a probability of 20% what is the EMV for the project?
   A. U.S. $19,190
   B. U.S. $19,515
   C. U.S. $20,110
   D. U.S. $20,350

3. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $25,000 with a probability of 22%, a most likely case estimate of U.S. $31,250 with a probability of 53%, and a worst case estimate of U.S. $40,625 with a probability of 25% what is the EMV for the project?
   A. U.S. $30,190
   B. U.S. $31,560
   C. U.S. $32,219
   D. U.S. $33,350
4. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $50,000 with a probability of 25%, a most likely case estimate of U.S. $55,000 with a probability of 45%, and a worst case estimate of U.S. $68,750 with a probability of 30% what is the EMV for the project?
   A. U.S. $55,975
   B. U.S. $56,550
   C. U.S. $57,125
   D. U.S. $57,875

5. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $75,000 with a probability of 30%, a most likely case estimate of U.S. $86,250 with a probability of 40%, and a worst case estimate of U.S. $99,188 with a probability of 30% what is the EMV for the project?
   A. U.S. $86,756
   B. U.S. $87,247
   C. U.S. $87,691
   D. U.S. $88,121

6. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $30,000 with a probability of 24%, a most likely case estimate of U.S. $34,500 with a probability of 56%, and a worst case estimate of U.S. $45,540 with a probability of 20% what is the EMV for the project?
   A. U.S. $35,121
   B. U.S. $35,628
   C. U.S. $36,222
   D. U.S. $36,923

7. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $35,000 with a probability of 15%, a most likely case estimate of U.S. $40,250 with a probability of 60%, and a worst case estimate of U.S. $54,338 with a probability of 25% what is the EMV for the project?
   A. U.S. $41,652
   B. U.S. $42,111
   C. U.S. $42,984
   D. U.S. $43,596
8. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $20,000 with a probability of 10%, a most likely case estimate of U.S. $23,200 with a probability of 65%, and a worst case estimate of U.S. $32,480 with a probability of 25% what is the EMV for the project?
   A. U.S. $23,950
   B. U.S. $24,220
   C. U.S. $24,880
   D. U.S. $25,200

9. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $5,000 with a probability of 30%, a most likely case estimate of U.S. $5,900 with a probability of 45%, and a worst case estimate of U.S. $8,024 with a probability of 25% what is the EMV for the project?
   A. U.S. $6,161
   B. U.S. $6,437
   C. U.S. $6,918
   D. U.S. $7,020

10. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $7,500 with a probability of 20%, a most likely case estimate of U.S. $9,150 with a probability of 55%, and a worst case estimate of U.S. $11,529 with a probability of 25% what is the EMV for the project?
    A. U.S. $8,919
    B. U.S. $9,126
    C. U.S. $9,415
    D. U.S. $9,783

11. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $12,500 with a probability of 35%, a most likely case estimate of U.S. $15,500 with a probability of 55%, and a worst case estimate of U.S. $19,375 with a probability of 10% what is the EMV for the project?
    A. U.S. $14,117
    B. U.S. $14,838
    C. U.S. $15,236
    D. U.S. $15,911
12. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $17,500 with a probability of 36%, a most likely case estimate of U.S. $21,875 with a probability of 44%, and a worst case estimate of U.S. $25,375 with a probability of 20% what is the EMV for the project?
   A. U.S. $21,467
   B. U.S. $20,918
   C. U.S. $20,641
   D. U.S. $21,000

13. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $22,500 with a probability of 28%, a most likely case estimate of U.S. $25,875 with a probability of 42%, and a worst case estimate of U.S. $30,533 with a probability of 30% what is the EMV for the project?
   A. U.S. $26,327
   B. U.S. $26,914
   C. U.S. $27,456
   D. U.S. $28,011

14. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $3,250 with a probability of 18%, a most likely case estimate of U.S. $3,575 with a probability of 42%, and a worst case estimate of U.S. $4,433 with a probability of 40% what is the EMV for the project?
   A. U.S. $3,645
   B. U.S. $3,860
   C. U.S. $4,012
   D. U.S. $4,125

15. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $32,000 with a probability of 15%, a most likely case estimate of U.S. $34,560 with a probability of 55%, and a worst case estimate of U.S. $43,891 with a probability of 30% what is the EMV for the project?
   A. U.S. $35,798
   B. U.S. $36,152
   C. U.S. $36,975
   D. U.S. $37,513
16. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $80,000 with a probability of 20%, a most likely case estimate of U.S. $102,400 with a probability of 50%, and a worst case estimate of U.S. $123,904 with a probability of 30% what is the EMV for the project?
   A. U.S. $101,995
   B. U.S. $102,822
   C. U.S. $103,543
   D. U.S. $104,371

17. You have been asked to establish an estimated project cost using Expected Monetary Value (EMV). If the project has a best case estimate of U.S. $60,000 with a probability of 25%, a most likely case estimate of U.S. $70,200 with a probability of 65%, and a worst case estimate of U.S. $86,346 with a probability of 10% what is the EMV for the project?
   A. U.S. $69,265
   B. U.S. $67,240
   C. U.S. $70,613
   D. U.S. $68,687
Decision Tree Lab Quiz:

1. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $650,000 and B will cost U.S. $467,000. There is a 56% chance that project A will be successful, which will result in a gain of U.S. $1,800,000. If project A fails there will be a loss of U.S. $900,000. There is a 67% project B will be successful, and that will result in a U.S. $950,000 gain. If Project B fails there will be a loss of U.S. $670,000. Based on this information, what is the value of the best alternative?
   A. U.S. $-38,000
   B. U.S. $38,000
   C. U.S. $-51,600
   D. U.S. $51,600

2. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $54,000 and B will cost U.S. $90,000. There is a 54% chance that project A will be successful, which will result in a gain of U.S. $206,540. If project A fails there will be a loss of U.S. $90,500. There is a 61% project B will be successful, and that will result in a U.S. $269,000 gain. If Project B fails there will be a loss of U.S. $118,000. Based on this information, which project do you choose?
   A. A
   B. B
   C. The projects offer the same valuation
   D. There is not enough information to determine

3. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $300,000 and B will cost U.S. $255,000. There is a 67% chance that project A will be successful, which will result in a gain of U.S. $650,000. If project A fails there will be a loss of U.S. $310,000. There is a 58% project B will be successful, and that will result in a U.S. $650,000 gain. If Project B fails there will be a loss of U.S. $225,000. Based on this information, what is the value of the best alternative?
   A. U.S. $60,700
   B. U.S. $27,500
   C. U.S. $33,200
   D. U.S. $51,600
4. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $345,000 and B will cost U.S. $300,000. There is a 67% chance that project A will be successful, which will result in a gain of U.S. $789,000. If project A fails there will be a loss of U.S. $310,000. There is a 58% project B will be successful, and that will result in a U.S. $980,000 gain. If Project B fails there will be a loss of U.S. $289,000. Based on this information, which project do you choose?
   A. A  
   B. B  
   C. The projects offer the same valuation  
   D. There is not enough information to determine

5. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $288,000 and B will cost U.S. $225,500. There is a 61% chance that project A will be successful, which will result in a gain of U.S. $650,000. If project A fails there will be a loss of U.S. $287,000. There is a 57% project B will be successful, and that will result in a U.S. $560,000 gain. If Project B fails there will be a loss of U.S. $225,000. Based on this information, what is the value of the best alternative?
   A. U.S. $6,480  
   B. U.S. -$3,050  
   C. U.S. $3,200  
   D. U.S. -$3,430

6. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $750,000 and B will cost U.S. $594,000. There is a 68% chance that project A will be successful, which will result in a gain of U.S. $1,600,000. If project A fails there will be a loss of U.S. $978,000. There is a 63% project B will be successful, and that will result in a U.S. $1,400,000 gain. If Project B fails there will be a loss of U.S. $725,000. Based on this information, which project do you choose?
   A. A  
   B. B  
   C. The projects offer the same valuation  
   D. There is not enough information to determine
7. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $663,500 and B will cost U.S. $589,000. There is a 66% chance that project A will be successful, which will result in a gain of U.S. $1,399,000. If project A fails there will be a loss of U.S. $663,500. There is a 69% chance project B will be successful, and that will result in a U.S. $1,005,000 gain. If Project B fails there will be a loss of U.S. $225,000. Based on this information, what is the value of the best alternative?
   A. U.S. $34,250  
   B. U.S. $34,700  
   C. U.S. $68,950  
   D. U.S. $68,525

8. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $89,000 and B will cost U.S. $130,000. There is a 78% chance that project A will be successful, which will result in a gain of U.S. $284,000. If project A fails there will be a loss of U.S. $310,000. There is an 81% chance project B will be successful, and that will result in a U.S. $332,500 gain. If Project B fails there will be a loss of U.S. $361,900. Based on this information, which project do you choose?
   A. A  
   B. B  
   C. The projects offer the same valuation  
   D. There is not enough information to determine

9. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $79,250 and B will cost U.S. $75,500. There is a 71% chance that project A will be successful, which will result in a gain of U.S. $690,000. If project A fails there will be a loss of U.S. $309,500. There is a 75% chance project B will be successful, and that will result in a U.S. $570,500 gain. If Project B fails there will be a loss of U.S. $219,500. Based on this information, what is the value of the best alternative?
   A. U.S. $320,895  
   B. U.S. $618,395  
   C. U.S. $297,500  
   D. U.S. $648,716
10. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $300,000 and B will cost U.S. $255,000. There is a 67% chance that project A will be successful, which will result in a gain of U.S. $284,000. If project A fails there will be a loss of U.S. $310,000. If project B is successful it will result in a U.S. $332,500 gain. If Project B fails there will be a loss of U.S. $361,900. Based on this information, which project do you choose?

A. A  
B. B  
C. The projects offer the same valuation  
D. There is not enough information to determine

11. You are asked to choose between two projects A or B based on the highest gain (or the lowest loss). A will cost U.S. $40,000 and B will cost U.S. $55,000. There is a 59% chance that project A will be successful, which will result in a gain of U.S. $151,000. If project A fails there will be a loss of U.S. $94,000. There is a 55% project B will be successful, and that will result in a U.S. $168,500 gain. If Project B fails there will be a loss of U.S. $72,500. Based on this information, what is the value of the best alternative?

A. U.S. $5,500  
B. U.S. $15,600  
C. U.S. $10,550  
D. U.S. $21,525
Review Quiz:

1. Which of the following is not a process found in the risk management knowledge area?
   A. Develop risk management plan
   B. Identify risks
   C. Perform quantitative risk analysis
   D. Plan risk responses

2. Which of the following is a process found in the risk management knowledge area?
   A. Plan risk management
   B. Identify risks
   C. Plan risk responses
   D. All of the above are processes found in the risk management knowledge area

3. Which of the following is not an input to the plan risk management process?
   A. Stakeholder register
   B. Activity cost estimates
   C. Project charter
   D. Enterprise environmental factors

4. Which of the following is an input to the plan risk management process?
   A. Quality management plan
   B. Project documents
   C. Communications management plan
   D. Project management plan

5. Which of the following is a tool or technique used in the plan risk management process?
   A. Analytical techniques
   B. Information gathering technique
   C. Assumption analysis
   D. Documentation review
6. Which of the following is an output to the plan risk management process?
   A. Risk register
   B. Risk management plan
   C. Change requests
   D. Project document updates

7. Which of the following is not an input to the identify risks process?
   A. Risk management plan
   B. Activity cost estimates
   C. Project scope statement
   D. Cost management plan

8. Which of the following is not an input to the identify risks process?
   A. Scope baseline
   B. Human resource management plan
   C. Schedule management plan
   D. Risk register

9. Which of the following is not an input to the identify risks process?
   A. Work performance information
   B. Activity cost estimates
   C. Activity duration estimates
   D. Procurement documents

10. Which of the following is an input to the identify risks process?
    A. Cost management plan
    B. SWOT analysis
    C. Risk related contracts
    D. Technical performance measurements

11. Which of the following is not a tool or technique used in the identify risks process?
    A. Documentation review
    B. Risk categorization
    C. Information gathering techniques
    D. Checklist analysis
12. Which of the following is not a tool or technique used in the identify risks process?
   A. Information gathering techniques
   B. Checklist analysis
   C. Risk urgency analysis
   D. SWOT analysis

13. Which of the following is not a tool or technique used in the identify risks process?
   A. SWOT analysis
   B. Expert judgment
   C. Risk assessment
   D. Checklist analysis

14. Which of the following is a tool or technique used in the identify risks process?
   A. SWOT analysis
   B. Risk assessment
   C. Risk urgency assessment
   D. Risk categorization

15. Which of the following is an output from the identify risks process?
   A. Organizational process assets updates
   B. Project management plan updates
   C. Risk register
   D. Project document updates

16. Which of the following is not an input to the perform qualitative risk analysis process?
   A. Risk register
   B. Organizational process assets
   C. Risk management plan
   D. WBS

17. Which of the following is not an input to the perform qualitative risk analysis process?
   A. Enterprise environmental factors
   B. Scope baseline
   C. Project scope statement
   D. Risk management plan
18. Which of the following is an input to the perform qualitative risk analysis process?
   A. Scope baseline    
   B. Project scope statement  
   C. Cost management plan    
   D. Schedule management plan

19. Which of the following is not a tool or technique used in the perform qualitative risk analysis process?
   A. Risk data quality assessment  
   B. Risk urgency assessment 
   C. Assumption analysis    
   D. Probability and impact matrix

20. Which of the following is not a tool or technique used in the perform qualitative risk analysis process?
   A. Project documents    
   B. Risk categorization  
   C. Risk urgency assessment    
   D. Expert judgment

21. Which of the following is a tool or technique used in the perform qualitative risk analysis process?
   A. Risk response analysis 
   B. SWOT analysis    
   C. Empirical data analysis   
   D. Risk categorization

22. Which of the following is an output from the perform qualitative risk analysis process?
   A. Project document update   
   B. Organizational process asset updates    
   C. Project document updates   
   D. Project management plan updates

23. Which of the following is not an input to the perform quantitative risk analysis process?
   A. Risk management plan  
   B. Cost management plan    
   C. Quality management plan    
   D. Schedule management plan
24. Which of the following is not an input to the perform quantitative risk analysis process?
   A. Scope baseline
   B. Enterprise environmental factors
   C. Schedule management plan
   D. Risk register

25. Which of the following is an input to the perform quantitative risk analysis process?
   A. Human resource management plan
   B. Scope management plan
   C. Quality management plan
   D. Organizational process assets

26. Which of the following is not a tool or technique used in the perform quantitative risk analysis process?
   A. SWOT analysis
   B. Data gathering and representation techniques
   C. Quantitative risk analysis and modeling techniques
   D. Expert judgment

27. Which of the following is a tool or technique used in the perform quantitative risk analysis process?
   A. Data gathering and representation techniques
   B. Empirical data analysis
   C. Qualitative risk analysis and modeling techniques
   D. All of the above are tools and techniques used in the perform quantitative risk analysis

28. Which of the following is an output to the perform quantitative risk analysis process?
   A. Project document updates
   B. Risk register updates
   C. Project management plan updates
   D. Risk management plan updates
29. Which of the following is not an input to the plan risk responses process?
   A. Schedule management plan
   B. Risk register
   C. Risk management plan
   D. All of the above are inputs to the plan risk responses process

30. Which of the following is not an input to the plan risk responses process?
   A. Risk management plan
   B. Cost management plan
   C. Risk register
   D. All of the above are inputs to the plan risk responses process

31. Which of the following is an input to the plan risk responses process?
   A. Risk strategies
   B. Risk response plan
   C. Risk register
   D. Project management plan

32. Which of the following is a tool or technique used in the plan risk response process?
   A. Risk response analysis
   B. Risk response planning
   C. Contingent response strategies
   D. Strategic risk response planning

33. Which of the following is not a tool or technique used in the plan risk response process?
   A. Strategies for negative risks or threats
   B. Strategies for positive risks or opportunities
   C. Expert judgment
   D. Contingency reserve analysis

34. Which of the following is an output to the plan risk responses process?
   A. Risk management plan updates
   B. Project document updates
   C. Risk register updates
   D. Risk-related contract decisions
35. Which of the following is an input to the control risks process
   A. Organizational process assets updates
   B. Change requests
   C. Risk register
   D. Project document updates

36. Which of the following is not an input to the control risks process?
   A. Risk register
   B. Project management plan
   C. Enterprise environmental factors
   D. Work performance data

37. Which of the following is an input to the control risk process?
   A. Organizational process assets
   B. Approved change requests
   C. Project management plan
   D. Project documents

38. Which of the following is not a tool or technique used in the control risks process?
   A. Risk reassessments
   B. Variance and trend analysis
   C. Reserve analysis
   D. Change request analysis

39. Which of the following is not a tool or technique to the control risks process?
   A. Risk urgency assessment
   B. Risk audits
   C. Meetings
   D. Technical performance measurement

40. Which of the following is a tool or technique used in the control risks process?
   A. Risk urgency assessments
   B. Meetings
   C. Expert judgment
   D. SWOT analysis
41. Which of the following is a tool or technique used in the control risks process?
   A. Diagramming techniques
   B. Checklist analysis
   C. Technical performance measurement
   D. Assumption analysis

42. Which of the following is a tool or technique used in the control risks process?
   A. Data gathering and representation techniques
   B. Variance and trend analysis
   C. Risk data quality assessment
   D. Planning meetings and analysis

43. Which of the following is not an output of the control risks process?
   A. Work performance information
   B. Change requests
   C. Risk management plan updates
   D. Project document updates

44. Which of the following is not an output of the control risks process?
   A. Organizational process asset updates
   B. Project management plan updates
   C. Project document updates
   D. Risk probability and impact assessment updates

45. Which of the following is an output from the control risk category?
   A. Project document updates
   B. Risk probability and impact assessment updates
   C. Risk management plan updates
   D. Communications management plan updates

46. In which of the following processes do the project manager and project team identify project risks?
   A. Plan risk management and identify risks
   B. Identify, monitor and control risks
   C. Identify risks
   D. Identify risks and perform qualitative risk analysis
47. You are acting as the portfolio manager and must select a project to execute from a pool of three choices. Each of the choices has an expected payout of $20,000 and an equal 75% chance of succeeding. In this situation what does $15,000 represent?
   A. Net present value  
   B. Risk value  
   C. Expected monetary value  
   D. It cannot be determined with the provided information

48. You are leading a large complex project within your organization that is forecast to continue for ten more months. The project has an 18% chance of being impacted in a given month by a particular risk. What is the probability that the project will be impacted by the risk in the 3rd month?
   A. 18%  
   B. 36%  
   C. 54%  
   D. 72%

49. Which of the following risk events is most likely to interfere with attaining a project’s schedule target?
   A. Dramatic increases in material costs  
   B. Delays in obtaining required sponsor approvals  
   C. Contract disputes over increased costs  
   D. Date slippages on planned post-implementation review meetings

50. You have been asked to select one of four projects for your organization to execute. The organization is very risk adverse. If you assume the ends of a range of estimates are +/- 3 sigma from the mean, which of the following range estimates involves the least risk?
   A. Mean of 33 days  
   B. 40 days plus or minus 8 days  
   C. 32 - 46 days  
   D. Optimistic = 33 days, most likely 40 days, pessimistic 46 days
51. You are leading a high technology product development project that was originally scheduled to take 18 months. The project has faced significant problems and has had to use all its reserves. You currently have an SPI of 0.68 and a CPI of 0.73. There are only six deliverables left and three of them are on the critical path. The project sponsor has just told you that you only have four weeks to finish the project or risk losing all funding and support. This is three weeks faster than your current ETC. In response, you send out a RFP to four vendors for some of the work that the internal team was going to perform hoping an external organization could get the work done faster. This can best be described as an effort on the part of the project manager to work with:
   A. Contingencies
   B. Threats
   C. Opportunities
   D. Reserves

52. Which of the following is a primary characteristic of the Delphi Technique?
   A. Expert opinion
   B. Simulation modeling in a hierarchical process
   C. Use of heuristic analysis
   D. Extrapolation from historical documents

53. You are leading a large IT project that is nearing completion. Your sponsor requests a change to the project that would increase the project risk. What should you do first?
   A. Update the risk register
   B. Gain an understanding of why the sponsor wants the change
   C. Analyze the impacts of making the change with the project team
   D. Calculated the EMV of the risk and create a new cost estimate

54. You are leading a research and development project. You are in the executing process group when one of your senior resources identifies a risk that is not listed in the risk register. What should you do?
   A. Determine how the team member identified the risk
   B. Analyze the risk
   C. Inform the sponsor and key stakeholders of the risk
   D. Place the risk in the risk register
55. Which of the following best describes a heuristic?
   A. An advanced statistical calculation used to model risks
   B. A simulation used to model risk
   C. A rule of thumb
   D. A calculation used to produce a weighted measure of risk

56. Monte Carlo analysis is used to:
   A. Get an indication of the risk involved in a project
   B. Simulate the order in which activities occur
   C. Estimate an activity's length
   D. Measure project risk level

57. You are leading an engineering project with a large number of external dependencies. Your project sponsor has asked you to identify the project risks and provide a qualitative analysis as soon as possible. What should you provide?
   A. The risk management plan
   B. The contingency reserve report
   C. A listing of the projected risk schedule and cost impacts
   D. A prioritized list of project risks

58. You are working with your team to complete the risk response plan. However, every time the team develops a risk response, another risk is identified as being caused by the suggested response. Which of the following is the best thing for the project manager to do?
   A. Return to the identify risks process as something is amiss
   B. Document the new risks and continue the plan risk responses process
   C. Return to the define scope process to determine what is missing
   D. Get more stakeholders involved in the identify risks process as so many were missed

59. From which of the following processes would you expect to generate a watchlist?
   A. Plan risk management
   B. Identify risks
   C. Perform qualitative risk analysis
   D. Plan risk responses
60. You are leading an engineering project and are completing the identify risk process. You and your team have made a list of all the risks identified by various stakeholders using several methods. You then made sure all the risks were understood and triggers were identified. You just completed working with your stakeholders to determine ways to mitigate each of the risks. What have you done wrong?

A. You should have waited until the perform qualitative risk analysis process to get the stakeholders involved
B. More people should be involve in the plan risk responses
C. You should have created workarounds
D. Triggers are not identified until the identify risks process

61. Which of the following must be an agenda item at all team meetings?

A. Review of project issues
B. Identification of new assignments
C. Status of all activities
D. Discussion of project risks


**Answer Key:**

**EMV Lab Quiz Answers:**

1. A  
   To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

2. B  
   To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

3. C  
   To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

4. D  
   To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

5. A  
   To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.
6. B
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

7. C
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

8. D
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

9. A
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

10. C
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.
11. B
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

12. D
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

13. A
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

14. B
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

15. C
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.
16. D
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.

17. A
To get the correct answer you must first realize you are dealing with three mutually exclusive options. You cannot simultaneously have the best and worst case scenarios. Therefore, your probabilities must sum to 100%. Use the calculation probability * result for each case and then add the results together to get the EMV.
Decision Tree Lab Quiz Answers:

1. A
   To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.

2. B
   To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.

3. C
   To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.

4. B
   To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.

5. B
   To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.

6. A
   To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.
7. B
To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.

8. B
To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.

9. A
To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.

10. D
To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.

11. C
To answer this question you must calculate the expected monetary value of each choice using the decision tree model found in your LGd training guide and then compare the options. Whichever option has the greatest value is the one you should choose.
Review Quiz Answers:

1. A
   PMBOK Guide - The processes found in the risk management knowledge area include:
   - Plan risk management
   - Identify risks
   - Perform qualitative risk analysis
   - Perform quantitative risk analysis
   - Plan risk responses
   - Control risks

2. D
   PMBOK Guide - The processes found in the risk management knowledge area include:
   - Plan risk management
   - Identify risks
   - Perform qualitative risk analysis
   - Perform quantitative risk analysis
   - Plan risk responses
   - Control risks

3. B
   PMBOK Guide - The inputs to the plan risk management process include:
   - Project management plan
   - Project charter
   - Stakeholder register
   - Enterprise environmental factors
   - Organizational process assets

4. D
   PMBOK Guide - The inputs to the plan risk management process include:
   - Project management plan
   - Project charter
   - Stakeholder register
   - Enterprise environmental factors
   - Organizational process assets
5. A
PMBOK Guide - The tools and techniques used in the plan risk management process are:
- Analytical techniques
- Expert judgment
- Meetings

6. B
PMBOK Guide - The only output from the plan risk management process is the risk management plan.

7. C
PMBOK Guide - The inputs to the identify risks process includes:
- Risk management plan
- Cost management plan
- Schedule management plan
- Quality management plan
- Human resource management plan
- Scope baseline
- Activity cost estimates
- Activity duration estimates
- Stakeholder register
- Project documents
- Procurement documents
- Enterprise environmental factors
- Organizational process assets
8. **D**

PMBOK Guide - The inputs to the identify risks process includes:
- Risk management plan
- Cost management plan
- Schedule management plan
- Quality management plan
- Human resource management plan
- Scope baseline
- Activity cost estimates
- Activity duration estimates
- Stakeholder register
- Project documents
- Procurement documents
- Enterprise environmental factors
- Organizational process assets

9. **A**

PMBOK Guide - The inputs to the identify risks process includes:
- Risk management plan
- Cost management plan
- Schedule management plan
- Quality management plan
- Human resource management plan
- Scope baseline
- Activity cost estimates
- Activity duration estimates
- Stakeholder register
- Project documents
- Procurement documents
- Enterprise environmental factors
- Organizational process assets
10.A
PMBOK Guide - The inputs to the identify risks process includes:
- Risk management plan
- Cost management plan
- Schedule management plan
- Quality management plan
- Human resource management plan
- Scope baseline-Activity cost estimates
- Activity duration estimates
- Stakeholder register
- Project documents
- Procurement documents
- Enterprise environmental factors
- Organizational process assets

11.B
PMBOK Guide - The tools and techniques of the identify risks process include:
- Documentation review
- Information gathering techniques
- Checklist analysis
- Assumption analysis
- Diagramming techniques
- SWOT analysis
- Expert judgment

12.C
PMBOK Guide - The tools and techniques of the identify risks process include:
- Documentation review
- Information gathering techniques
- Checklist analysis
- Assumption analysis
- Diagramming techniques
- SWOT analysis
- Expert judgment
13. C
PMBOK Guide - The tools and techniques of the identify risks process include:
- Documentation review
- Information gathering techniques
- Checklist analysis
- Assumption analysis
- Diagramming techniques
- SWOT analysis
- Expert judgment

14. A
PMBOK Guide - The tools and techniques of the identify risks process include:
- Documentation review
- Information gathering techniques
- Checklist analysis
- Assumption analysis
- Diagramming techniques
- SWOT analysis
- Expert judgment

15. C
PMBOK Guide - The output from the identify risks process is the risk register.

16. D
PMBOK Guide - The inputs to the perform qualitative risk analysis process include:
- Risk management plan
- Scope baseline
- Risk register
- Enterprise environmental factors
- Organizational process assets

17. C
PMBOK Guide - The inputs to the perform qualitative risk analysis process include:
- Risk management plan
- Scope baseline
- Risk register
- Enterprise environmental factors
- Organizational process assets
18. A
PMBOK Guide - The inputs to the perform qualitative risk analysis process include:
- Risk management plan
- Scope baseline
- Risk register
- Enterprise environmental factors
- Organizational process assets

19. C
PMBOK Guide - The tools and techniques used in the perform qualitative risk analysis include:
- Risk probability and impact assessment
- Probability and impact matrix
- Risk data quality assessment
- Risk categorization
- Risk urgency assessment
- Expert judgment

20. A
PMBOK Guide - The tools and techniques used in the perform qualitative risk analysis include:
- Risk probability and impact assessment
- Probability and impact matrix
- Risk data quality assessment
- Risk categorization
- Risk urgency assessment
- Expert judgment

21. D
PMBOK Guide - The tools and techniques used in the perform qualitative risk analysis include:
- Risk probability and impact assessment
- Probability and impact matrix
- Risk data quality assessment
- Risk categorization
- Risk urgency assessment
- Expert judgment
22. C
PMBOK Guide - The output from the perform qualitative risk analysis process are project document updates.

23. C
PMBOK Guide - The inputs to the perform quantitative risk analysis process include:
- Risk management plan
- Cost management plan
- Schedule management plan
- Risk register
- Enterprise environmental factors
- Organizational process assets

24. A
PMBOK - The inputs to the perform quantitative risk analysis process include:
- Risk management plan
- Cost management plan
- Schedule management plan
- Risk register
- Enterprise environmental factors
- Organizational process assets

25. D
PMBOK Guide - The inputs to the perform quantitative risk analysis process include:
- Risk management plan
- Cost management plan
- Schedule management plan
- Risk register
- Enterprise environmental factors

26. A
PMBOK Guide - The tools and techniques used in the perform quantitative risk analysis process include:
- Data gathering and representation techniques
- Quantitative risk analysis and modeling techniques
- Expert judgment
27. A
PMBOK Guide - The tools and techniques used in the perform quantitative risk analysis process include:
- Data gathering and representation techniques
- Quantitative risk analysis and modeling techniques
- Expert judgment

28. A
PMBOK Guide - The output to the perform quantitative risk analysis process are project document updates.

29. A
PMBOK Guide - The inputs to the plan risk responses process include:
- Risk management plan
- Risk register

30. B
PMBOK Guide - The inputs to the plan risk responses process include:
- Risk management plan
- Risk register

31. C
PMBOK Guide - The inputs to the plan risk responses process include:
- Risk management plan
- Risk register

32. C
PMBOK Guide - The tools and techniques used in the plan risk response process include:
- Strategies for negative risks or threats
- Strategies for positive risks or opportunities
- Contingent response strategies
- Expert judgment

33. D
PMBOK Guide - The tools and techniques used in the plan risk response process include:
- Strategies for negative risks or threats
- Strategies for positive risks or opportunities
34. B
PMBOK Guide - The outputs to the plan risk responses process include:
- Project management plan updates
- Project document updates

35. C
PMBOK Guide - The inputs to the control risks process include:
- Project Management Plan
- Risk Register
- Work performance data
- Work performance reports

36. C
PMBOK Guide - The inputs to the control risks process include:
- Project Management Plan
- Risk Register
- Work performance data
- Work performance reports

37. C
PMBOK Guide - The inputs to the control risks process include:
- Project Management Plan
- Risk Register
- Work performance data
- Work performance reports

38. D
PMBOK Guide - The tools and techniques used in the control risks include:
- Risk reassessment
- Risk audits
- Variance and trend analysis
- Technical performance measurement
- Reserve analysis
- Meetings
39.A
PMBOK Guide - The tools and techniques used in the control risks include:
- Risk reassessment
- Risk audits
- Variance and trend analysis
- Technical performance measurement
- Reserve analysis
- Meetings

40.B
PMBOK Guide - The tools and techniques used in the control risks include:
- Risk reassessment
- Risk audits
- Variance and trend analysis
- Technical performance measurement
- Reserve analysis
- Meetings

41.C
PMBOK Guide - The tools and techniques used in the control risks include:
- Risk reassessment
- Risk audits
- Variance and trend analysis
- Technical performance measurement
- Reserve analysis
- Meetings

42.B
PMBOK Guide - The tools and techniques used in the control risks include:
- Risk reassessment
- Risk audits
- Variance and trend analysis
- Technical performance measurement
- Reserve analysis
- Meetings
43. C
PMBOK Guide - The outputs to the control risks process include:
- Work performance information
- Change requests
- Project management plan updates
- Project document updates
- Organizational process assets updates

44. D
PMBOK Guide - The outputs to the control risks process include:
- Work performance information
- Change requests
- Project management plan updates
- Project document updates
- Organizational process assets updates

45. A
PMBOK Guide - The outputs to the monitor and control risks process include:
- Work performance information
- Change requests
- Project management plan updates
- Project document updates
- Organizational process assets updates

46. C
PMBOK Guide - Identify risks is the process where risks are identified. Hopefully, this was an easy one.

47. C
The expected monetary value is calculated by multiplying the probability times the impact of any event.

48. A
Many people miss this question. Remember, each month in the scenario is independent. So if the probability is 18% in one month and the probability is equal it is 18% in all months.
49. B
Only delays in obtaining sponsor approvals are guaranteed to cause delays. The other alternatives might cause a delay (except the post-implementation review meeting).

50. D
This question is actually much easier than it first appears. Because we are assuming a range of estimates that is +/- 3 sigma, meaning it is a normal distribution all you have to do is determine which range estimate has the smallest difference or variance. The 3 point estimate has a range of 13, the 32-46 days is a range of 14, and 40 +/- 8 days is 16.

51. C
This is a bad situation, but that does not impact the answer. Only the last three sentences matter. You are trying to gain an opportunity to do the project more quickly.

52. A
The Delphi Technique is a process where you survey your subject matter expert, aggregate their responses, and then feedback the aggregation for confirmation.

53. C
According to PMI, the first thing you must do in any situation is understand the impacts. Only then can you devise the correct response.

54. B
The first thing you always do is analyze the risk. Only then can you determine what should be done next.

55. C
A heuristic is simply a rule of thumb. There is no calculating involved.

56. A
Several of these answers are partially correct. Monte Carlo analysis could help you know that an activity needs to change, but not what the estimate should be. Monte Carlo analysis is a simulation tool, but it typically is used to simulate time or cost and not ordering of the activities. It can also be used to measure the probabilities of risk or the likelihood of being on the critical path. However, the best answer is getting an overall analysis of the project risk.
57. D 
You were asked to provide a qualitative analysis. The primary output of a qualitative analysis is a prioritized listing of the project risks.

58. B 
Don't get misled by the fact that the process generated so many new risks. The key is that you follow your process. In this case it is working as it should. You should expect the identify risk responses process to generate new risks.

59. C 
A watchlist is made up of low priority risks that, in the perform qualitative risk analysis process, were determined to be too low priority or low impact to move further in the risk process.

60. B 
Stakeholders are involved in the identify risks process. Workarounds are created later in the risk process. Plan risk responses must include the involvement of all risk response owners. This makes involving more people the best answer.

61. D 
According to PMI, risks are a critical area that impacts all other areas of project management. It is so important it should be discussed at every meeting.