

1. **A team of engineers is working to improve a process to reduce the variation over time. What tool can be used to measure the variation over time to determine if specific changes have been effective in reducing variation?**
  - Histogram
  - Scatter Plot
  - Control Chart
  - Pareto Chart
  
2. **You've been tasked with improving a process, and you've identified that each individual who executes your process does it slightly different, and this person-to-person variation is resulting in poor yield downstream. You're in the process of creating standard work to reduce the person-to-person variation. Which phase of the DMAIC process are you in?**
  - Measure
  - Analyze
  - Improve
  - Control
  
3. **A group of engineers have conducted a survey of customers and received a large quantity of feedback regarding their product. What quality tool will best help them organize and analyze this feedback?**
  - Matrix Diagram
  - Tree Diagram
  - Interrelationship Digraph
  - Affinity Diagram
  
4. **Which lean tool is often first used in a lean transformation?**
  - Value Stream Mapping (VSM)
  - Standard Work
  - 5S
  - Kanban
  
5. **A team of Reliability Engineers is testing a purchased component for its MTBF. The vendor indicates that the failure distribution is exponentially distributed. Which tool can be used to confirm this assumption?**
  - Pareto Chart
  - Control Chart
  - Scatter Plot
  - Histogram

- 6. You're analyzing a complex process and want to communicate the relationship between the multiple factors associated with your process and your products functional requirements. Which tool is most appropriate to communicate this relationship?**
- Fishbone Diagram
  - Matrix Diagram
  - Process Decision Program Chart
  - Prioritization Matrix
- 7. Identify an activity below that is considered preventative in nature.**
- Finished Goods Sampling Inspection
  - Material Review Board
  - Pareto Analysis of In-Process Rejects
  - Supplier Evaluation & Selection
- 8. You're working through the 8Ms of the cause-and-effect diagram and you're discussing how the environment might have caused or contributed to your problem, which category of the 8Ms are you in?**
- Method
  - Materials
  - Mother Nature
  - Machine
- 9. Lean manufacturing was matured and popularized by which company?**
- GE
  - Motorola
  - Ford
  - Toyota
- 10. You're implementing a corrective action that has been communicated to your regulatory agency with a due date that cannot be missed. What tool can be used to analyze your implementation strategy to minimize delays?**
- Process Decision Program Chart
  - Activity Network Diagram
  - Pareto Chart
  - Affinity Diagram
- 11. You're leading a team of engineers who have been tasked to increase the capacity of a process. You've measured the cycle time of each step in the process to identify the bottleneck. You've attempted to use kaizen activities to increase the output of the bottleneck, and now you're considering adding equipment to increase output. Which continuous improvement technique is being used?**
- Kaizen Blitz
  - Theory of Constraints
  - PDCA
  - Six Sigma

**12. A manufacturer has just launched a brand-new product and complaints have been received for a short lifespan of the new product. A team of engineers have been assembled for root cause analysis. Which tool could be used to identify potential root causes that might be contributing to this problem?**

- Check Sheet
- Cause & Effect Diagram
- Flow Chart
- Scatter Plot

**13. You're working as part of a team, and you've brainstormed a ton of ideas surrounding a problem. Which tool could be used to analyze the cause-and-effect relationships between these ideas?**

- Scatter Diagram
- Affinity Diagram
- Interrelationship Diagram
- Matrix Diagram

**14. A paint company is designing a new formula for a new line of paint that has a 12-hour dry time. They designed this new brand of paint such that the 12-hour dry time is not affected by differences in humidity, temperature or other environmental factors. This new paint is an example of:**

- Design for Six Sigma
- Design for Assembly
- Robust Design
- Poke-Yoke

**15. You're working to implement a complex corrective action that will involve multiple interrelated activities across various departments, and you've been asked to create a project plan and determine the critical path of the project. Which tool is most appropriate to accomplish this task?**

- Flow Chart
- Tree Diagram
- Interrelationship Digraph
- Activity Network Diagram

**16. A manufacturer wants to reduce in process scrap by nearly 30%. The team agrees the first step in the improvement process is to collect data to determine the categories of scrap occurring within the process. Which tool can be used to collect data?**

- Pareto Chart
- Flow Chart
- Cause & Effect Diagram
- Check Sheet

*Completion! (Congrats)*

Finish Time: \_\_\_\_\_