Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 70%. We keep your highest score.

Next Item

1. Which of the following is **not** one of Harry's original six sigma methodology phases? 1 / 1 point

- Improve
- Control
- Define ✓
- Measure

Correct
Correct! Harry's initial process included Measure, Analyze, Improve and Control. Define was added later.

2. Six Sigma project benefits include: 1 / 1 point

- No change in profit
- Improved process capability ✓
- Increased setup time
- Increased rework

Correct
Correct: Some project benefits can be expressed in dollars. This is ideal. Some examples include increased sales, increased profits, reduced defects, reduced scrap, lowered warranty claims, improved process capability, increased up time, reduced spare part inventories, fewer customer cancellations or returned products. Other project benefits are worthwhile but harder to quantify such as employee morale, increased skill levels, lower employee turnover, increased customer satisfaction, more aesthetically appealing product, enhanced organizational reputation. Increased set up time, no change in profit and increased rework would not be considered a project benefit.

3. Why has six sigma been embraced and sustained by so many organizations? 1 / 1 point

I.	End results are enhanced
II.	+/- 1.5 sigma shift between short term and long term variation
III.	Use of a disciplined approach
IV.	Sound statistical principals are involved

- I, III, and IV only ✓
- I, II and IV only
- I, II, and III only
- II, III, and IV only

Correct
Correct: II can be eliminated. The +/- 1.5 sigma shift is a consequence of process variation and must accounted for in process improvement measures. It is hardly justification for embracing six sigma. I, III, IV are far more relevant.

4. At the end of a lean six sigma project, who should be the primary beneficiary of the project results? 1 / 1 point

- Top Management
- Customer ✓
- Sponsors
- Employees

Correct
All of the choices are considered stakeholders and are impacted by the lean six sigma project. The customer; however, is the reason we choose to drive down variation and reduce waste. The customer is the answer

5. One of Dr. Deming's 14 points states "Cease dependence upon inspection as a way to achieve quality." What is the meaning of this statement? 1 / 1 point

- The product should be designed well enough so that quality is evident and there is no need to inspect quality in. ✓
- Inspection operations are not as robust as we need and typically miss 10-20% of defects
- Operators should be required to inspect their product to eliminate the need for inspection
- The cost of an inspector is overhead and adds too much cost to the problem

Correct
Correct: This answer explains the statement best. If a product is designed well enough, there is no need for inspection. We only inspect for things that can fail. Not for things that cannot fail. Inspecting quality into a product is ineffective and costly.

6. Defect levels, as reported by Motorola in their six sigma program, are higher than one might expect from use of a standard normal table or traditional capability calculations. Why is this true? 1 / 1 point

- Motorola found their processes followed the exponential distribution
- Motorola allowed for 1.5 sigma shift in the mean ✓
- Motorola found that six sigma efforts increased process variation
- Motorola allowed for failure on one tail only

Correct
Correct: The central limit theorem tells us that all processes will follow a normal behavior for a high enough data set. The normal curve is symmetrical, therefore a two tail scenario is the only applicable. Six Sigma efforts will not increase process variation. The 1.5 sigma shift is the only plausible explanation.

7. The prime objective associated with lean is: 1 / 1 point

- Producing more efficiently
- Eliminating Waste ✓
- Reducing Takt time
- Improving quality

Correct
Correct: All answers are definitely important to any production operation. Outcomes from lean can include any of these choices; however, the underlying tenet of lean is to eliminate any of the eight wastes.

8. Using the DMAIC approach to six sigma improvement, at what step would the root cause of the determined and validated? 1 / 1 point

- Define
- Control
- Analyze ✓
- Measure

Correct
Correct: According the slide presentation, this would be in the Analyze phase

9. Which of the following would be considered a strategic quality goal? 1 / 1 point

- Commitment to the customer ✓
- Training 10 green belts in statistical techniques this year
- Improved performance inspection checks on the product testing area
- Reducing the scrap rate in the painting department by 2%

Correct
Correct: Strategic goals tend to be more broad in scope. Tactical goals are more detailed. Reducing the scrap rate, improved performance inspection checks, and training 10 green belts in statistical techniques are tactical and a is strategic.

10. Increasing performance in a six sigma corporation from 4 sigma to 5 sigma would reduce defects per million by a factor of _____. 1 / 1 point

- 4
- 287
- 1
- 27 ✓

Correct
Correct: 4 sigma produces a PPM of 6210. 5 sigma produces a 233 ppm. 6210/233 = 27