

Lean Six Sigma Orange Belt Sample Questions

Study: Lean Six Sigma – Orange Belt

Multiple Choice Instructions:

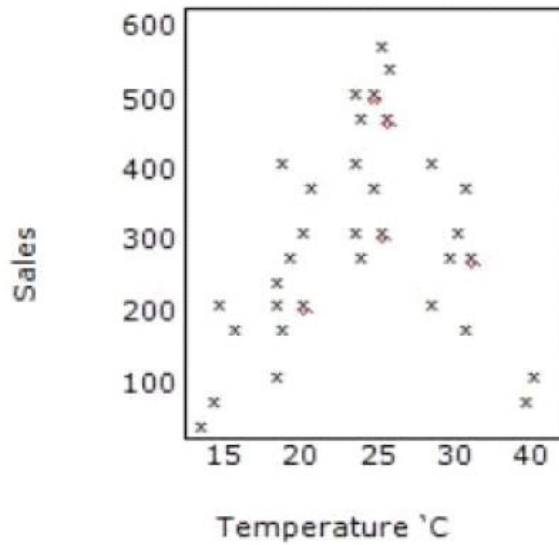
1. This exam consists of 10 multiple choice questions.
2. All answers need to be filled in the provided answer sheet.
3. All questions are equally weighted.
4. There is only one correct answer each question.
5. It is a open book exam.
6. You need to have at least 7 correct answers to pass this exam.
7. You have 20 minutes for this exam.

Candidate name: _____

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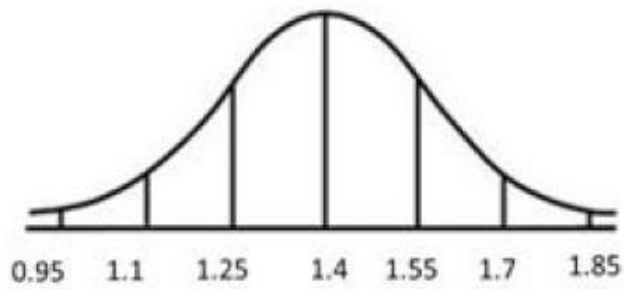
- 1 What measure is used to evaluate the utilization of a manufacturing operation in terms of availability, performance and quality?
- a. Takt Time
 - b. Overall Equipment Effectiveness
 - c. Cycle Time
 - d. Process Capability Analysis
- 2 Quality control issued a 'non-conformance' due to an incorrect bolt pattern (34 holes drilled instead of 36). The causes were a combination of engineering oversight and a lack of quality checking by the machinist.
- What should be documented in the problem statement when attempting to resolve this issue?
- a. A procedure to ensure that 36 holes are drilled every time according to the design
 - b. The problem would not occur if a template was used to ensure all holes are drilled
 - c. An issue in the quality control procedure needs to be addressed on the shop floor
 - d. The error occurred during the last part of the shift when the operator was rushing
- 3 Which of the following represents a good measurement system?
- 1. Process being measured is stable
 - 2. Measuring instrument is regularly calibrated
 - 3. Minimal variation caused by different people measuring
 - 4. Measurement procedure is clear and used
- a. 1, 2, 3
 - b. 1, 2, 4
 - c. 1, 3, 4
 - d. 2, 3, 4

4 Regression Analysis is carried out on the sales of a product in relation to temperature.



Which observations can be determined about the relationship between these two factors?

- a. There is no direct linear correlation between sales and temperature
 - b. An increase in temperature has a strong positive correlation to an increase in sales
 - c. An increase in temperature causes only a decrease in sales
 - d. There is both a high positive correlation and low negative correlation between the factors
- 5 Which describes a 'systematic' approach to collecting a representative sample of population data?
- a. Take all of the objects in a population
 - b. Arrange objects in a list and then select every fifth entry after a random start
 - c. Sort into categories then take two random objects from each group
 - d. Assume all objects are equal and select a random sample
- 6 If a process has a Capability Index of $C_p = 1$ for a specific parameter, what percentage of units produced fit within the tolerance range?
- a. 100%
 - b. 95.45%
 - c. 98.76%
 - d. 99.73%



7

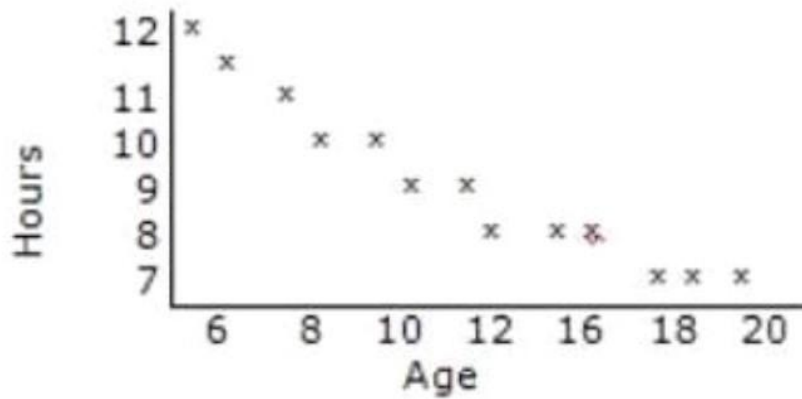
The weights of 100 units have the above normal distribution. How many standard deviations is 1.85 away from the mean?

- a. -1
- b. 0
- c. 1
- d. 3

8 Which objective does **NOT** relate to bringing a process into a state of statistical control?

- a. Establish a tolerance for common cause variations
- b. Understand the acceptable level of special cause variations
- c. Regulate performance so that capability can be assessed
- d. Engineer the best performance of the process itself

9 Which conclusion can be determined about the amount of sleep needed per day by age?



- a. Seven year olds need 20 hours
- b. Twelve year olds need 12 hours
- c. Younger people need less sleep
- d. Older people need less sleep

10 Which of the following are Six Sigma metrics?

1. Precision to tolerance ratio
2. Rolled Throughput Yield
3. Proportion of defective products
4. Process Capability index

- a. 1, 2, 3
- b. 1, 2, 4
- c. 1, 3, 4
- d. 2, 3, 4

Thank you for taking this exam.

Correction model

1. B
1 pt.

2. A
1 pt.

3. D
1 pt.

4. A
1 pt.

5. B
1 pt.

6. D
1 pt.

7. D
1 pt.

8. B
1 pt.

9. D
1 pt.

10. D
1 pt.