IASSC

Exam Questions ICBB

IASSC Certified Lean Six Sigma Black Belt

NEW QUESTION 1
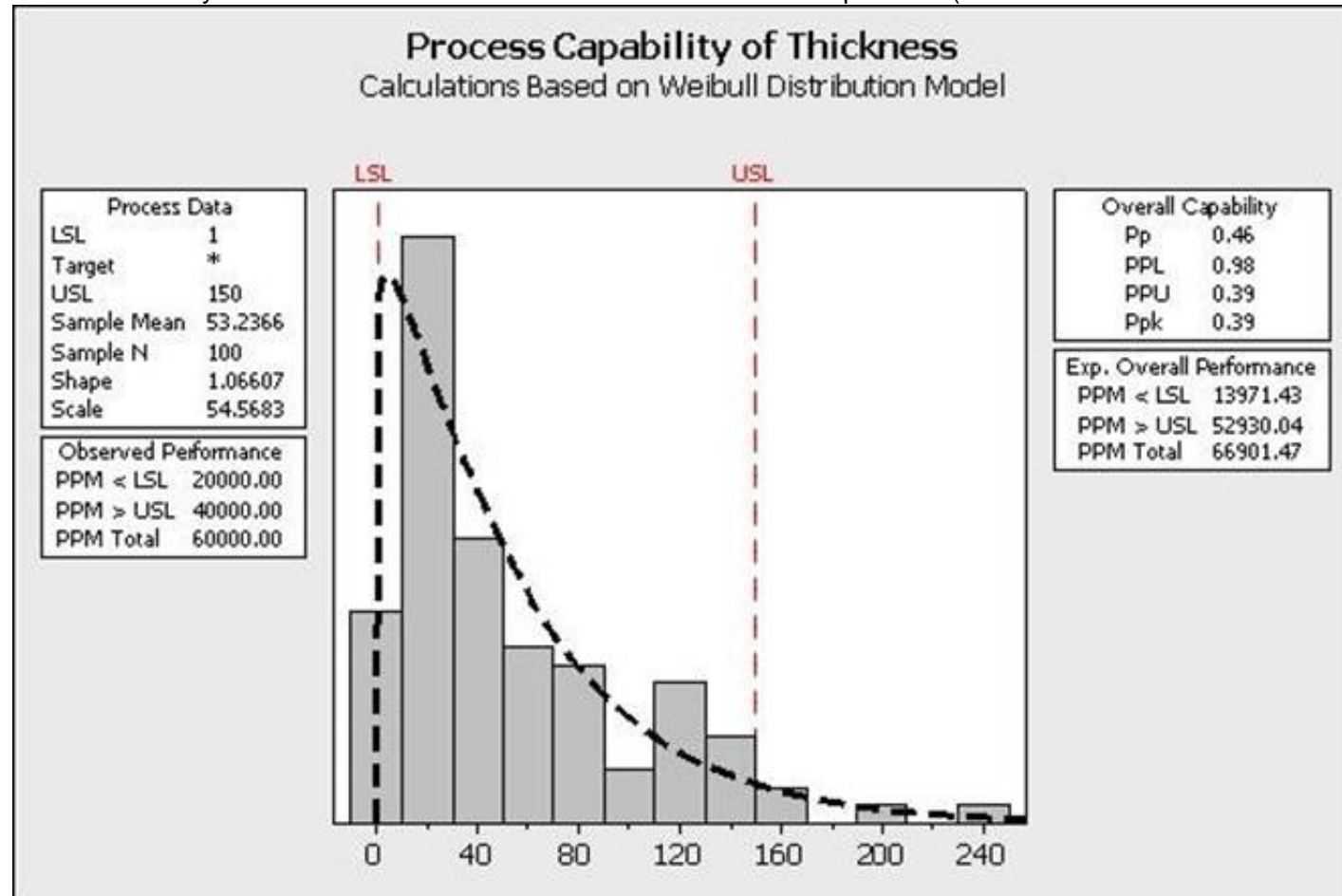The two types of data that are to be used in Statistical Analysis are Attribute and Variance.

A. True
B. False

Answer: B

NEW QUESTION 2
Review the analysis shown here. Which statements are true about the process?(Note:There are 3 correct answers).

A. The initial focus for this project would be to determine why the thicknesses are so frequently too low
B. The majority of the process is closer to the lower specification limit
C. This process is described with the Weibull Distribution
D. The process has more problems with Variation than Centering
E. The process follows a non-normal distribution with the given data

Answer: BDE

NEW QUESTION 3
When we gather information for the Voice of the Business we are primarily interested in information concerning the _____ of the business.

A. Advertising budget
B. Market share
C. Profitability
D. Ownership

Answer: C

NEW QUESTION 4
The Japanese born function of a Kaizen event utilizes a specific, step-by-step approach meant to bring about major changes to a process.

A. True
B. False

Answer: A

NEW QUESTION 5
Of the various types of data shown below which is NOT representative of Variable Data.

A. Length of a table
B. Liters of solution added to a formula
C. Number of employees wearing a uniform
D. Miles per hour of a vehicle

Answer: C

NEW QUESTION 6

For the data shown here which statement(s) are true?(Note:There are 2 correct answers).

Grade A	Grade B	Grade C
0.917	1.1	0.63
0.68	0.173	4.17
1.74	0.24	0.6
0.3	0.67	0.84
0.33	6.94	0.22
4.13		

A. With 95% confidence, we cannot conclude if the samples are from three Normal Distributions.
B. With greater than 95% confidence, we conclude the samples are from Non-normal Distributions.
C. If we wanted to compare the Central Tendencies of these three samples we would use the one way ANOVA test.
D. If we wanted to compare the Central Tendencies of these three samples we could use Mood's Median test.

Answer: BD

NEW QUESTION 7
When variation is removed from the output of a process then the process customer can have more confidence in the experience that results from the process.

A. True
B. False

Answer: A

NEW QUESTION 8
One of the primary deliverables from performing a SIPOC is to begin to understand which inputs have the greatest affect on the _____ outputs.

A. Management's desired
B. Supplier delivered
C. Process operator
D. Customer most valued

Answer: D

NEW QUESTION 9
Each of the items listed would impact the Process Capability for a process with a continuous output except _____ .

A. Shape of process data distribution (e.
B. Normal Distribution)
C. Process Technology
D. Process Standard Deviation
E. Seasonal variation in process

Answer: B

NEW QUESTION 10
A Belt working in a supply chain environment has to make a decision to change suppliers of critical raw materials for a new product upgrade. The purchasing manager is depending on theBelt's effort requiring that the average cost of an internal critical raw material component be less than or equal to $3,600 in order to stay within budget. Using a sample of 42 first article components, a Mean of the new product upgrade price of $3,200 and a Standard Deviation of $180 was estimated. Based on the data provided, the Z value for the data assuming a Normal Distribution is?

A. 1.11
B. 2.22
C. 4.30
D. 5.42

Answer: B

NEW QUESTION 10
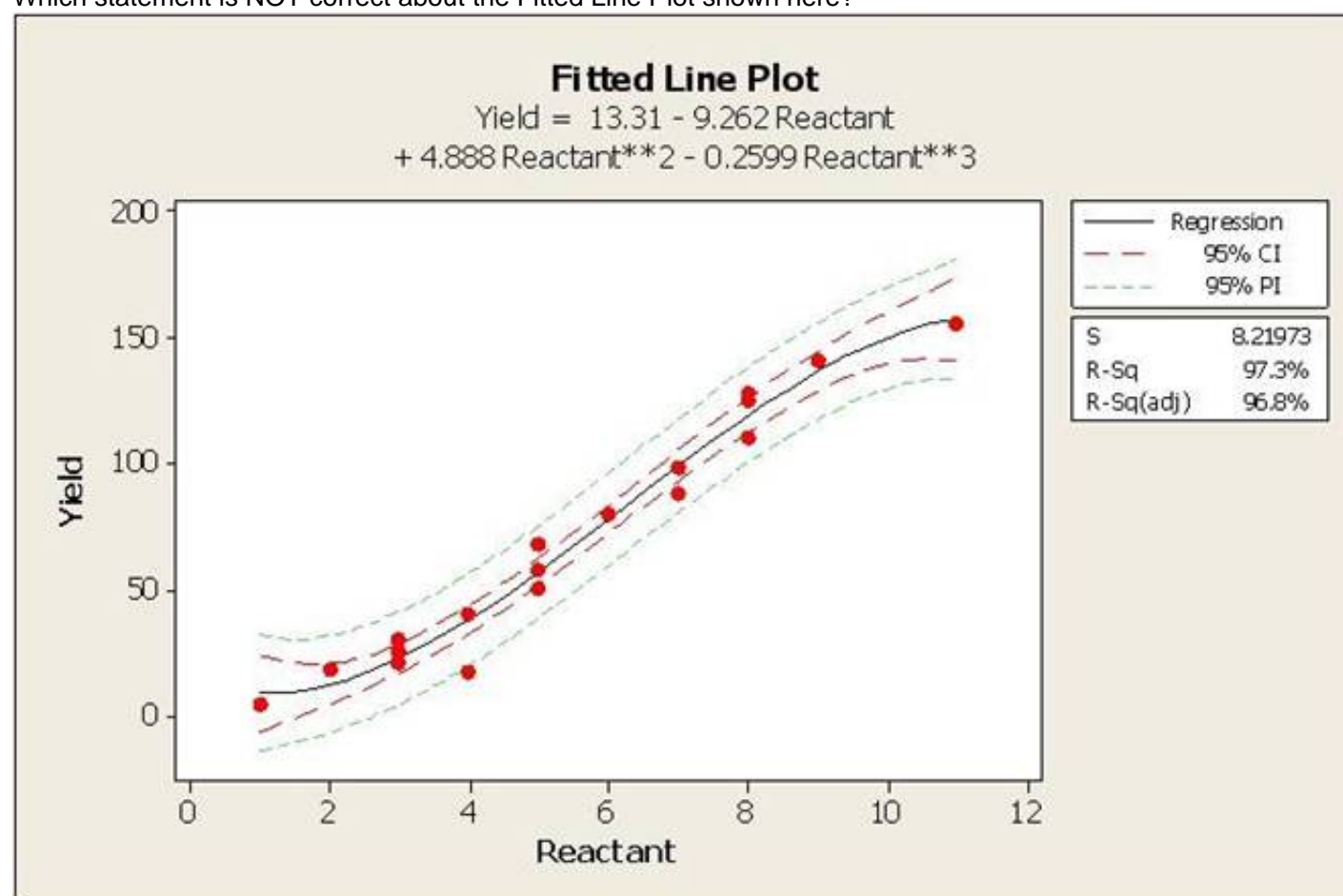Data that can be measured on a continuum and has meaningful decimal subdivisions are _____data.

A. Continuous
B. Surplus
C. Discrete
D. Variable

Answer: A

NEW QUESTION 15
Which statement is NOT correct about the Fitted Line Plot shown here?

A. The independent variable is the reactant
B. If the reactant was 6 units, with 95 % confidence we would expect a minimum yield of 100 units
C. With at least 95% confidence, we can expect less than 10 units of Yield when the reactant is at a value of 1
D. A reactant value between 2 and 4 units yields around 20 to 40
E. When the reactant increases, the expected yield would increase

Answer: D

NEW QUESTION 17
When a Belt creates a Process Map she will use a _____ to depict a decision point requiring a Yes or No decision.

A. Circle
B. Square
C. Diamond
D. Rectangle

Answer: C

NEW QUESTION 19
For a batch manufacturing process, while assessing short term process variation, which variation category(ies) should one need to focus on?(Note:There are 2 correct answers).

A. Variation within consecutive pieces
B. Variation among consecutive batches
C. Variation among groups of pieces
D. Variation among the completed product

Answer: AB

NEW QUESTION 24
A valuable tool to use during the Measure Phase to show material and information flow throughout an entire process is the _____ .

A. Value Stream Map
B. FMEA
C. Pareto Chart
D. Standard Operating Procedure

Answer: A

NEW QUESTION 26
When the Inputs, X's, for your process are Normally Distributed about the Mean, the Outputs, Y's, will be Normally Distributed.

A. True
B. False

Answer: B

NEW QUESTION 31
When a Belt conducts a Linear Correlation Analysis and finds that as an X increases the Y also increase then he has proven a _____ correlation.

A. Negative
B. Positive
C. Monomial
D. Single alignment

Answer: B

NEW QUESTION 35
Those people who have a interest in the outputs of a process are known as _____ .

A. Stakeholders
B. Senior management
C. Co-workers
D. Process owners

Answer: A

NEW QUESTION 36
Statistical Difference is the magnitude of difference or change required to distinguish between a true difference, brought about by change or improvement, and one that could have occurred by chance.

A. True
B. False

Answer: A

NEW QUESTION 39
For her injection molding project a Belt needed to track the percentage of defectives of a particular sample set so she used a _____ to display the data?

A. Individual Chart
B. C Chart
C. Xbar Chart
D. P Chart

Answer: D

NEW QUESTION 40
The most appropriate type of FMEA for a product before going into manufacturing is a _____ FMEA.

A. Design
B. Consumer
C. Survey
D. Test Process

Answer: A

NEW QUESTION 41
An operator is measuring the distance between two points. Which is most likely to be influenced by the operator?

A. Precision of the measurement
B. Accuracy of the measurement
C. Calibration of the instrument
D. All of these answers are correct

Answer: D

NEW QUESTION 44
Which Experimental Design typically is most associated with the fewest number of input variables or factors in the design?

A. Fractional Factorial design
B. Full Factorial design
C. Simple Linear Regression
D. Response Surface Design

Answer: D

NEW QUESTION 48
Two of the key deliverables for the Measure Phase are a robust description of the process and its flow and an assessment of the Management System.

A. True
B. False

Answer: B

NEW QUESTION 50
Which of these items are not part of what is necessary for successful Kaizens?

A. Good lighting
B. Management support
C. Operator support
D. Analysis tools

Answer: A

NEW QUESTION 51
Using this data calculate the percentage of DPU.

A. 2.74
B. 3.23
C. 4.56
D. 5.93

Answer: B

NEW QUESTION 55
Upon completion and validation of an improvement to a process a Belt and the Project Team create a Control Plan that contains which of these?

A. Standard operating work description of the process change
B. Description of the monitoring system in place to assure continued compliance
C. Summary of the targeted critical metrics for process performance measurement
D. All of the above

Answer: D

NEW QUESTION 56
The validity of the decision made with Hypothesis Testing is dependent upon all of these except _____ .

A. Beta risk
B. Alpha risk
C. Range of data
D. Sample size

Answer: C

NEW QUESTION 60
When conducting a Hypothesis Test using Continuous Data the proper sample size is influenced only by the extent to which we need to assess a Difference to be detected but not the inherent variation in the process.

A. True
B. False

Answer: B

NEW QUESTION 64
For a Kanban to be successful which of these must occur?

A. Consistent cycle times
B. Fairly stable process demand of product or service
C. Low defect rate of incoming product or service
D. All of the above

Answer: D

NEW QUESTION 66
Which Element of Waste best describes "the unnecessary movement of materials and goods"?

A. Overprocessing
B. Inventory
C. Motion
D. Conveyance

Answer: D

NEW QUESTION 69
If a Six Sigma project was to reduce changeover times and the team found the project success was decreasing over time since changeover times began to creep back up, which Lean tools should be considered in the Control Phase to reestablish and sustain the project success?

A. Improve the lighting to assure adequate visibility
B. Confirm a Visual Factory exists to assure proper communication of status of machines
C. Implement Kanbans to assure enough inventory for the process step
D. Reword the standardized work instructions to use active verbs and not passive phrases
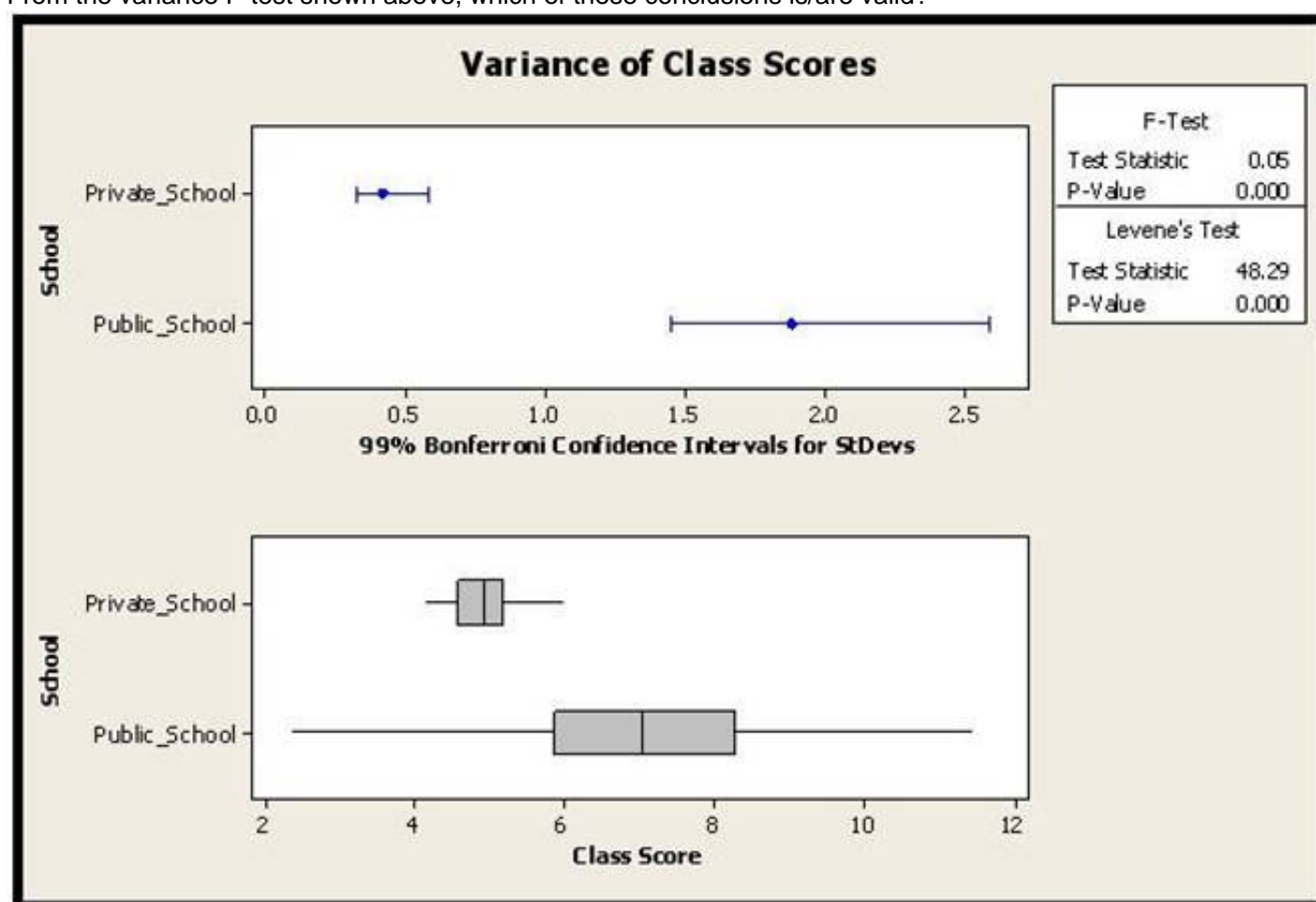
Answer: B

NEW QUESTION 73
The English words used for the 5S's are _____, _____, Shining, Standardizing and Sustaining.(Note:There are 2 correct answers).

A. Shaping
B. Sorting
C. Shifting
D. Straightening

Answer: BD

NEW QUESTION 74
From the variance F-test shown above, which of these conclusions is/are valid?

Variance of Class Scores

	F-Test	
Test Statistic	0.05	
P-Value	0.000	
Levene's Test		
Test Statistic	48.29	
P-Value	0.000	

99% Bonferroni Confidence Intervals for StDevs

Test for Equal Variances: Class Score versus School

99% Bonferroni confidence intervals for standard deviations

School	N	Lower	StDev	Upper
Private_School	50	0.32753	0.42210	0.58233
Public_School	50	1.45338	1.87303	2.58404

F-Test (Normal Distribution)
Test statistic = 0.05, p-value = 0.000

A. The variance between the class score distribution is not significantly different
B. This test applies only to Normal Distributed data at 99 % confidence
C. The variance between the class score distribution is significantly different
D. There are not enough data points to make any statistical conclusions

Answer: C

NEW QUESTION 77
The relationship between a response variable and one or more independent variables is investigated and modeled by use of which of these?

A. X-Y Matrix
B. Baldridge Assessment
C. Critical X's Definition
D. Analysis of Variance (ANOVA)

Answer: D

NEW QUESTION 81
Which statement is most correct for the Regression Analysis shown here?

```
Regression Analysis: Turbine Output versus Air-Fuel Ratio, % steam, ...
The Regression Equation is
TurbineOutput = 16.5 + 3.21 Air-Fuel Ratio + 0.386 % methane
                + 0.0166 SteamExitTemp

Predictor        Coef     SE Coef      T       P
Constant        16.488      2.918    5.65   0.000
Air-Fuel Ratio   3.2148     0.2377  13.52   0.000
% methane        0.38637    0.07278  5.31   0.000
SteamExitTemp    0.016576   0.004273 3.88   0.004

S = 0.508616    R-Sq = 98.6%    R-Sq(adj) = 98.2%
Analysis of Variance
Source         DF      SS        MS       F       P
Regression      3   170.003   56.668  219.06  0.000
Residual Error  9     2.328    0.259
Total          12   172.331

Source         DF    Seq SS
Air-Fuel Ratio  1   159.048
% methane       1     7.062
SteamExitTemp   1     3.892
```

A. The Regression explains 50.8% of the process variation
B. The air-fuel ratio explains most of the TurbineOutput variation
C. This Simple Linear Regression explains 98+% of the process variation
D. This Multiple Linear Regression has four statistically significant independent variables

Answer: B

NEW QUESTION 82
Fractional Factorial, _____ and Response Surface Method are types of planned experiments.

A. Multi-Vari Analysis
B. Baldridge Channels
C. One Factor at a Time or OFAT
D. Factorial Design

Answer: D

NEW QUESTION 87
With Measurement System Analysis we are concerned with two issues that impact the potential variability of the data. They are _____.

A. Precision and Accuracy
B. Reliability and Repeatability
C. Error and Spread
D. Sensitivity and Deflection

Answer: A

NEW QUESTION 89
An example of the waste of mismanaged Inventory is _____.

A. Capital costs of money
B. Value decrease from aged inventory
C. Cost of storage space
D. All of these answers are correct

Answer: D

NEW QUESTION 93
If the results from a Hypothesis Test are located in the "Region of Doubt" area, what can be concluded?

A. Rejection of the Alpha
B. We fail to reject the Null Hypothesis
C. The test was conducted improperly
D. We reject the Null Hypothesis

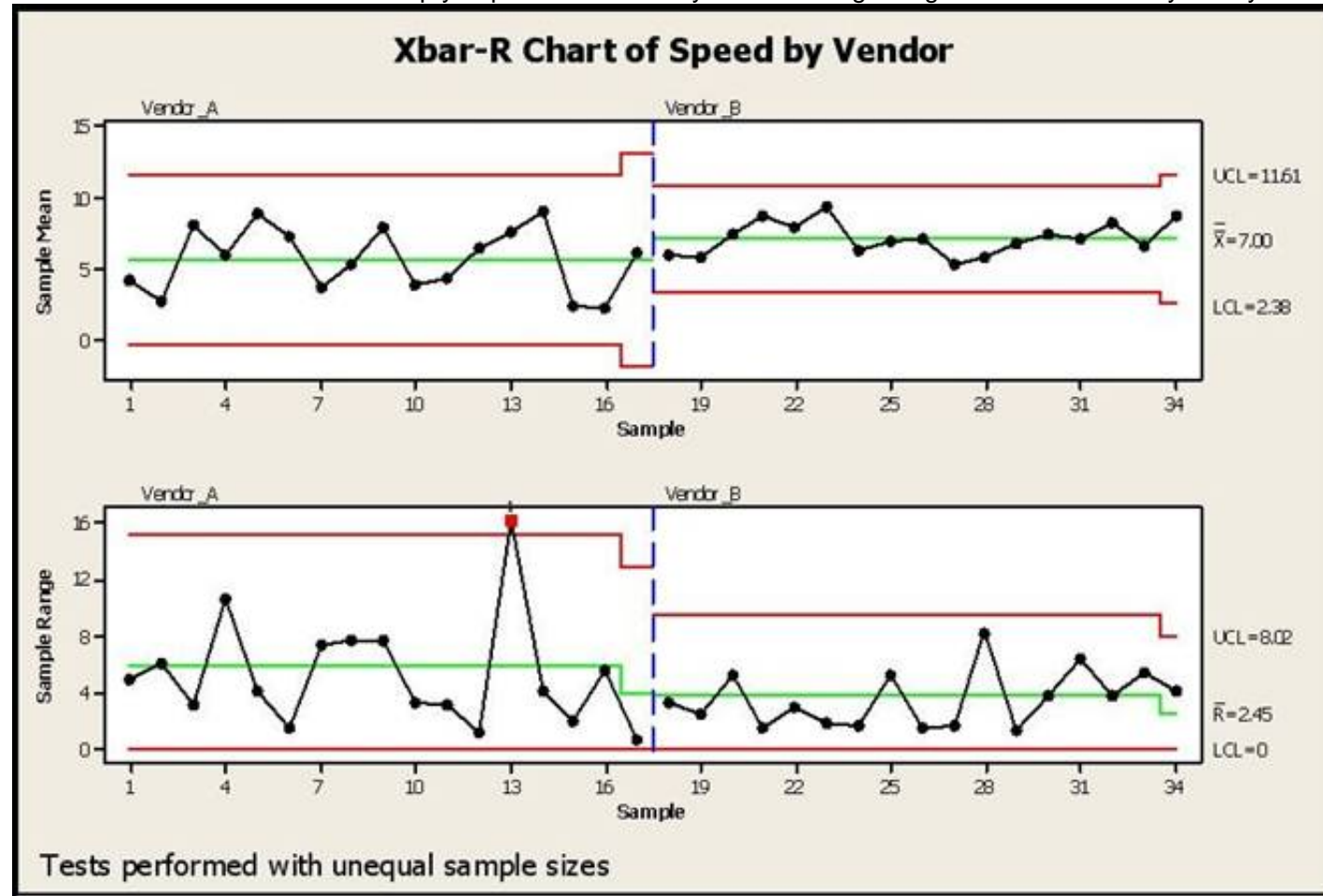**Answer:** D

NEW QUESTION 94
Kaizens or Kaikakus and Six Sigma projects are intended to create breakthrough, significant process improvement versus minor, incremental improvements.

A. True
B. False

Answer: A

NEW QUESTION 96
SPC Charts are used extensively in different business and decision-making environments. In this example a vendor is being selected based on speed of delivery. Which of the conclusions would help you pick a vendor for your needs regarding lead-time of delivery from your vendors?(Note:There are 4 correct answers).

A. Vendor A with a much shorter lead time in delivery
B. Vendor B as it has a better consistency (lower variance) on lead time
C. Vendor B as Vendor A shows a situation out of control as shown in red
D. Vendor B as the Control Limits are much narrower than Vendor A
E. Vendor B with higher lead time, but a process with much narrower Control Limits

Answer: BCDE

NEW QUESTION 98
A _____ problem in the Measurement System suggests that there is a lack of consistency in the measurement over time.

A. Linearity
B. Bias
C. Stability
D. Magnitude

Answer: C

NEW QUESTION 99
An ANOVA used across many dependent variables could increase the Beta risk.

A. True
B. False

Answer: B

NEW QUESTION 102
If the production is for higher volume and monitoring and the Mean and variability is to be monitored for four machines producing product and the characteristic to be monitored is Variable Data, which SPC Chart is best to be selected?

A. Xbar-R Chart
B. Individual-MR Chart
C. NP Chart
D. CUSUM Chart

Answer: A

NEW QUESTION 103
A Belt working in a supply chain environment has to make a decision to change suppliers of critical raw materials for a new product upgrade. The purchasing manager is depending on the Belt's effort requiring that the average cost of an internal critical raw material component be less than or equal to $3,800 in order to stay within budget. Using a sample of 38 first article components, a Mean of the new product upgrade price of $3,680, and a Standard Deviation of $120 was estimated. In order to increase the Long Term Z value to 5, what is the maximum long term variation in pricing the Belt can accept for his upgraded critical raw material component?

A. $6
B. $12
C. $24
D. $48

Answer: C

NEW QUESTION 105
Cost of Poor Quality (COPQ) can be classified as Visible Costs and Hidden Costs. All these items are Hidden Cost except _____.

A. Lost Customer Loyalty
B. Returns
C. Time Value of Money
D. Late Delivery

Answer: B

NEW QUESTION 108
The Mann-Whitney test is a powerful test and is unique to situations from which of the
choices listed?(Note:There are 2 correct answers).

A. Testing the identity of two populations
B. Focuses on equality of the Median of the two populations
C. Less powerful than the traditional "t-test"
D. More widely applicable than the traditional "t-test"

Answer: BD

NEW QUESTION 113
A Belt is analyzing data and upon creation of the graphical analysis sees multiple modes. One of the primary reasons this could occur is because the process has experienced a _____.

A. Significant change from one shift to another
B. Sizable Measurement System error
C. Catastrophic failure of some sort
D. Any one of these

Answer: D

NEW QUESTION 118
Much of the Six Sigma methodology is used to identify and remove causes for _____.

A. Process Variation
B. Material Costs
C. Excess Inventory
D. Lost Sales

Answer: A

NEW QUESTION 123
When a Belt implements an improvement that is automated thus requiring no particular understanding for use he has applied which Lean tool?

A. Mistake Proofing
B. Kaizen Event
C. 5S
D. None

Answer: A

NEW QUESTION 126
Questions that can be best answered by a Visual Factory include all of these except _____.

A. Are downtime issues easily noted?
B. Can extra inventory be seen easily?
C. Are unneeded tools or supplies easily noted?
D. Are setups optimized for lower scrap levels?

Answer: D

NEW QUESTION 131
Early in a project a Belt will want to begin to identify and evaluate risk factors for the subject process and will therefore begin building a(n) _____ .

A. SIPOC
B. FMEA
C. Business Case
D. Team charter

Answer: B

NEW QUESTION 135
Assessing process proportion as opposed to evaluating a process with respect to a set target can be done using which of these?

A. Process proportion equals some value range
B. Process proportion equals some desired value
C. Target is current
D. Proportion of the tail is equal

Answer: B

NEW QUESTION 139
Some of the sources for different types of error that can be quantified using Statistical Analysis are which of these?

A. Error in sampling
B. Bias in sampling
C. Error in measurement
D. All of the above

Answer: D

NEW QUESTION 141
The distance between the Mean of a data set and the Point of Inflection on a Normal curve is called the _____.

A. Curve Spread
B. Standard Deviation
C. Numerical Average
D. Data Breadth

Answer: B

NEW QUESTION 145
The Control Limits width varies if the sample size varies for which type of chart?

A. P Charts
B. NP Charts
C. Xbar-R Charts
D. Time Series Charts

Answer: A

NEW QUESTION 147
When a Belt Poka-Yoke's a defect out of the process entirely then she should track the activity with a robust SPC system on the characteristic of interest in the defect as an early warning system.

A. True
B. False

Answer: B

NEW QUESTION 150
Common and _____ Cause Variation are the focus of Statistical Process Control.

A. Uncommon
B. Ordinary
C. Special
D. Selective

Answer: C

NEW QUESTION 154
When we compare short-term and long-term Capability which of these is true?

A. Cp is better for the short term
B. Both short-term and long-term performance are alike
C. Performance tends to improve over time

D. Cp is better for the long-term

Answer: A

NEW QUESTION 158
For her injection molding project a _____ Belt needed to track the percentage of defectives of a particular sample set so she used a to display the data?

A. Individual Chart
B. C Chart
C. Xbar Chart
D. P Chart

Answer: D

NEW QUESTION 162
Which of these might contribute to similar distributions having Unequal Variance?

A. Extreme tails
B. Outliers
C. Multiple Modes
D. All of the above

Answer: D

NEW QUESTION 163
The primary objective in removal of waste is to improve the Order Production Cycle where the time from _____ to the time of receipt of payment is compressed.

A. Shift start
B. Product development
C. Receipt of an order
D. New fiscal year

Answer: C

NEW QUESTION 166
What is the Ppk of a process with a spread of 24 units, an average of 68, an upper limit of 82 and a lower limit of 54?

A. 1.68
B. 2.00
C. 4.00
D. 4.42

Answer: C

NEW QUESTION 167
When the Inputs, X's, for your process are Normally Distributed about the Mean, the Outputs, Y's, will always be Normally Distributed.

A. True
B. False

Answer: B

NEW QUESTION 170
A Belt rearranged the location of the parts inventory for a rework station locating the most often used parts to be within hand reach of the repair person. This rearrangement resulted in quicker repair times by eliminating one of seven major elements of waste which is the Waste of _____ .

A. Motion
B. Conveyance
C. Inventory
D. Waiting

Answer: A

NEW QUESTION 173
Screening experiments are the proper choice when a Belt is faced with the situation of highly Fractional Factorial Designs.

A. True
B. False

Answer: A

NEW QUESTION 177
Screening experiments are the proper choice when a Belt is faced with the situation of highly Fractional Factorial Designs.

A. True
B. False

Answer: A

NEW QUESTION 178
If an experiment has 5 factors and no replicates for a 2-level Experimental Design with 16 experimental runs which statement is incorrect?

A. The Experimental Design is half-fractional
B. The Main Effects are confounded with only 4-way interactions
C. The Main Effects for the 5 factors are not aliased or confounded but the 2-way interactions are confounded with the 3-way interactions
D. The experiment has 8 experimental runs with the first factor at the high level

Answer: C

NEW QUESTION 183
Production Line 1 is able to complete 500 units per shift. Production Line 2 is able to finish 1,500 units per shift. Production Line 2 is 3 times faster than Production Line 1. This analysis is an example of _____ Scale Data.

A. Nominal
B. Ratio
C. Ordinal
D. Interval

Answer: B

NEW QUESTION 187
As a means of measuring the effects on other areas of a process as a result of changes in the primary metric we also define and track _____.

A. Parallel process metrics
B. Secondary metrics
C. Tertiary metrics
D. Industry standards

Answer: B

NEW QUESTION 190
The Waste of Overproduction is defined as _____.

A. The unnecessary movement of people and equipment
B. The liability of materials that are bought, invested in and not immediately sold or used
C. Producing more than the next step needs or more than the customer buys
D. The extra movement of material

Answer: C

NEW QUESTION 191
A Personal Trainer was assessing her workout class participants for their body fat content and had to include data for her analysis. One of the columns listed the range of weight of the people included in the studies. This required plotting a Histogram of the weight of the people assessedfor their body fat content. While drawing the Histogram the x-axis contained a certain scale of data. Pick the scale of data that is appropriate for Histograms.

A. Ordinal Scale Data
B. Ration Scale Data
C. Nominal Scale Data
D. Interval Scale Data

Answer: D

NEW QUESTION 193
Choose those characteristics of a Simple Linear Regression (SLR) Analysis that are applicable.(Note:There are 3 correct answers).

A. The Correlation Coefficient is always greater than the Regression Coefficient in a SLR
B. General Regression Analysis deals only with Continuous Data
C. Non-linear Regressions can explain curvature when with more statistical confidence than Linear Regressions
D. SLR can help quantify the significance of variation in X that influences the variation in Y via a mathematical equation
E. A Correlation does not explain causation but a Regression Analysis with a statistically valid mathematical equation does explain causation

Answer: ADE

NEW QUESTION 195
Sally and Sara sell flower pots at their garage sale. Sally motivates Sara mentioning that they will sell a minimum of 15 pots per day if the outside temperature exceeds 60o F. From a sample, whose population is assumed to follow a Normal Distribution, taken for 30 days at 60 degrees or more an average of 13.6 pots per day were sold with a Standard Deviation of 0.7 pots. For the sales accomplished above, what test would validate if they met their requirements?

A. F Test

B. Test for Equal Variance
C. Chi Square Test
D. One-Sample t-Test

Answer: D

NEW QUESTION 196
Which statement(s) are incorrect about Fractional Factorial Designs?

A. A Half Fractional Design for 5 factors has the same number of experimental runs as a Full Factorial Design for 4 factors assuming no repeats or replicates or Center Points
B. Quarter Fractional experiments can exist for those with 4 factors
C. Resolution V design is desired while controlling costs of experimentation
D. Half Fractional experiments do not exist for those designs with only 2 factors

Answer: C

NEW QUESTION 199
Handling of warranty returns, process improvement team meetings and rework to meet customer expectations are all examples of business costs that are classified as _____.

A. Nuisance
B. Non-value Add
C. Necessary
D. Unavoidable

Answer: B

NEW QUESTION 203
Using this data calculate the percentage of DPU. Data:763 defects, 18,000 units.

A. 2.12
B. 3.42
C. 4.24
D. 5.72

Answer: C

NEW QUESTION 204
All the data points that represent the total set of information of interest is called the _____.

A. Population
B. Sample
C. Frame
D. Spread

Answer: A

NEW QUESTION 205
Questions that can be best answered by a Visual Factory include all of these except _____.

A. Are setups optimized for lower scrap levels?
B. Can extra inventory be seen easily?
C. Can changeover challenges be recognized?
D. Are unneeded tools or supplies easily noted?

Answer: A

NEW QUESTION 207
A statistical test or Hypothesis Test is performed to reject or fail to reject a stated hypothesis and it converts the Practical Problem into a Statistical Problem.

A. True
B. False

Answer: A

NEW QUESTION 210
Kaizens or Kaikakus and Six Sigma projects are intended to create incremental process improvements versus breakthrough, significant improvements.

A. True
B. False

Answer: B

NEW QUESTION 211
Control Charts were developed by Dr. Shewhart to track data over time. To detect Special Cause variation the Control Charts use which of these?

A. Data shift analysis
B. Outlier analysis methods
C. Center Line and Control Limits
D. None of the above

Answer: C

NEW QUESTION 215
A fundamental rule is that both Standard Deviation and Variance can be added.
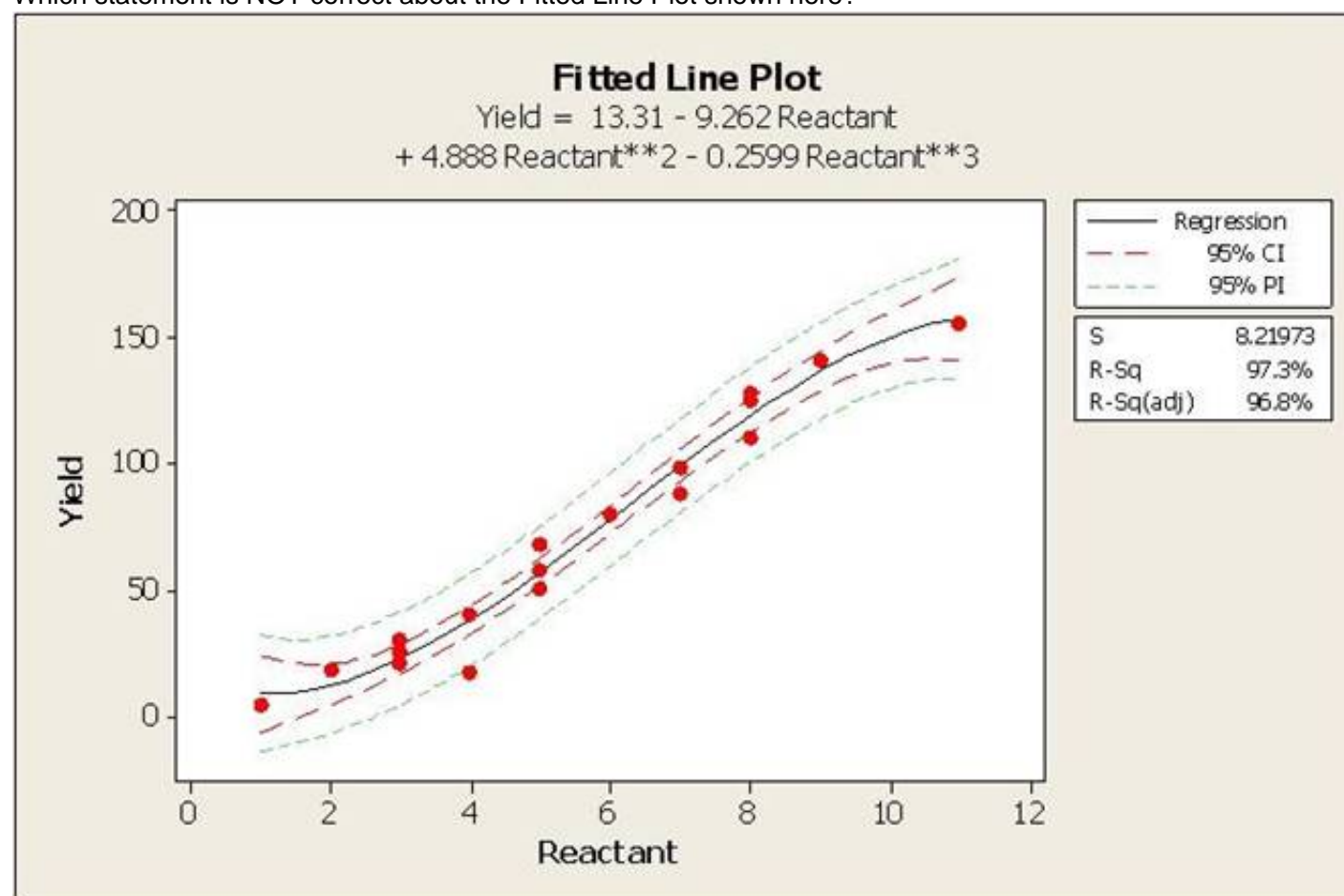
A. True
B. False

Answer: B

NEW QUESTION 216
Relative to a Design of Experiments the term _____ refers to variables being a linear combination of each other.

A. Mirror Image
B. Directly Parallel
C. Collinear
D. None of the above

Answer: C

NEW QUESTION 218
Which statement is NOT correct about the Fitted Line Plot shown here?

A. The independent variable is the reactant
B. If the reactant was 10 units, with 95% confidence we would expect a minimum yield of 148 units
C. With at least 95% confidence, we can expect less than 10 units of Yield when the reactant is at a value of 1
D. A reactant value between 6 and 8 units yields around 40 to 60
E. When the reactant increases, the expected yield would increase

Answer: D

NEW QUESTION 221
The Lean toolbox includes all of these items except _____.

A. Mistake Proofing
B. Visual Factory
C. Design of Experiments
D. Inventory Management

Answer: C

NEW QUESTION 222

Accuracy can be assessed in several ways and a fairly accurate means of measurement is visual comparison.

A. True
B. False

Answer: B

NEW QUESTION 224
If in an experiment all possible variable pairs sum to zero the design is Orthogonal.

A. True
B. False

Answer: A

NEW QUESTION 225
The relationship between a response variable and one or more independent variables is investigated and modeled by use of _____.

A. X-Y Matrix
B. Baldridge Assessment
C. Analysis of Variance (ANOVA)
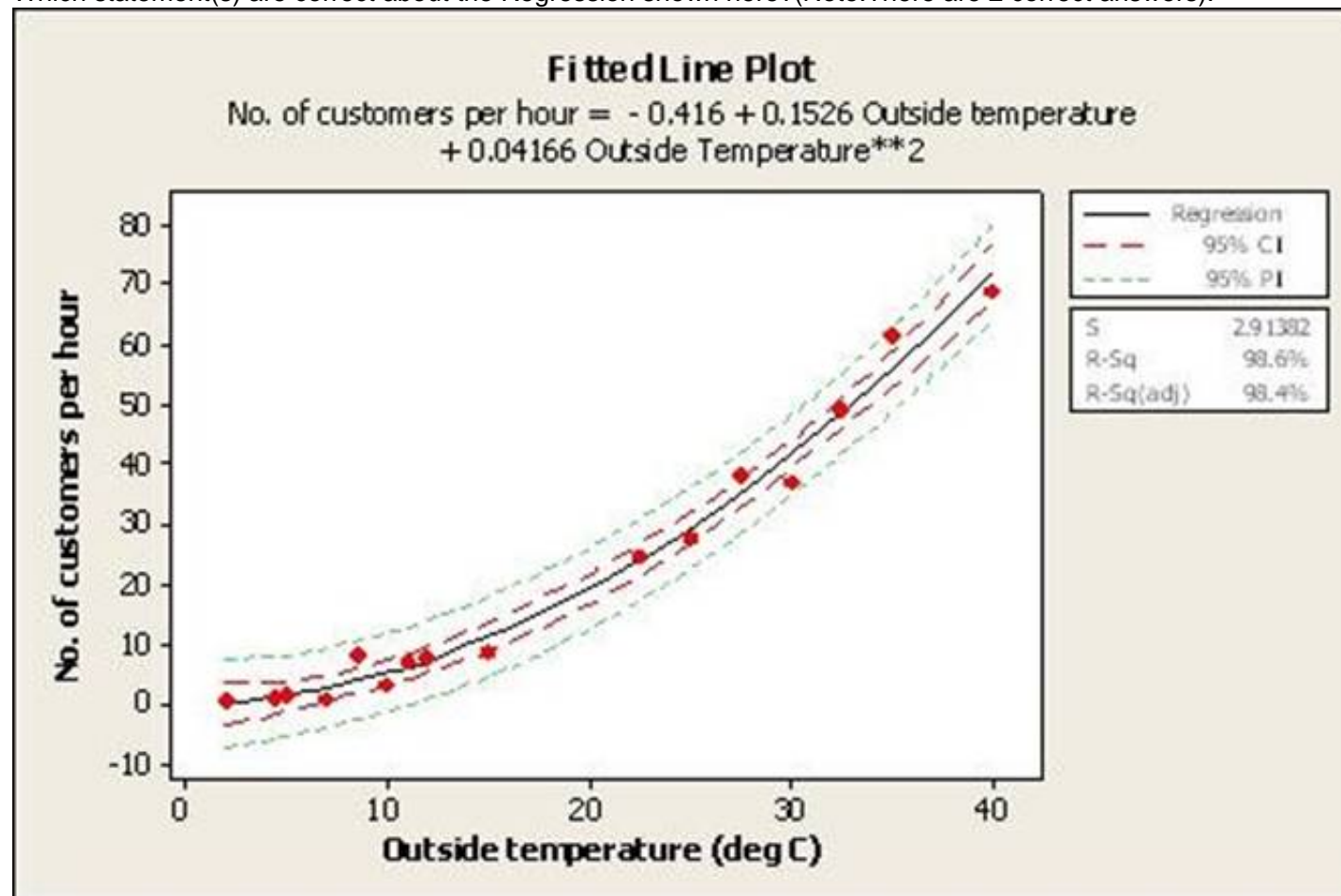D. Critical X's Definition

Answer: C

NEW QUESTION 226
Use this data to calculate the Z Score. Average of:92, Standard Deviation: 2, Upper Spec Limit: 101

A. 0.75
B. 1.5
C. 2.25
D. 4.50

Answer: D

NEW QUESTION 230
Which statement(s) are correct about the Regression shown here?(Note:There are 2 correct answers).

Fitted Line Plot
No. of customers per hour = - 0.416 + 0.1526 Outside temperature + 0.04166 Outside Temperature**2

A. The dependent variable is the outside temperature
B. The relationship between outside temperature and number of customers per hour is a Linear Regression
C. The dashed lines indicate with 95% confidence where all of the process data should fall between
D. The dashed lines indicate with 95% confidence the estimate for the Quadratic Regression Line
E. The predicted number of customers per hour is close to 5 if the outside temperature is 10 deg C

Answer: DE

NEW QUESTION 234
Contingency Tables are used to test for association, or dependency, between two or more classifications.

A. True
B. False

Answer: A

NEW QUESTION 238
Two of the key deliverables for the Measure Phase are a robust description of the process and its flow and an assessment of the Measurement System.

A. True
B. False

Answer: A

NEW QUESTION 240
The Normal Distribution is considered to be the most important distribution in statistics and, among other things is defined as having a total area under the curve of 1, is mounded and symmetrical and the Mean, Median and Mode are _____.

A. All evenly divisible by 3
B. Twice the Standard Deviation
C. Within 10% of each other
D. The same number

Answer: D

NEW QUESTION 244
From this list select the best example of Bias in Sampling.

A. Testing the completeness of cooking a cake but the testers cannot agree on how to measure internal temperature
B. Testing the sharpness of a razor blade while the sample of 500 are from the same model razor
C. Testing the weight of participants at a wrestling event and only measuring those who finished second or better
D. Testing a hand-held GPS models for durability using samples only from Nokia Model P120

Answer: C

NEW QUESTION 249
A Belt working in a supply chain environment has to make a decision to change suppliers of critical raw materials for a new product upgrade. The purchasing manager is depending on the Belt's effort requiring that the average cost of an internal critical raw material component be less than or equal to $4,200 in order to stay within budget. Using a sample of 35 first article components, a Mean of the new product upgrade price of $4,060, and a Standard Deviation of $98 was estimated. The Alternative Hypothesis in the above example is?

A. The Standard Deviation is equal to $300
B. The Mean is less than $4,320
C. The Mean is equal to $4,060
D. The Mean is less than $4,200
E. The Mean is greater than $ 4,200

Answer: E

NEW QUESTION 250
Which statement(s) are most correct for the Regression Analysis shown here?

Regression Analysis: Turbine Output versus Air-Fuel Ratio, % steam, ...

```
The Regression Equation is
TurbineOutput = 16.5 + 3.21 Air-Fuel Ratio + 0.386 % methane
               + 0.0166 SteamExitTemp

Predictor          Coef      SE Coef        T       P
Constant         16.488       2.918      5.65   0.000
Air-Fuel Ratio    3.2148      0.2377    13.52   0.000
% methane         0.38637     0.07278    5.31   0.000
SteamExitTemp     0.016576    0.004273   3.88   0.004

S = 0.508616    R-Sq = 98.6%    R-Sq(adj) = 98.2%
Analysis of Variance
Source           DF        SS       MS        F        P
Regression        3   170.003   56.668   219.06   0.000
Residual Error    9     2.328    0.259
Total            12   172.331

Source           DF    Seq SS
Air-Fuel Ratio    1   159.048
% methane         1     7.062
SteamExitTemp     1     3.892
```

A. The Regression explains 50.8% of the process variation
B. The air-fuel ratio explains most of the TurbineOutput variation

C. This Simple Linear Regression explains 98+% of the process variation
D. This Multiple Linear Regression has four statistically significant independent variables

Answer: B

NEW QUESTION 253
To establish a sample size that will allow the proper overlap of distributions we do which of these?

A. Multiply Alpha by 1.75
B. Calculate one minus Beta
C. Calculate Beta plus 2
D. Multiply Beta by 3

Answer: B

NEW QUESTION 257
Sally and Sara sell flower pots at their garage sale. Sally motivates Sara mentioning that they will sell a minimum of 15 pots per day if the outside temperature exceeds 60o F. From a sample, whose population is assumed to follow a Normal Distribution, taken for 30 days at 60 degrees or more an average of 13.6 pots per day were sold with a Standard Deviation of 0.7 pots. The statistical Degrees of Freedom for this example are?

A. 1
B. 29
C. 30
D. 31
E. 2

Answer: B

NEW QUESTION 261
A Belt has determined that the inventory of repair parts at a rework station can be reduced by 45%. According to Cost of Poor Quality (COPQ) definitions inventory reduction would be considered _____.

A. Soft Savings
B. COPQ efficiency
C. Median Savings
D. Hard Savings

Answer: D

NEW QUESTION 264
Kanban establishes a means of monitoring production, conveyance and delivery information such that efficient flow is established. The method used by Kanban is to require a _____ before anything moves.

A. Sign-off
B. Signal
C. Bell to ring
D. Work order

Answer: B

NEW QUESTION 269
To be an effective Lean Six Sigma practitioner one must understand the difference between _____ .

A. ANOVA and the Analysis of Variance
B. Nonparametric tests and tests of Non-normal Data
C. Practical and Statistical significance
D. F-test and test of variances of 2 samples

Answer: C

NEW QUESTION 272
An operator checks that all boxes being packed contain enough products to fill the box. However, each box getting filled has a different number of products in it. This is a Reproducibility problem, not a Repeatability problem.

A. True
B. False

Answer: B

NEW QUESTION 277
A Full Factorial experiment using a 2 level 4 factor approach has been proposed to test the viability of an extrusion machine experiment. How many treatment combinations will this approach involve?

A. 8
B. 16

C. 32
D. 64

Answer: B

NEW QUESTION 282
One of the primary deliverables from performing a SIPOC is to begin to understand which outputs have the greatest affect on the customer most valued inputs.

A. True
B. False

Answer: B

NEW QUESTION 283
One of the foundations of Lean Six Sigma is the concept that the output of a process (Y) is influenced by the process inputs (X's) and is commonly shown as which formula?

A. $Y = Z(X2)$
B. $Y = f(X3)$
C. $Y = f(Xn)$
D. $Y = g(X+ 1.5)$

Answer: C

NEW QUESTION 286
In a good Measurement System the most variation will be with part-to-part measurements. What should you do if the majority of variation is associated with the Gage R&R assuming the gage is technically capable?

A. Focus on fixing the Repeatability and Reproducibility of the measurement device
B. Purchase a new machine
C. Focus on trimming the Part-to-Part variation
D. Run another MSA test with the machine

Answer: A

NEW QUESTION 291
The primary objective in removal of waste is to improve the Order Production Cycle where the time from _____ to the time of receipt of payment is compressed.

A. Shift start
B. Product development
C. Receipt of an order
D. New fiscal year

Answer: C

NEW QUESTION 292
A valid Multiple Linear Regression (MLR) is characterized by all of these except _____.

A. It is an assumption that the X's (inputs) are not correlated to each other
B. The X's (inputs) are assumed to be independent of each other
C. MLR is conducted based on a deliberate form of experimentation
D. The Residuals from MLR analysis have to be Normally Distributed

Answer: C

NEW QUESTION 295
The two types of data that can be used in Statistical Analysis are Attribute and Variable.

A. True
B. False

Answer: A

NEW QUESTION 297
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