Financial Markets Business Statistics

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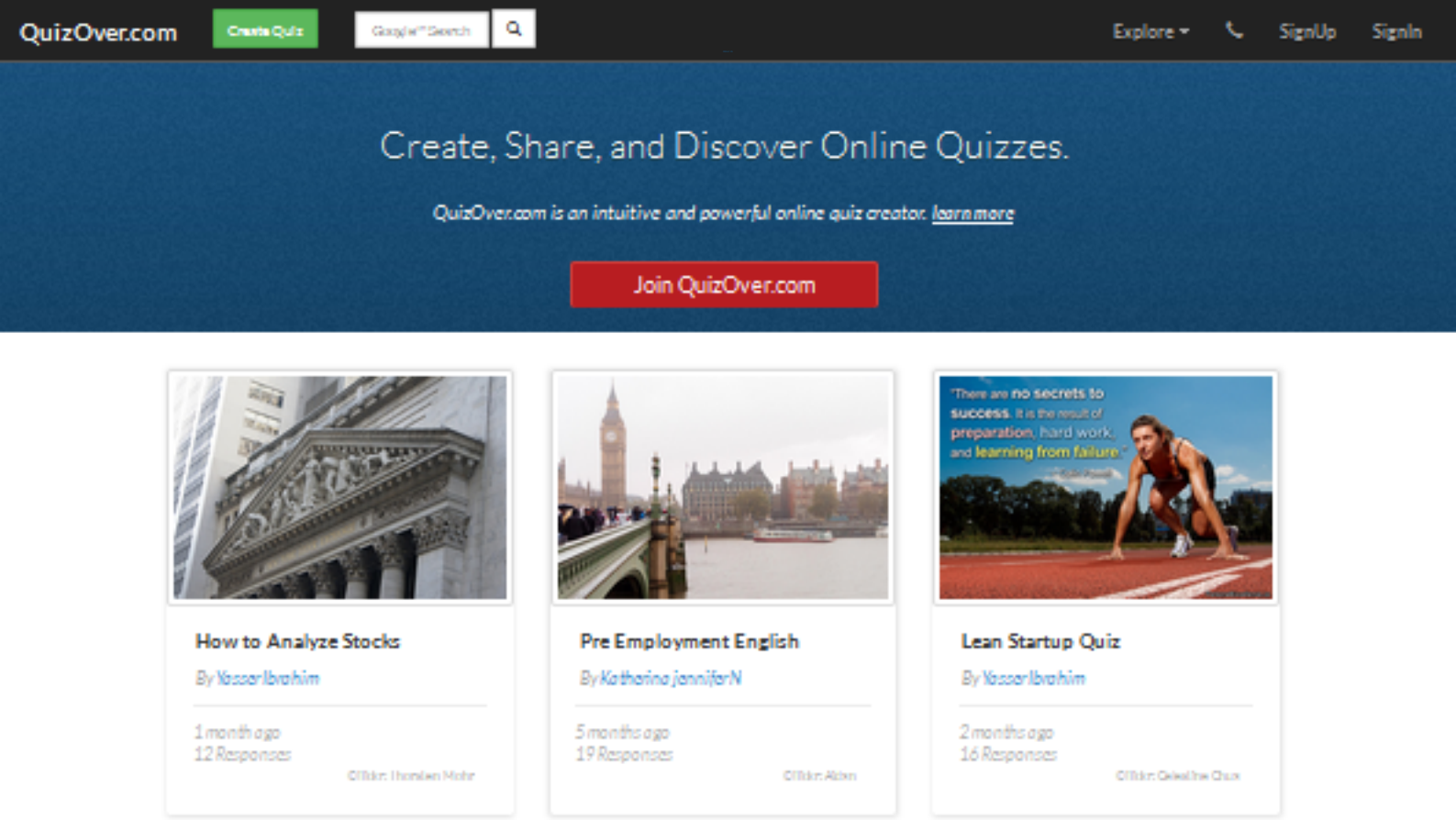

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4. Chapter: Unit 01: Introduction to Statistical Analysis

1. Unit 01: Introduction to Statistical Analysis Questions

4.1.1. A Fortune 500 company asked its customers to take a voluntary surve...

Author: David Bourgeois

A Fortune 500 company asked its customers to take a voluntary survey each time a customer made an online purchase. The company gathered over 5,000 responses, which included both quantitative and qualitative information. Which of the following best demonstrates the difference between a quantitative variable and qualitative variable?

Please choose only one answer:

- Part 1 of the survey asked the customer for information on his or her total years of schooling, and Part 2 asks for his or her current level of income in dollars.
- Part 1 of the survey asked the customer for information on whether he or she completed college, and Part 2 asked for whether he or she had lost a job in the last five years.
- Part 1 of the survey asked the customer for information on his or her total years of schooling, and Part 2 asked if he or she own a car.
- Part 1 of the survey asked the customer for information on his or her total years of schooling, and Part 2 asked how many members are in his or her household.

4.1.2. A high school math teacher offers an after-school tutoring session ...

Author: David Bourgeois

A high school math teacher offers an after-school tutoring session open to all students. To measure student demand for the session, she keeps track of the total number of students attending each week. In the last five weeks, the total attendance was 6, 3, 0, 4, and 2, respectively. Calculate the variance of attendance in the last five weeks. Round your answer to the nearest tenth.

Please choose only one answer:

- 5.0
- 2.2
- 4.0
- 2.5

4.1.3. A local restaurant keeps statistics on the average number of meals ...

Author: David Bourgeois

A local restaurant keeps statistics on the average number of meals ordered for each table in the restaurant during dinner hours. In the last hour, four tables ordered and were served 2, 4, 6, and 8 meals, respectively. Calculate the standard deviation of the number of meals ordered in the last hour. Round your answer to the nearest tenth.

Please choose only one answer:

- 2.6
- 6.7
- 2.2
- 5.0

4.1.4. A major coffee company decides to offer its customers a cup of coff...

Author: David Bourgeois

A major coffee company decides to offer its customers a cup of coffee brewed from an extravagant process in half of its large-city retail locations. The special cup of coffee costs $3.50 more than the basic cup of coffee the company offers. Which of the following is NOT an example of how the coffee company could use business statistics to understand the value of introducing the new, and very expensive, cup of coffee to its customers?

Please choose only one answer:

- So the company can compare the effect of revenues for a store from the new expensive brew versus stores where the brew is not offered
- So the company can measure if the amount of regular (cheaper) cups of coffee is purchased less in favor of the more expensive cup
- So the company can gauge whether the new coffee improves the ambience of the in-store seating area
- So the company can gauge whether on average customers who order the more expensive cup also tend to order more or less food along with their coffee

4.1.5. A national shoe company noticed that sales of its new running shoe ...

Author: David Bourgeois

A national shoe company noticed that sales of its new running shoe are below what was expected for the month of December. To better understand the trends in the sales data collected for each day in December, which option below would NOT be a useful way to present the data to company executives?

Please choose only one answer:

- Compile the sales data in a spreadsheet, and construct a table with each day's sales from highest to lowest displaying which days were the strongest days for sales.
- Compile the sales data in a spreadsheet, and construct a histogram showing the frequency of sales over the weeks of the December shopping season.
- Compile the sales data in a spreadsheet, and construct a table with each day's sales from this December and the previous December to compare the difference.
- Compile the sales data in a spreadsheet, and construct a table listing the reasons you think sales were lower than expected.

4.1.6. A small firm awards points to its employees for working overtime an...

Author: David Bourgeois

A small firm awards points to its employees for working overtime and subtracts points for unapproved absences from work (the points are then used in annual performance reports). A group of five employees has points of 1, -2, -3, 4, and 5, respectively. To get a sense of the average size of the total points awarded to the group of employees, calculate the root mean square of those five numbers. Round your answer to the nearest tenth.

Please choose only one answer:

- 1
- 3.2
- 11.2
- 45.0

4.1.7. Complete the following sentence. In a histogram, the area of the bi...

Author: David Bourgeois

Complete the following sentence. In a histogram, the area of the bin is:

Please choose only one answer:

- proportional to the interquartile range of the data.
- proportional to the height of the scaled y-axis.
- proportional to the total number of observations in the histogram.
- proportional to the relative frequency of the observations in the bin.

4.1.8. In a random sample of cell phone users, a leading marketing company...

Author: David Bourgeois

In a random sample of cell phone users, a leading marketing company compiled a count of total minutes per month, per user, over a three month period. With the data organized in a spreadsheet, which of the following is the best way to identify the mode number of minutes among the sample of users?

Please choose only one answer:

- Sort the data in a single column from highest to lowest, and identify the value that appears most often.
- Sort the data in a single column from highest to lowest, and find the average value by using the spreadsheet's averaging function.
- Sort the data in two columns, subtract the difference between each row and column, and then add the total by using the spreadsheet's summary function.
- Sort the data in three columns, and add the three month totals for each user by using the spreadsheet's summary function.

4.1.9. In a study conducted by the National Collegiate Athletic Associatio...

Author: David Bourgeois

In a study conducted by the National Collegiate Athletic Association, a number of variables were gathered on the characteristics of student athletes across the United States. In the report publicizing the major findings, certain variables for each student athlete are grouped together. Which grouping below provides the best example of quantitative information?

Please choose only one answer:

- The grade point average, the total credit hours in the most recent semester, and the number of classes missed as a result of athletics in the most recent semester for each student athlete
- The height, weight, and ethnicity of each student athlete
- The chosen major of the student athlete, whether the student had missed class as a result of athletics in the most recent semester, and whether the student had sought help from the instructor outside of regular class time in the most recent semester
- The sport of each student athlete, the number of practice hours per week for each athlete, and number of days the athlete spent traveling during the most recent semester

4.1.10. In a study conducted by the National Collegiate Athletic Associatio...

Author: David Bourgeois

In a study conducted by the National Collegiate Athletic Association, a number of variables were gathered on the characteristics of student athletes across the United States. In the study, specific information on each student athlete is collected. Which information best describes an ordinal variable?

Please choose only one answer:

- If a student athlete is a humanities major, business major, or a science major
- If a student athlete is a freshman, sophomore, junior, or senior with respect to athletic eligibility
- If a student athlete is or has been ranked nationally in his or her respective sport
- If the student athlete is on full scholarship

4.1.11. In order to stock the appropriate types of foods in its store, a lo...

Author: David Bourgeois

In order to stock the appropriate types of foods in its store, a local grocery chain conducts a voluntary survey of its customers as they leave the store. The survey asks for the total number of persons living in the customer's household. Calculate the mode number of household members based on the following numbers from the first ten surveys: 3, 6, 4, 9, 2, 3, 4, 9, 5, 4.

Please choose only one answer:

- 4
- 9
- 3
- 6

4.1.12. In order to stock the appropriate types of foods in its store, a lo...

Author: David Bourgeois

In order to stock the appropriate types of foods in its store, a local grocery chain conducts a voluntary survey of its customers as they leave the store. The survey asks for the total number of trips the customer makes per month to the store. Calculate the median number of trips based on the following numbers from the first few surveys: 3, 6, 9, 2, 4, 5, 1.

Please choose only one answer:

- 9
- 3
- 4
- 5

4.1.13. On a recent business-statistics exam, the instructor noticed that o...

Author: David Bourgeois

On a recent business-statistics exam, the instructor noticed that out of 100 students, the number of students that scored between a 60 and 70 (out of 100) was twice as many as the number that scored between 70 and 80. The instructor also noticed that more students scored below 60 than above 80. Which of the following options would best enable the instructor to visually represent the exam scores?

Please choose only one answer:

- Construct a table listing the exam scores from highest to lowest.
- Tabulate the mean and standard deviation of all the exam scores.
- Tabulate the frequency of the scores within ten point ranges, and construct a histogram of the data.
- Tabulate the mean and standard deviation of the exam scores, and construct a histogram of the data.

4.1.14. On the most recent business-statistics exam, the instructor tallied...

Author: David Bourgeois

On the most recent business-statistics exam, the instructor tallied a wide range of scores for the students in the course. Based on the following sample of test scores, 10, 23, 37, 41, 55, 69, 73, 89, which of the following values would result in a test score one standard deviation below the mean? Round your answer to the nearest tenth.

Please choose only one answer:

- -3.9
- 22.9
- 26.7
- 49.6

4.1.15. The National Oceanic and Atmospheric Administration just released i...

Author: David Bourgeois

The National Oceanic and Atmospheric Administration just released its annual hurricane prediction report to major insurance companies offering flood insurance in the southeastern United States. The report provides a number of variables describing the type and intensity of the hurricanes expected for the year. Which pair of variables contained in the report best represents the difference between a categorical variable and a quantitative variable?

Please choose only one answer:

- The number of hurricanes expected for the year and the average wind speed for each
- The number of hurricanes expected for the year and amount of rainfall expected for each
- The expected average wind speed when the hurricane hits land and the expected severity of damage rated between moderate to extreme
- The expected average wind speed when the hurricane hits land and the expected rise in feet of the water level along the shoreline

4.1.16. The University of Arizona varsity golf team keeps track of a number...

Author: David Bourgeois

The University of Arizona varsity golf team keeps track of a number of statistics related to its team members' performance, with an emphasis on measuring the team members' spread of scores over the golf season. Which of the following is NOT a common measure of spread?

Please choose only one answer:

- Inter-quartile range (IQR)
- Standard deviation
- Range
- Quartile

Check the answer of this question online at QuizOver.com:
Question: The University of Arizona varsity golf David Bourgeois Saylor Business

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4.1.17. True or False. All variables that take numerical values are quantit...

Author: David Bourgeois

True or False. All variables that take numerical values are quantitative.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:
Question: True or False. All variables that take David Bourgeois @The Saylor

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4.1.18. True or false: Qualitative and categorical variables typically do n...

Author: David Bourgeois

True or false: Qualitative and categorical variables typically do not have units.

Please choose only one answer:

- True
- False

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Question: True or false: Qualitative and categorical David Bourgeois @The Business

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4.1.19. Which of the following is a reason to study statistics as part of a...

Author: David Bourgeois

Which of the following is a reason to study statistics as part of a business program?

Please choose only one answer:

- So you are able to determine whether observed differences in a marketing campaign are significant or just the result of chance
- So you are able to understand and interpret the results of a marketing survey
- So you are able to predict corporate sales for the next year
- All of these answers

4.1.20. Which of the following is NOT a characteristic of a discrete quanti...

Author: David Bourgeois

Which of the following is NOT a characteristic of a discrete quantitative variable compared to a continuous variable?

Please choose only one answer:

- The possible values must have a minimum spacing.
- Discrete variables can be used to count things.
- The values the variable can take on cannot be ordered.
- The set of possible values is countable.

4.1.21. Which of the following is not a measure of location?

Author: David Bourgeois

Which of the following is not a measure of location?

Please choose only one answer:

- Mean
- Median
- Mode
- Standard deviation

Check the answer of this question online at QuizOver.com:
Question: Which of the following is not a measure David Bourgeois Saylor Business

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4.1.22. You are in charge of monitoring your electronics company's online r...

Author: David Bourgeois

You are in charge of monitoring your electronics company's online reviews (on major online shopping websites) for its newest smart phone, which has been sold in limited quantities to determine the phone's quality. You gather the most recent user ratings out of 10 for the phone which are: 3, 6, 1, 9, 2, 3, 4, 10, 5, and 4. To determine whether to continue selling the smart phone, you want to make sure it has a mean above 5. Should your company go forward with the production of the product?

Please choose only one answer:

- The mean is 5.9, so the company should move forward with production.
- The mean is 4.7, so the company should not move forward with production.
- The mean is 5.2, so the company should move forward with production.
- The mean is 3.6, so the company should not move forward with production.

4. Chapter: Unit 05: Estimation and Hypothesis Testing

1. Unit 05: Estimation and Hypothesis Testing Questions

4.1.1. A beverage filling machine, when in perfect adjustment, fills bottl...

Author: David Bourgeois

A beverage filling machine, when in perfect adjustment, fills bottles of Sierra Nevada Pale Ale® with 12 ounces of refreshment. A random sample of 51 bottles is selected and the contents are measured. The sample yields a mean content of 11.88 ounces with a sample standard deviation of 0.3565 ounces. If the p-value associated with the test statistic equals 0.001, this will lead you to do which of the following?

Please choose only one answer:

- Reject the null hypothesis and conclude that the machine fills the bottles at a value statistically different from 12 ounces
- Reject the null hypothesis and conclude that the machine fills the bottles at a value statistically less from 12 ounces
- Fail to reject the null hypothesis and prove that the machine fills the bottles at a value equal to 12 ounces
- Fail to reject the null hypothesis and conclude there is not enough evidence to show the machine fills the bottles at a value statistically different than 12 ounces

4.1.2. A beverage filling machine, when in perfect adjustment, fills bottl...

Author: David Bourgeois

A beverage filling machine, when in perfect adjustment, fills bottles of Sierra Nevada Pale Ale® with 12 ounces of refreshment. A random sample of 51 bottles is selected and the contents are measured. The sample yields a mean content of 11.88 ounces with a sample standard deviation of 0.3565 ounces. To test if the machine is in perfect adjustment at 12 ounces, the null and alternative hypotheses are best written as which of the following?

Please choose only one answer:

- $$ \begin{matrix} H_0: \mu = 12 & \\ H_A: \mu \neq 12 & \end{matrix} $$
- $$ \begin{matrix} H_0: \mu \neq 12 & \\ H_A: \mu = 12 & \end{matrix} $$
- $$ \begin{matrix} H_0: \mu = 12 & \\ H_A: \mu \leq 12 & \end{matrix} $$
- $$ \begin{matrix} H_0: \mu = 12 & \\ H_A: \mu < 12 & \end{matrix} $$

4.1.3. A new dental office has just opened in the town of Newsville. The o...

Author: David Bourgeois

A new dental office has just opened in the town of Newsville. The owners of the dental practice decided to locate in Newsville based on the assumption that the new practice would see an average of 35 patients a month in the first year of business. Which of the following statements on the null and alternative hypotheses best represents this scenario (assume that ? represents the number of patients per month)?

Please choose only one answer:

- $$ \begin{matrix} H_0: \mu = 35 & \\ H_A: \mu < 35 & \end{matrix} $$
- $$ \begin{matrix} H_0: \mu = 35 & \\ H_A: \mu \leq 35 & \end{matrix} $$
- $$ \begin{matrix} H_0: \mu = 35 & \\ H_A: \mu \neq 35 & \end{matrix} $$
- $$ \begin{matrix} H_0: \mu \neq 35 & \\ H_A: \mu = 35 & \end{matrix} $$

4.1.4. A sample of 196 houses is taken to estimate the average electric us...

Author: David Bourgeois

A sample of 196 houses is taken to estimate the average electric usage per month. The sample mean is 2,000 kilowatts per hour, and the population standard deviation is 350 kilowatt hours. What will be the 95% confidence interval for the estimate of the population mean?

Please choose only one answer:

- 1314 kilowatts per hour to 2686 kilowatts per hour
- 1951 kilowatts per hour to 2049 kilowatts per hour
- 1998 4 kilowatts per hour to 2001.96 kilowatts per hour
- 1650 kilowatts per hour to 2350 kilowatts per hour

4.1.5. A simple random sample of 36 statistics students is taken. The aver...

Author: David Bourgeois

A simple random sample of 36 statistics students is taken. The average attention span of college students listening to a lecture on statistics is 17 minutes with a standard deviation of 5 minutes. What is the probability that the attention span of a random student will be between 15 and 17 minutes?

Please choose only one answer:

- 0.51
- 0.08
- 0.49
- 0.50

4.1.6. A simple random sample of 36 statistics students is taken. The aver...

Author: David Bourgeois

A simple random sample of 36 statistics students is taken. The average attention span of college students listening to a lecture on statistics is 17 minutes with a standard deviation of 5 minutes. What is the probability that the attention span of a random student will be greater than 18 minutes?

Please choose only one answer:

- 0.12
- 0.78
- 1.0
- 0.0

4.1.7. A study of college students in 1999 found that 202 out of 1,195 stu...

Author: David Bourgeois

A study of college students in 1999 found that 202 out of 1,195 students received work-study grants. A 2007 study found that 779 students out of 5,727 received such grants. We want to test if the proportion of students receiving work study grants declined between 2007 ($$ p_2 $$) and 1999 ($$ p_1 $$). What is the null hypothesis for the test?

Please choose only one answer:

- $$ \begin{matrix} H_0: p_2 \geq p_1 & \\ H_A: p_2 < p_1 & \end{matrix} $$
- $$ \begin{matrix} H_0: p_2 = p_1 & \\ H_A: p_2 < p_1 & \end{matrix} $$
- $$ \begin{matrix} H_0: p_2 = p_1 & \\ H_A: p_2 \neq p_1 & \end{matrix} $$
- $$ \begin{matrix} H_0: p_2 \leq p_1 & \\ H_A: p_2 > p_1 & \end{matrix} $$

4.1.8. According to a customer satisfaction survey conducted on behalf of ...

Author: David Bourgeois

According to a customer satisfaction survey conducted on behalf of the nation's largest retailer, the average rating of satisfaction for customers in 2008 was 85.4 (out of 100). Assume that the population mean is 85.4 for the customer satisfaction rating, the customer satisfaction rating is normally distributed, and the population standard deviation is 8.2. What is the probability that a randomly selected customer will have a satisfaction rating between 75.0 and 95.0?

Please choose only one answer:

- 0.78
- 0.10
- 0.88
- 0.22

4.1.9. According to a customer satisfaction survey conducted on behalf of ...

Author: David Bourgeois

According to a customer satisfaction survey conducted on behalf of the nation's largest retailer, the average rating of satisfaction for customers in 2008 was 85.4 (out of 100). Assume that the population mean is 85.4 for the customer satisfaction rating, the customer satisfaction rating is normally distributed, and the population standard deviation is 8.2. What is the probability that a randomly selected customer will have a satisfaction rating greater than 100.0?

Please choose only one answer:

- 0.78
- 0.22
- 0.04
- 0.96

4.1.10. According to a customer satisfaction survey conducted on behalf of ...

Author: David Bourgeois

According to a customer satisfaction survey conducted on behalf of the nation's largest retailer, the average rating of satisfaction for customers in 2008 was 85.4 (out of 100). Assume that the population mean is 85.4 for the customer satisfaction rating, the customer satisfaction rating is normally distributed, and the population standard deviation is 8.2. What customer satisfaction rating will put a randomly selected customer's rating in the top 10 percent of satisfied customers?

Please choose only one answer:

- Rating = 95.91
- Rating = 86.68
- Rating = 84.12
- Rating = 74.86

4.1.11. Assume the federal government releases an estimate of an increase o...

Author: David Bourgeois

Assume the federal government releases an estimate of an increase of 250,000 new jobs for the month of January. However, a sample taken of 20 economists provides an average estimated number of new jobs totaling 266,000, with a sample standard deviation of 24,000. Treat the federal government's estimate as the population mean. Say you wish to test if the economists' estimate represents a statistically significant increase over the federal government's estimate for the job increase. Which of the following accurately represents the null hypothesis of that test?

Please choose only one answer:

- $$ H_0: \mu \leq 250,000 $$
- $$ H_0: \mu \geq 250,000 $$
- $$ H_0: \mu = 250,000 $$
- $$ H_0: \mu = 0 $$

4.1.12. Assume the federal government releases an estimate of an increase o...

Author: David Bourgeois

Assume the federal government releases an estimate of an increase of 250,000 new jobs for the month of January. However, a sample taken of 20 economists provides an average estimated number of new jobs totaling 266,000, with a sample standard deviation of 24,000. Treat the federal government's estimate as the population mean. Say you wish to test if the economists' estimate represents a statistically significant increase over the federal government's estimate for the job increase. Based on this information, which of the following statements is true?

Please choose only one answer:

- To evaluate the null hypothesis and calculate the appropriate test statistic, you will need to refer to the Z-distribution.
- To evaluate the null hypothesis and calculate the appropriate test statistic, you will need to refer to the t-distribution with degrees of freedom equal to 20.
- To evaluate the null hypothesis and calculate the appropriate test statistic, you will need to refer to the t-distribution with degrees of freedom equal to 19.
- To evaluate the null hypothesis and calculate the appropriate test statistic, you will need to refer to the t-distribution with degrees of freedom equal to 250,000.

4.1.13. If the level of significance equals 0.10, then the area in one tail...

Author: David Bourgeois

If the level of significance equals 0.10, then the area in one tail of the Z-distribution for a two-tailed hypothesis tests equals which of the following?

Please choose only one answer:

- 0.05
- 0.10
- 0.20
- 0.50

4.1.14. If the level of significance equals 0.10, then the area in one tail...

Author: David Bourgeois

If the level of significance equals 0.10, then the area in one tail of the Z-distribution for a one-tailed hypothesis tests equals which of the following?

Please choose only one answer:

- 0.05
- 0.10
- 0.20
- 0.50

4.1.15. If the level of significance equals 0.10, then the area in one tail...

Author: David Bourgeois

If the level of significance equals 0.10, then the area in one tail of the t-distribution for a two-tailed hypothesis tests equals which of the following?

Please choose only one answer:

- 0.05
- 0.10
- 0.20
- 0.50

4.1.16. If the level of significance equals 0.10, then the area in one tail...

Author: David Bourgeois

If the level of significance equals 0.10, then the area in one tail of the t-distribution for a one-tailed hypothesis tests equals which of the following?

Please choose only one answer:

- 0.05
- 0.10
- 0.20
- 0.50

4.1.17. If the rejection region in a one-tailed test is defined by a critic...

Author: David Bourgeois

If the rejection region in a one-tailed test is defined by a critical value of -1.65, then which of the following statements is true?

Please choose only one answer:

- The level of significance equals .05.
- The level of significance equals -0.05.
- The level of significance equals 0.10.
- The level of significance equals -0.10.

4.1.18. If the rejection region in a two-tailed test is defined by critical...

Author: David Bourgeois

If the rejection region in a two-tailed test is defined by critical values of plus or minus 1.96, then which of the following statements is true?

Please choose only one answer:

- The sample size used for the hypothesis test is greater than 120, and the level of significance equals .05.
- The sample size used for the hypothesis test is less than 120, and the level of significance equals .05.
- The sample size used for the hypothesis test is greater than 120, and the level of significance equals .10.
- The sample size used for the hypothesis test is less than 120, and the level of significance equals .10.

4.1.19. The average monthly cell phone bill of a random sample of 256 resid...

Author: David Bourgeois

The average monthly cell phone bill of a random sample of 256 residents of a city is $90 with a sample standard deviation of $24. What will be the 90% confidence interval for the mean monthly phone bills of all residents?

Please choose only one answer:

- $87.53 to $92.48
- $87.06 to $92.94
- $50.40 to $129.60
- $42.96 to $137.04

4.1.20. The College Board reported that the average number of freshman clas...

Author: David Bourgeois

The College Board reported that the average number of freshman class applications to public colleges and universities was 6,000. During a recent application enrollment period, a sample of 32 colleges and universities showed that the sample mean number of freshman class applications was 5,812. Assume the population standard deviation was known and was equal to 565. Use this information to form a null hypothesis to determine if the data indicate a change in the mean number of applications. Which of the following accurately represents the null hypothesis of that test?

Please choose only one answer:

- $$ H_0: \mu \leq 6000 $$
- $$ H_0: \mu \geq 6000 $$
- $$ H_0: \mu \neq 6000 $$
- $$ H_0: \mu = 6000 $$

4.1.21. The College Board reported that the average number of freshman clas...

Author: David Bourgeois

The College Board reported that the average number of freshman class applications to public colleges and universities was 6,000. During a recent application enrollment period, a sample of 32 colleges and universities showed that the sample mean number of freshman class applications was 5,812. Assume the population standard deviation was known and was equal to 565. Use this information to form a null hypothesis to determine if the data indicate a change in the mean number of applications. Based on this information, which of the following statements is true?

Please choose only one answer:

- To evaluate the null hypothesis and calculate the appropriate test statistic, you will need to refer to the Z-distribution.
- To evaluate the null hypothesis and calculate the appropriate test statistic, you will need to refer to the t-distribution with degrees of freedom equal 32.
- To evaluate the null hypothesis and calculate the appropriate test statistic, you will need to refer to the t-distribution with degrees of freedom equal 31.
- To evaluate the null hypothesis and calculate the appropriate test statistic, you will need to refer to the t-distribution with degrees of freedom equal 6,000.

4.1.22. Which of the following best describes the P-value associated with a...

Author: David Bourgeois

Which of the following best describes the P-value associated with a hypothesis test?

Please choose only one answer:

- The p-value is the smallest alpha (?) for which we reject the null hypothesis.
- The p-value is the largest alpha (?) for which we reject the null hypothesis.
- The p-value is the smallest alpha (?) for which we fail to reject the null hypothesis.
- The p-value is the largest alpha (?) for which we fail to reject the null hypothesis.

4.1.23. A beverage filling machine, when in perfect adjustment, fills bottl...

Author: David Bourgeois

A beverage filling machine, when in perfect adjustment, fills bottles of Sierra Nevada Pale Ale® with 12 ounces of refreshment. A random sample of 51 bottles is selected and the contents are measured. The sample yields a mean content of 11.88 ounces with a sample standard deviation of 0.3565 ounces. Compute the value of the appropriate test statistic for carrying out the hypothesis.

Please choose only one answer:

- –2.4
- +2.4
- –1.96
- +1.96

4.1.24. A new dental office opens in the town of Newsville. The owners of t...

Author: David Bourgeois

A new dental office opens in the town of Newsville. The owners of the dental practice decided to locate in Newsville based on the assumption that the new practice would see an average of 35 patients a month in the first year of business. After three months in business, the owners confidentially conclude they underestimated the average by more than 20 patients and think they should open a second location in town. However, the average for the first 3 months is a clerical error, and in truth, they have averaged just about 35 patients a month. The dental office's clerical error is an example of which of the following?

Please choose only one answer:

- A Type I error
- A Type II error
- Both a Type I and a Type II error
- The power of the hypothesis test

4.1.25. A study of college students in 1999 found that 202 out of 1,195 stu...

Author: David Bourgeois

A study of college students in 1999 found that 202 out of 1,195 students received work-study grants. A 2007 study found that 779 students out of 5,727 received such grants. We want to test if the proportion of students receiving work study grants declined between 2007 ( ) and 1999 ( ). Calculate the test statistic for this problem.

Please choose only one answer:

- +2.98
- –2.98
- +2.15
- +1.78

4. Chapter: Unit 03: The Normal Distribution

1. Unit 03: The Normal Distribution Questions

4.1.1. A sample of graduating students from a college has an average of $5...

Author: David Bourgeois

A sample of graduating students from a college has an average of $50,000 starting salaries with a standard deviation of $3,000. Assuming a normal distribution, what is the probability of a student earning less than $45,000?

Please choose only one answer:

- 0.0478
- 2.645
- 0.675
- 0.0011

4.1.2. A sample of graduating students from a college has an average of $5...

Author: David Bourgeois

A sample of graduating students from a college has an average of $50,000 starting salaries with a standard deviation of $3,000. Assuming a normal distribution, what is the probability of a student earning between $40,000 and $60,000?

Please choose only one answer:

- 0.5
- 0.0001
- 0.9991
- 1.0

4.1.3. A sample of graduating students from a college has an average of $5...

Author: David Bourgeois

A sample of graduating students from a college has an average of $50,000 starting salaries with a standard deviation of $3,000. Assuming a normal distribution, what is the probability of a student earning more than $55,000?

Please choose only one answer:

- 0.0276
- 0.6451
- 0.0478
- 0.0011

4.1.4. A sample of graduating students from a college has an average of $5...

Author: David Bourgeois

A sample of graduating students from a college has an average of $50,000 starting salaries with a standard deviation of $3,000. Assuming a normal distribution, what salary is expected to be earned by up to 70% of the students?

Please choose only one answer:

- $52,573.20
- $53,573.20
- $51,573.20
- $50,573.20

4.1.5. A sample of graduating students from a college has an average of $5...

Author: David Bourgeois

A sample of graduating students from a college has an average of $50,000 starting salaries with a standard deviation of $3,000. Assuming a normal distribution, what salary is expected to be earned by up to 70% of the students?

Please choose only one answer:

- $50,000
- $42,000
- $8,000
- $3,000

4.1.6. Assume that the average number of days an account receivable is on ...

Author: David Bourgeois

Assume that the average number of days an account receivable is on the books until funds are received is 24 days with a standard deviation of 4 days. What is the probability that an account receivable is not closed before 30 days?

Please choose only one answer:

- 0.0668
- 0.6451
- 0.0478
- 0.0011

4.1.7. Assume that the average number of days an account receivable is on ...

Author: David Bourgeois

Assume that the average number of days an account receivable is on the books until funds are received is 24 days with a standard deviation of 4 days. How many days does it take until 20% of the accounts receivables are booked?

Please choose only one answer:

- 14.2
- 29.3
- 4.1
- 20.6

4.1.8. Calculate P(-1 < Z < 2.5).

Author: David Bourgeois

Calculate P(-1 < Z < 2.5).

Please choose only one answer:

- 0.0668
- 0.8351
- 0.9332
- 0.0107

Check the answer of this question online at QuizOver.com:
Question: Calculate P -1 lt Z lt 2.5 . David Bourgeois @The Saylor Academy

Flashcards:
http://www.quizover.com/flashcards/calculate-p-1-lt-z-lt-2-5-david-bourgeois-the-saylor-academy?pdf=1505

Interactive Question:
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4.1.9. Calculate P(Z < -2.3).

Author: David Bourgeois

Calculate P(Z < -2.3).

Please choose only one answer:

- 0.0668
- 0.8686
- 0.9332
- 0.0107

Check the answer of this question online at QuizOver.com:
Question: Calculate P Z lt -2.3 . David Bourgeois @The Saylor Academy Business

Flashcards:
http://www.quizover.com/flashcards/calculate-p-z-lt-2-3-david-bourgeois-the-saylor-academy-business?pdf=1505

Interactive Question:
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4.1.10. Calculate P(Z < 1.5).

Author: David Bourgeois

Calculate P(Z < 1.5).

Please choose only one answer:

- 0.0075
- 0.8686
- 0.9332
- 1.96

Check the answer of this question online at QuizOver.com:
Question: Calculate P Z lt 1.5 . David Bourgeois @The Saylor Academy Business

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4.1.11. Calculate z when area between 0 and z is 0.475.

Author: David Bourgeois

Calculate z when area between 0 and z is 0.475.

Please choose only one answer:

- 2.56
- 1.23
- 1.03
- 1.96

Check the answer of this question online at QuizOver.com:
Question: Calculate z when area between 0 and z is David Bourgeois @The

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4.1.12. Calculate z when P(Z > z) = 0.10.

Author: David Bourgeois

Calculate z when P(Z > z) = 0.10.

Please choose only one answer:

- 1.962
- 2.645
- 1.282
- 1.172

Check the answer of this question online at QuizOver.com:
Question: Calculate z when P Z gt z 0.10. David Bourgeois @The Saylor Academy

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4.1.13. Calculate z when P(Z < z) = 0.25.

Author: David Bourgeois

Calculate z when P(Z < z) = 0.25.

Please choose only one answer:

- 0.3546
- -0.3546
- -0.6745
- 0.6745

Check the answer of this question online at QuizOver.com:
Question: Calculate z when P Z lt z 0.25. David Bourgeois @The Saylor Academy

Flashcards:
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Interactive Question:
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4.1.14. Calculate z when P(Z < z) = 0.95.

Author: David Bourgeois

Calculate z when P(Z < z) = 0.95.

Please choose only one answer:

- 1.645
- 2.645
- 3.645
- 4.645

Check the answer of this question online at QuizOver.com:
Question: Calculate z when P Z lt z 0.95. David Bourgeois @The Saylor Academy

Flashcards:
http://www.quizover.com/flashcards/calculate-z-when-p-z-lt-z-0-95-david-bourgeois-the-saylor-academy?pdf=1505

Interactive Question:
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4.1.15. Complete the following sentence. A normal distribution with a highe...

Author: David Bourgeois

Complete the following sentence. A normal distribution with a higher standard deviation is:

Please choose only one answer:

- taller than one with a lower standard deviation.
- shorter than one with a lower standard deviation.
- of same height compared to one with a lower standard deviation.
- wider than one with a lower standard deviation.

Check the answer of this question online at QuizOver.com:
Question: Complete the following sentence. A normal David Bourgeois Saylor

Flashcards:
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http://www.quizover.com/question/complete-the-following-sentence-a-normal-david-bourgeois-saylor?pdf=1505

4.1.16. Complete the following sentence. As per the central limit theorem, ...

Author: David Bourgeois

Complete the following sentence. As per the central limit theorem, a distribution of averages based on sample sizes of more than 30 has a shape that can be approximated by:

Please choose only one answer:

- binomial distribution.
- exponential distribution.
- normal distribution.
- uniform distribution.

4.1.17. Complete the following sentence. As per the central limit theorem, ...

Author: David Bourgeois

Complete the following sentence. As per the central limit theorem, as sample size increases the standard error:

Please choose only one answer:

- also increases.
- remains the same.
- may increase or decrease depending on the situation.
- decreases.

4.1.18. Complete the following sentence. For the normal distribution, popul...

Author: David Bourgeois

Complete the following sentence. For the normal distribution, population standard deviation is a:

Please choose only one answer:

- sample statistics.
- population parameter.
- population statistics.
- sample parameter.

Check the answer of this question online at QuizOver.com:
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4.1.19. Complete the following sentence. For the normal distribution, sampl...

Author: David Bourgeois

Complete the following sentence. For the normal distribution, sample mean is a:

Please choose only one answer:

- sample statistics.
- population parameter.
- population statistics.
- sample parameter.

4.1.20. Complete the following sentence. Variability of the distribution of...

Author: David Bourgeois

Complete the following sentence. Variability of the distribution of sample averages is captured by:

Please choose only one answer:

- mean.
- standard error.
- standard deviation.
- sample size.

4.1.21. For a normal distribution, what is the area to the left of the mean?

Author: David Bourgeois

For a normal distribution, what is the area to the left of the mean?

Please choose only one answer:

- -0.5
- 0.5
- 1.0
- 0

Check the answer of this question online at QuizOver.com:
Question: For a normal distribution what is the area David Bourgeois Saylor

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4.1.22. The central limit theorem highlights the importance of which distri...

Author: David Bourgeois

The central limit theorem highlights the importance of which distribution in statistics?

Please choose only one answer:

- Binomial
- Poisson
- Normal
- Exponential

Check the answer of this question online at QuizOver.com:
Question: The central limit theorem highlights the David Bourgeois Saylor Business

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4.1.23. The mean annual cost of automobile insurance is $939 with a standar...

Author: David Bourgeois

The mean annual cost of automobile insurance is $939 with a standard deviation of $245. What Excel function can be used to obtain the probability of the annual cost of automobile insurance less than $1000?

Please choose only one answer:

- =NORMDIST(1000,939,245)
- =NORMDIST(1000,245,939,TRUE)
- =NORMDIST(1000,939,245,TRUE)
- =NORMDIST(1000,939,245,FALSE)

4.1.24. The mean annual cost of automobile insurance is $939 with a standar...

Author: David Bourgeois

The mean annual cost of automobile insurance is $939 with a standard deviation of $245. What is the probability of the annual cost of automobile insurance being less than $1,000?

Please choose only one answer:

- 0.598
- 0.221
- 0.6565
- 0.7856

4.1.25. The mean annual cost of automobile insurance is $939 with a standar...

Author: David Bourgeois

The mean annual cost of automobile insurance is $939 with a standard deviation of $245. What is the probability of the annual cost of automobile insurance being greater than $1,200?

Please choose only one answer:

- 0.143
- 0.221
- 0.656
- 0.562

4.1.26. The mean annual cost of automobile insurance is $939 with a standar...

Author: David Bourgeois

The mean annual cost of automobile insurance is $939 with a standard deviation of $245. What is the probability of the annual cost of automobile insurance being greater than $939?

Please choose only one answer:

- 0.3
- 0.4
- 0.5
- 0.6

4.1.27. The mean annual cost of automobile insurance is $939 with a standar...

Author: David Bourgeois

The mean annual cost of automobile insurance is $939 with a standard deviation of $245. What is the annual cost of automobile insurance for less than 75% of customers?

Please choose only one answer:

- $1,523.22
- $500.98
- $1,200.02
- $1,104.25

4.1.28. The mean annual cost of automobile insurance is $939 with a standar...

Author: David Bourgeois

The mean annual cost of automobile insurance is $939 with a standard deviation of $245. What is the annual cost of automobile insurance for less than 10% of customers?

Please choose only one answer:

- $625.02
- $500.98
- $120.02
- $104.25

4.1.29. The weight of football players is normally distributed with a mean ...

Author: David Bourgeois

The weight of football players is normally distributed with a mean of 205 pounds and a standard deviation of 27 pounds. Find the probability of a player weighing less than 275 pounds.

Please choose only one answer:

- 0.9952
- 0.0952
- 0.7823
- 0.9766

4.1.30. The weight of football players is normally distributed with a mean ...

Author: David Bourgeois

The weight of football players is normally distributed with a mean of 205 pounds and a standard deviation of 27 pounds. Find the probability of a player weighing between 250 and 300 pounds.

Please choose only one answer:

- 0.9952
- 0.0952
- 0.7823
- 0.0476

4.1.31. The weight of football players is normally distributed with a mean ...

Author: David Bourgeois

The weight of football players is normally distributed with a mean of 205 pounds and a standard deviation of 27 pounds. Find the probability of a player weighing over 300 pounds.

Please choose only one answer:

- 0.9952
- 0.0002
- 0.7823
- 0.0476

4.1.32. The weight of football players is normally distributed with a mean ...

Author: David Bourgeois

The weight of football players is normally distributed with a mean of 205 pounds and a standard deviation of 27 pounds. What percentages of players are expected to weigh over 300 pounds?

Please choose only one answer:

- 2.0%
- 0.0002%
- 0.20%
- 0.02%

4.1.33. The weight of items produced by a machine is normally distributed w...

Author: David Bourgeois

The weight of items produced by a machine is normally distributed with a mean of 28 ounces and a standard deviation of 6 ounces. What is the probability that a randomly selected item will weigh more than 17 ounces?

Please choose only one answer:

- 0.9666
- 0.0002
- 0.7823
- 0.0476

4.1.34. The weight of items produced by a machine is normally distributed w...

Author: David Bourgeois

The weight of items produced by a machine is normally distributed with a mean of 28 ounces and a standard deviation of 6 ounces. What percentages of items are expected to weigh more than 17 ounces?

Please choose only one answer:

- 0.9666%
- 9.666%
- 0.09666%
- 96.66%

4.1.35. To calculate standard error, one requires which of the following?

Author: David Bourgeois

To calculate standard error, one requires which of the following?

Please choose only one answer:

- Sample size
- Probability
- Mean
- Mode

Check the answer of this question online at QuizOver.com:
Question: To calculate standard error one requires David Bourgeois @The

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4.1.36. What is the mean of a standard normal distribution?

Author: David Bourgeois

What is the mean of a standard normal distribution?

Please choose only one answer:

- 0
- 1
- 0.5
- 2.0

Check the answer of this question online at QuizOver.com:
Question: What is the mean of a standard normal David Bourgeois Saylor Academy

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4.1.37. What is the standard deviation of a standard normal distribution?

Author: David Bourgeois

What is the standard deviation of a standard normal distribution?

Please choose only one answer:

- 0
- 1
- 0.5
- 2.0

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Question: What is the standard deviation of a standard David Saylor Academy

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4.1.38. Which of the following best characterizes a normal distribution?

Author: David Bourgeois

Which of the following best characterizes a normal distribution?

Please choose only one answer:

- A normal distribution is skewed to the left.
- A normal distribution is skewed to the right.
- A normal distribution is symmetric.
- A normal distribution is uniform.

4.1.39. Which of the following distributions is a continuous probability di...

Author: David Bourgeois

Which of the following distributions is a continuous probability distribution?

Please choose only one answer:

- Binomial
- Hypergeometric
- Poisson
- Normal

Check the answer of this question online at QuizOver.com:
Question: Which of the following distributions is David Bourgeois Saylor Business

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4.1.40. Which of the following statements comparing standard error and stan...

Author: David Bourgeois

Which of the following statements comparing standard error and standard deviation is true?

Please choose only one answer:

- Standard error and standard deviation are always same.
- Standard error and standard deviation are different.
- Standard error and standard deviation are negative values.
- Standard error and standard deviation are opposite.

4. Chapter: Unit 02: Counting, Probability, and Probability Distributions

1. Unit 02: Counting, Probability, and Probability Distributions Questions

4.1.1. 25% of undergraduates with a business major in a class of 200 are p...

Author: David Bourgeois

25% of undergraduates with a business major in a class of 200 are planning to go to graduate school to get their MBAs. What is the average of this binomial distribution?

Please choose only one answer:

- 0.25
- 50
- 100
- 75

4.1.2. 25% of undergraduates with a business major in a class of 200 are p...

Author: David Bourgeois

25% of undergraduates with a business major in a class of 200 are planning to go to graduate school to get their MBAs. What is the standard deviation of this binomial distribution?

Please choose only one answer:

- 6.1
- 50
- 100
- none of the above

4.1.3. A playlist on your Mp3 player has 10 songs. You can listen to the s...

Author: David Bourgeois

A playlist on your Mp3 player has 10 songs. You can listen to the songs in how many different orders?

Please choose only one answer:

- 3,628,800
- 10
- 11
- 500,000

4.1.4. At a computer manufacturing company, five computers are sent for fi...

Author: David Bourgeois

At a computer manufacturing company, five computers are sent for final inspection. At the final inspection, a computer may pass or fail based on the criteria used for preforming the inspection. What is the number of all possible outcomes that may be observed at the final inspection of these five computers?

Please choose only one answer:

- 16
- 8
- 2
- 32

4.1.5. Complete the following sentence. A random variable representing the...

Author: David Bourgeois

Complete the following sentence. A random variable representing the speed of a car is a:

Please choose only one answer:

- continuous random variable.
- discrete random variable.
- constant random variable.
- discrete or continuous random variable.

Check the answer of this question online at QuizOver.com:
Question: Complete the following sentence. A random David Bourgeois Saylor

Flashcards:
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4.1.6. Complete the following sentence. A random variable representing the...

Author: David Bourgeois

Complete the following sentence. A random variable representing the width of a table in centimeters can be modeled using:

Please choose only one answer:

- continuous distribution.
- discrete distribution.
- constant distribution.
- discrete or continuous distribution.

4.1.7. Complete the following sentence. A random variable representing the...

Author: David Bourgeois

Complete the following sentence. A random variable representing the number of defects on the surface of a table can be modeled using:

Please choose only one answer:

- exponential distribution.
- normal distribution.
- binomial distribution.
- Poisson distribution.

4.1.8. Complete the following sentence. For a valid probability distributi...

Author: David Bourgeois

Complete the following sentence. For a valid probability distribution, the total probability:

Please choose only one answer:

- must be less than one.
- may or may not be less than one.
- must be greater than one.
- must be one.

Check the answer of this question online at QuizOver.com:
Question: Complete the following sentence. For a David Bourgeois Saylor Business

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Interactive Question:
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4.1.9. Complete the following sentence. Probability always lies between:

Author: David Bourgeois

Complete the following sentence. Probability always lies between:

Please choose only one answer:

- 0 and 1.
- -1 and +1.
- 0.5 and 1.
- 0 and 0.5.

Check the answer of this question online at QuizOver.com:
Question: Complete the following sentence. Probability David Saylor Academy

Flashcards:
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Interactive Question:
http://www.quizover.com/question/complete-the-following-sentence-probability-david-saylor-academy?pdf=1505

4.1.10. Complete the following sentence. The number of computers sold per d...

Author: David Bourgeois

Complete the following sentence. The number of computers sold per day at a store represents a:

Please choose only one answer:

- continuous random variable.
- discrete random variable.
- constant random variable.
- discrete or continuous random variable.

Check the answer of this question online at QuizOver.com:
Question: Complete the following sentence. The number David Bourgeois Saylor

Flashcards:
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Interactive Question:
http://www.quizover.com/question/complete-the-following-sentence-the-number-david-bourgeois-saylor?pdf=1505

4.1.11. Complete the following sentence. The number of defective items foun...

Author: David Bourgeois

Complete the following sentence. The number of defective items found after a final inspection can be modeled using:

Please choose only one answer:

- exponential distribution.
- normal distribution.
- Poisson distribution.
- binomial distribution.

4.1.12. Consider a random variable that takes values 1, 2, and 3 with proba...

Author: David Bourgeois

Consider a random variable that takes values 1, 2, and 3 with probabilities 0.5, 0.3, and 0.2, respectively. Find the expected value.

Please choose only one answer:

- 1.7
- 2.3
- 3.5
- 4.8

4.1.13. Consider that seven students go for an interview. What Excel functi...

Author: David Bourgeois

Consider that seven students go for an interview. What Excel function can be used to obtain the number of ways exactly three students are SUCCESSFUL out of all possible outcomes?

Please choose only one answer:

- =COMBIN(7,10)
- =COMBIN(3,10)
- =COMBIN(3,7)
- =COMBIN(7,3)

4.1.14. Consider that seven students go for an interview. How many ways can...

Author: David Bourgeois

Consider that seven students go for an interview. How many ways can exactly three students be SUCCESSFUL out of all possible outcomes?

Please choose only one answer:

- 25
- 35
- 45
- 55

4.1.15. If a coin is tossed 1,000 times, the number of times one observes a...

Author: David Bourgeois

If a coin is tossed 1,000 times, the number of times one observes a TAIL is likely to approach what percent?

Please choose only one answer:

- 10%
- 50%
- 90%
- 95%

4.1.16. In a binomial distribution, mean is given by which of the following?

Author: David Bourgeois

In a binomial distribution, mean is given by which of the following?

Please choose only one answer:

- np
- p
- n
- np(1-p)

Check the answer of this question online at QuizOver.com:
Question: In a binomial distribution mean is given David Bourgeois @The

Flashcards:
http://www.quizover.com/flashcards/in-a-binomial-distribution-mean-is-given-david-bourgeois-the?pdf=1505

Interactive Question:
http://www.quizover.com/question/in-a-binomial-distribution-mean-is-given-david-bourgeois-the?pdf=1505

4.1.17. In a binomial distribution, variance is given by which of the follo...

Author: David Bourgeois

In a binomial distribution, variance is given by which of the following?

Please choose only one answer:

- np
- p
- n
- np(1-p)

Check the answer of this question online at QuizOver.com:
Question: In a binomial distribution variance is David Bourgeois @The Saylor

Flashcards:
http://www.quizover.com/flashcards/in-a-binomial-distribution-variance-is-david-bourgeois-the-saylor?pdf=1505

Interactive Question:
http://www.quizover.com/question/in-a-binomial-distribution-variance-is-david-bourgeois-the-saylor?pdf=1505

4.1.18. In a binomial experiment if n = 15 and p = 0.6, what excel function...

Author: David Bourgeois

In a binomial experiment if n = 15 and p = 0.6, what excel function can be used to calculate P(X ? 10)?

Please choose only one answer:

- =1-BINOMDIST(10,15,0.6,TRUE)
- =BINOMDIST(10,15,0.6,TRUE)
- =1+BINOMDIST(10,15,0.6,TRUE)
- =BINOMDIST(10,15,0.6,FALSE)

4.1.19. In a binomial experiment, if n = 15 and p = 0.6, calculate P(X = 3).

Author: David Bourgeois

In a binomial experiment, if n = 15 and p = 0.6, calculate P(X = 3).

Please choose only one answer:

- 0.4512
- 0.0127
- 0.0017
- 0.9976

4.1.20. In a binomial experiment, if n = 15 and p = 0.6, calculate P(X ? 10).

Author: David Bourgeois

In a binomial experiment, if n = 15 and p = 0.6, calculate P(X ? 10).

Please choose only one answer:

- 0.7827
- 0.0127
- 0.0017
- 0.9976

4.1.21. In a binomial experiment, if n = 15 and p = 0.6, calculate P(X ? 7).

Author: David Bourgeois

In a binomial experiment, if n = 15 and p = 0.6, calculate P(X ? 7).

Please choose only one answer:

- 0.782
- 0.012
- 0.905
- 0.997

4.1.22. In a binomial experiment, if n = 15 and p = 0.6, calculate mean or ...

Author: David Bourgeois

In a binomial experiment, if n = 15 and p = 0.6, calculate mean or the expected value.

Please choose only one answer:

- 10
- 9
- 8
- 7

4.1.23. In a binomial experiment, if n = 15 and p = 0.6, calculate variance.

Author: David Bourgeois

In a binomial experiment, if n = 15 and p = 0.6, calculate variance.

Please choose only one answer:

- 0.6
- 1.6
- 2.6
- 3.6

Check the answer of this question online at QuizOver.com:
Question: In a binomial experiment if n 15 and p 0 David Bourgeois @The

Flashcards:
http://www.quizover.com/flashcards/in-a-binomial-experiment-if-n-15-and-p-0-david-bourgeois-the-8034536?pdf=1505

Interactive Question:
http://www.quizover.com/question/in-a-binomial-experiment-if-n-15-and-p-0-david-bourgeois-the-8034536?pdf=1505

4.1.24. In a binomial experiment, if n = 15 and p = 0.6, calculate standard...

Author: David Bourgeois

In a binomial experiment, if n = 15 and p = 0.6, calculate standard deviation.

Please choose only one answer:

- 1.981
- 0.238
- 1.897
- 0.023

4.1.25. In a binomial experiment, if n = 15 and p = 0.6, what Excel functio...

Author: David Bourgeois

In a binomial experiment, if n = 15 and p = 0.6, what Excel function can be used to calculate P(X = 3)?

Please choose only one answer:

- =1-BINOMDIST(3,15,0.6,FALSE)
- =BINOMDIST(3,15,0.6,TRUE)
- =1+BINOMDIST(3,15,0.6,FALSE)
- =BINOMDIST(3,15,0.6,FALSE)

4.1.26. In a binomial experiment, if n = 15 and p = 0.6, what Excel functio...

Author: David Bourgeois

In a binomial experiment, if n = 15 and p = 0.6, what Excel function can be used to calculate P(X ? 7)?

Please choose only one answer:

- =1-BINOMDIST(6,15,0.6,TRUE)
- =BINOMDIST(7,15,0.6,TRUE)
- =1+ BINOMDIST(6,15,0.6,TRUE)
- = BINOMDIST(6,15,0.6,TRUE)

4.1.27. In an experiment, three coins are tossed. How many ways can exactly...

Author: David Bourgeois

In an experiment, three coins are tossed. How many ways can exactly two HEADS be observed out of all possible outcomes?

Please choose only one answer:

- 1
- 2
- 3
- 4

4.1.28. In an experiment, three coins are tossed. What Excel function can b...

Author: David Bourgeois

In an experiment, three coins are tossed. What Excel function can be used to obtain the number of ways exactly two HEADS are observed out of all possible outcomes?

Please choose only one answer:

- =COMBIN(3,2)
- =COMBIN(2,3)
- =COMBIN(8,2)
- =COMBIN(2,8)

4.1.29. In an ISO 9000 company, there is a team of 10 internal quality audi...

Author: David Bourgeois

In an ISO 9000 company, there is a team of 10 internal quality auditors. The number of auditors assigned to conduct the audit may vary from none to all 10. What is the number of all possible ways in which these 10 auditors may or may not be assigned to audit a department?

Please choose only one answer:

- 1024
- 20
- 2048
- 10

4.1.30. The random variable x is the number of occurrences of an event over...

Author: David Bourgeois

The random variable x is the number of occurrences of an event over an interval of five minutes. It can be assumed that the probability of an occurrence is the same in any two time periods of an equal length. It is known that the mean number of occurrences in five minutes is 4.1. What is the appropriate probability distribution to use in this situation?

Please choose only one answer:

- Binomial distribution
- Normal distribution
- Poisson distribution
- Continuous distribution

4.1.31. True or False. In a binomial distribution, the probability of succe...

Author: David Bourgeois

True or False. In a binomial distribution, the probability of success remains the same from trial to trial.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:
Question: True or False. In a binomial distribution David Bourgeois @The Business

Flashcards:
http://www.quizover.com/flashcards/true-or-false-in-a-binomial-distribution-david-bourgeois-the-business?pdf=1505

Interactive Question:
http://www.quizover.com/question/true-or-false-in-a-binomial-distribution-david-bourgeois-the-business?pdf=1505

4.1.32. True or False: A random variable representing the number of defects...

Author: David Bourgeois

True or False: A random variable representing the number of defects is usually more informative than a random variable that captures the number of defective items.

Please choose only one answer:

- True
- False

4.1.33. What are the number of values of the possible speed between 60 and ...

Author: David Bourgeois

What are the number of values of the possible speed between 60 and 61 miles per hour?

Please choose only one answer:

- 0
- 10
- 100
- Infinite

Check the answer of this question online at QuizOver.com:
Question: What are the number of values of the David Bourgeois Saylor Academy

Flashcards:
http://www.quizover.com/flashcards/what-are-the-number-of-values-of-the-david-bourgeois-saylor-academy?pdf=1505

Interactive Question:
http://www.quizover.com/question/what-are-the-number-of-values-of-the-david-bourgeois-saylor-academy?pdf=1505

4.1.34. What is the number of experimental outcomes in a toss of four coins?

Author: David Bourgeois

What is the number of experimental outcomes in a toss of four coins?

Please choose only one answer:

- 8
- 16
- 2
- 4

Check the answer of this question online at QuizOver.com:
Question: What is the number of experimental outcomes David Bourgeois Saylor

Flashcards:
http://www.quizover.com/flashcards/what-is-the-number-of-experimental-outcomes-david-bourgeois-saylor?pdf=1505

Interactive Question:
http://www.quizover.com/question/what-is-the-number-of-experimental-outcomes-david-bourgeois-saylor?pdf=1505

4.1.35. What is the probability of getting an ACE when a card is drawn from...

Author: David Bourgeois

What is the probability of getting an ACE when a card is drawn from a deck of cards?

Please choose only one answer:

- 1/52
- 2/52
- 3/52
- 4/52

Check the answer of this question online at QuizOver.com:
Question: What is the probability of getting an ACE David Bourgeois Saylor

Flashcards:
http://www.quizover.com/flashcards/what-is-the-probability-of-getting-an-ace-david-bourgeois-saylor?pdf=1505

Interactive Question:
http://www.quizover.com/question/what-is-the-probability-of-getting-an-ace-david-bourgeois-saylor?pdf=1505

4.1.36. What is the value of 0!?

Author: David Bourgeois

What is the value of 0!?

Please choose only one answer:

- -1
- 0
- 1
- Not defined

Check the answer of this question online at QuizOver.com:
Question: What is the value of 0 David Bourgeois Saylor Academy Business Quest

Flashcards:
http://www.quizover.com/flashcards/what-is-the-value-of-0-david-bourgeois-saylor-academy-business-quest?pdf=1505

Interactive Question:
http://www.quizover.com/question/what-is-the-value-of-0-david-bourgeois-saylor-academy-business-quest?pdf=1505

4.1.37. What is the value of 5!?

Author: David Bourgeois

What is the value of 5!?

Please choose only one answer:

- 25
- 120
- 5
- 500

Check the answer of this question online at QuizOver.com:
Question: What is the value of 5 David Bourgeois Saylor Academy Business Quest

Flashcards:
http://www.quizover.com/flashcards/what-is-the-value-of-5-david-bourgeois-saylor-academy-business-quest?pdf=1505

Interactive Question:
http://www.quizover.com/question/what-is-the-value-of-5-david-bourgeois-saylor-academy-business-quest?pdf=1505

4.1.38. When dealing with the number of customers walking into a Wal-Mart s...

Author: David Bourgeois

When dealing with the number of customers walking into a Wal-Mart store between 10 am and 11 am, what is the appropriate probability distribution to use?

Please choose only one answer:

- Binomial distribution
- Normal distribution
- Poisson distribution
- Normal distribution

4.1.39. When dealing with the time interval between successive customers wa...

Author: David Bourgeois

When dealing with the time interval between successive customers walking into a Wal-Mart store between 10 am and 11 am, what is the appropriate probability distribution to use?

Please choose only one answer:

- Binomial distribution
- Discrete distribution
- Poisson distribution
- None of these answers

4.1.40. When rolling a die, what is the probability of getting a 3?

Author: David Bourgeois

When rolling a die, what is the probability of getting a 3?

Please choose only one answer:

- 6/3
- 3/6
- 1/6
- 1/3

Check the answer of this question online at QuizOver.com:
Question: When rolling a die what is the probability David Bourgeois Saylor

Flashcards:
http://www.quizover.com/flashcards/when-rolling-a-die-what-is-the-probability-david-bourgeois-saylor?pdf=1505

Interactive Question:
http://www.quizover.com/question/when-rolling-a-die-what-is-the-probability-david-bourgeois-saylor?pdf=1505

4. Chapter: Unit 06: Correlation and Regression

1. Unit 06: Correlation and Regression Questions

4.1.1. A correlation coefficient between two variables (x and y) equal to ...

Author: David Bourgeois

A correlation coefficient between two variables (x and y) equal to 0.99 best describes the relationship between the two variables in which of the following ways?

Please choose only one answer:

- x causes y.
- y causes x.
- x and y are strongly correlated.
- x and y are weakly correlated.

4.1.2. A correlation coefficient equal to 1 best describes the relationshi...

Author: David Bourgeois

A correlation coefficient equal to 1 best describes the relationship between two variables (x and y) in which of the following ways?

Please choose only one answer:

- The value of the correlation coefficient means that when x increases, y tends to increase, and when x decreases, y tends to decrease.
- The value of the correlation coefficient means that when x increases, y tends to decrease, and when x decreases, y tends to increase.
- The value of the correlation coefficient means that when x increases, y tends to decrease by exactly the same amount.
- The value of the correlation coefficient means that when x increases, y tends to increase by exactly the same amount.

4.1.3. A linear regression with hours spent exercising per week as the ind...

Author: David Bourgeois

A linear regression with hours spent exercising per week as the independent variable and body fat percentage as the dependent variable results in an estimated regression line, $$ \hat{Y_i}=45-3X_i $$. Assume that the predicted body fat percentage for a person that exercises for 10 hours is $$ \hat{Y_i}=15 $$, yet the actual value of the dependent variable in the sample for the person who exercises 10 hours equals 18.5. The difference is best described as which of the following?

Please choose only one answer:

- The slope of the regression line
- The effect of the independent variable on the dependent variable
- The effect of the dependent variable on the independent variable
- The residual

Check the answer of this question online at QuizOver.com:
Question: A linear regression with hours spent David Bourgeois @The Saylor

Flashcards:
http://www.quizover.com/flashcards/a-linear-regression-with-hours-spent-david-bourgeois-the-saylor?pdf=1505

Interactive Question:
http://www.quizover.com/question/a-linear-regression-with-hours-spent-david-bourgeois-the-saylor?pdf=1505

4.1.4. A linear regression with hours spent exercising per week as the ind...

Author: David Bourgeois

A linear regression with hours spent exercising per week as the independent variable and body fat percentage as the dependent variable results in an estimated regression line $$ \hat{Y_i}=45-3X_i $$. The estimated value –3 is best interpreted as which of the following?

Please choose only one answer:

- The predicted level of the body fat percentage for the number of exercise hours equal to 3
- The predicted level of the dependent variable for the number of exercise hours equal to 42
- The amount that body fat percentage will decline for every 1 hour increase in exercise
- The amount that body fat percentage will increase for every 1 hour increase in exercise

4.1.5. A positive correlation coefficient best describes the relationship ...

Author: David Bourgeois

A positive correlation coefficient best describes the relationship between two variables (x and y) in which of the following ways?

Please choose only one answer:

- A positive value of the correlation coefficient means that when x increases, y tends to increase, and when x decreases, y tends to decrease.
- A positive value of the correlation coefficient means that when x increases, y tends to decrease, and when x decreases, y tends to increase.
- A positive value of the correlation coefficient means that when x increases, y tends diminish.
- A positive value of the correlation coefficient means that when x increases, y tends be unaffected.

4.1.6. Assume you are interested in using linear regression to test the ef...

Author: David Bourgeois

Assume you are interested in using linear regression to test the effect of the number of hours studied for a college statistics exam on the exam score. From a sample of 150 business statistics students, you obtain the following information: the number of hours the student studied for the exam (HOURS) and their eventual score on the exam out of 100 (SCORE). Which of the following best describes the dependent and independent variables in this scenario?

Please choose only one answer:

- HOURS is the dependent variable, and SCORE is the independent variable.
- HOURS is the independent variable, and SCORE is the dependent variable.
- HOURS and SCORE are both independent variables.
- Neither HOURS nor SCORE are independent variables.

Check the answer of this question online at QuizOver.com:
Question: Assume you are interested in using linear David Bourgeois @The Business

Flashcards:
http://www.quizover.com/flashcards/assume-you-are-interested-in-using-linear-david-bourgeois-the-business?pdf=1505

Interactive Question:
http://www.quizover.com/question/assume-you-are-interested-in-using-linear-david-bourgeois-the-business?pdf=1505

4.1.7. Assume you are interested in using linear regression to test the ef...

Author: David Bourgeois

Assume you are interested in using linear regression to test the effect of the number of lattes a person drinks in a week on his or her weight. From a survey of 1,200 people, you obtain the following information: the number of lattes a person drinks in a work week from Monday to Friday (LATTE) and his or her weight at the time of the survey (LBS). Which of the following best describes the dependent and independent variables in this scenario?

Please choose only one answer:

- LBS is the dependent variable, and LATTE is the independent variable.
- LATTE is the dependent variable, and LBS is the independent variable.
- LATTE and LBS are both independent variables.
- Neither LATTE nor LBS are independent variables.

4.1.8. Assume you measure the average number of hours studied for an exam ...

Author: David Bourgeois

Assume you measure the average number of hours studied for an exam from a sample of 150 business statistics students. The mean number of hours studied equals 15, and the standard deviation for the sample is 4 hours. You notice one student in the sample studied 27 hours. That student best represents which of the following in the sample?

Please choose only one answer:

- An outlier
- A unit of observation
- The independent variable
- The dependent variable

4.1.9. Complete the following sentence. The coefficient of determination b...

Author: David Bourgeois

Complete the following sentence. The coefficient of determination between the dependent variable, TEST SCORE, and the independent variable, HOURS SPENT STUDYING, equals 0.43. This means that:

Please choose only one answer:

- variation in the variable, HOURS SPENT STUDYING, explains 43% of the variation in the variable, TEST SCORE.
- variation in the variable, TEST SCORE, explains 43% of the variation in the variable, HOURS SPENT STUDYING.
- The correlation between HOURS SPENT STUDYING and TEST SCORE equals 0.43.
- The correlation between HOURS SPENT STUDYING and TEST SCORE equals 0.57.

4.1.10. Consider the estimated regression line, $$ \hat{Y_i}=5.43+3.4X_i $$...

Author: David Bourgeois

Consider the estimated regression line, $$ \hat{Y_i}=5.43+3.4X_i $$. The estimated value 5.43 is best interpreted as which of the following?

Please choose only one answer:

- The predicted level of the dependent variable for values of the independent variable equal to 0
- The predicted level of the independent variable for values of the dependent variable equal to 0
- The unit increase of the dependent variable when the independent variable increases by one unit
- The unit increase of the independent variable when the dependent variable increases by one unit

4.1.11. Consider the estimated regression line, $$ \hat{Y_i}=5.43+3.4X_i $$...

Author: David Bourgeois

Consider the estimated regression line, $$ \hat{Y_i}=5.43+3.4X_i $$. The estimated value 3.4 is best interpreted as which of the following?

Please choose only one answer:

- The predicted level of the dependent variable for values of the independent variable equal to 3.4
- The predicted level of the dependent variable for values of the independent variable equal to 8.83
- The unit increase of the dependent variable when the independent variable increases by one unit
- The unit increase of the independent variable when the dependent variable increases by one unit

4.1.12. If the correlation coefficient between x and y equals 0.50, then th...

Author: David Bourgeois

If the correlation coefficient between x and y equals 0.50, then the coefficient of determination must equal which of the following?

Please choose only one answer:

- –0.50
- +0.50
- 0.25
- 0.70

4.1.13. The figure below shows a plot of the residuals from a linear regres...

Author: David Bourgeois

The figure below shows a plot of the residuals from a linear regression.

Notice the two residuals marked A and B.

Which of the following below best describes what these residuals reveal about the fitted regression line?

Please choose only one answer:

- Residuals A and B represent positive outliers in the sample, which results in the slope being over-estimated (it is larger than the true relationship between x and y).
- Residuals A and B represent negative outliers in the sample, which results in the slope being under-estimated (it is smaller than the true relationship between x and y).
- Residuals A and B represent outliers in the sample, which results in the line of best fit.
- Residuals A and B represent observations in the sample, which results in the line of best fit.

4.1.14. The figure below shows a plot of the residuals from a linear regres...

Author: David Bourgeois

The figure below shows a plot of the residuals from a linear regression.

Notice the residual marked A.

Which of the following best describes what this residual reveals about the fitted regression line?

Please choose only one answer:

- Residual A represents a negative outlier in the sample, which results in the slope being over-estimated (it is larger than the true relationship between x and y).
- Residual A represents a negative outlier in the sample, which results in the slope being under-estimated (it is smaller than the true relationship between x and y).
- Residual A represents an outlier in the sample, which results in the line of best fit.
- Residual A represents an observation in the sample, which results in the line of best fit.

4.1.15. The method of least squares used to estimate a regression line is b...

Author: David Bourgeois

The method of least squares used to estimate a regression line is best described by which of the following?

Please choose only one answer:

- Solve for the minimum possible sum of the squared errors (SSE) from a sample of data scattered around a straight line.
- Solve for the maximum possible sum of the squared errors (SSE) from a sample of data scattered around a straight line.
- Solve for the minimum possible residuals from a sample of data scattered around a straight line.
- Solve for the minimum possible correlation coefficient from a sample of data scattered around a straight line.

4.1.16. The slope b can be written as $$ b = r \times \left (\frac{s_y}{s_...

Author: David Bourgeois

The slope b can be written as $$ b = r \times \left (\frac{s_y}{s_x} \right) $$, where r is the correlation coefficient between x and y, and $$ s_y $$ and $$ s_x $$ are the standard deviations of y and x, respectively. Which of the following statements best describes the slope of a linear regression line?

Please choose only one answer:

- The slope reveals how a change in x affects a change in y, given the variation of sample data on x and y.
- The slope reveals how a change in y affects a change in x, given the variation of sample data on x and y.
- The slope reveals the strength of association between x and y.
- The slope reveals the strength of association between a change in x and a change in y.

4.1.17. The sum of the squared errors is calculated by which of the followi...

Author: David Bourgeois

The sum of the squared errors is calculated by which of the following methods?

Please choose only one answer:

- Measure the vertical distance between the actual value of y in a sample and the estimated value of y from the fitted regression line, and then add the squared distances for each observation in the sample.
- Measure the vertical distance between the actual value of y in a sample and the estimated value of y from the fitted regression line, and then add the distances for each observation in the sample.
- Measure the vertical distance between the actual value of y in a sample and the estimated value of y from the fitted regression line, and then multiply each term by the correlation coefficient between x and y.
- Measure the vertical distance between the actual value of y in a sample and the estimated value of y from the fitted regression line.

4.1.18. The table below shows three observations from data on the number of...

Author: David Bourgeois

The table below shows three observations from data on the number of traffic tickets in a semester for a sample of students from colleges across the United States and the number of rainy days over the same period. Based on linear regression with TICKETS as the dependent variable, which of the following reveals the sum of the squares of the Error (SSE)?

Please choose only one answer:

- SSE = 11
- SSE = 5
- SSE = 6
- SSE = -5

4.1.19. The table below shows three observations from data on the number of...

Author: David Bourgeois

The table below shows three observations from data on the number of cups of coffee consumed per day for a sample of MBA students from colleges across the United States and their GPAs. Based on linear regression with CUPS OF COFFEE as the dependent variable, which option below reveals the sum of the squares of the error (SSE)?

Please choose only one answer:

- SSE = 0.50
- SSE = 0.25
- SSE = 1.0
- SSE = 7.5

4.1.20. Which of the following best describes the difference between the co...

Author: David Bourgeois

Which of the following best describes the difference between the coefficient of determination and the correlation coefficient?

Please choose only one answer:

- The coefficient of determination reveals to what extent a change in x causes a change in y, while the correlation coefficient shows how a change in y causes a change in x.
- The coefficient of determination reveals to what extent a change in x causes a change in y, while the correlation coefficient shows strength of association between x and y.
- The coefficient of determination reveals the extent a change in y that can be explained by a change in x by using the regression line, whereas the correlation coefficient shows strength of association between x and y.
- The coefficient of determination reveals the extent a change in x that can be explained by a change in y by using the regression line, whereas the correlation coefficient shows strength of association between x and y.

4.1.21. Which of the statements about the line of best fit is true?

Author: David Bourgeois

Which of the statements about the line of best fit is true?

Please choose only one answer:

- The best fit line always passes through the point $$ \left (\bar x, \bar y \right) $$.
- The best fit line always passes through the point where both x and y are at their minimum in the sample.
- The best fit line always passes through the point ($$ s_x $$,$$ s_y $$), the standard deviations for x and y, respectively.
- The best fit line always passes through the largest outlier in the sample.

4.1.22. You are interested in using linear regression to test whether drink...

Author: David Bourgeois

You are interested in using linear regression to test whether drinking a protein shake improves weightlifting performance. From a sample of 200 college students, you estimate a linear regression with WEIGHTLIFT as the dependent variable and PROTEIN as the independent variable and find the slope of the line of best fit equals zero. Choose the best interpretation of this evidence:

Please choose only one answer:

- Drinking protein shakes has no measurable effect on weightlifting performance.
- Drinking protein shakes has no measurable effect on weightlifting performance, and that proves protein shakes are not beneficial to weightlifting performance.
- Drinking protein shakes has a positive measurable effect on weightlifting performance.
- Drinking protein shakes has a positive measurable effect on weightlifting performance, and that proves that protein shakes are beneficial to weightlifting performance.

4.1.23. You are interested in using linear regression to test whether the n...

Author: David Bourgeois

You are interested in using linear regression to test whether the number of minutes spent under a sunlamp help improve symptoms of Seasonal Affective Disorder (SAD). From a sample of 100 residents of the Seattle, Washington area, you estimate linear regression model with SAD as the dependent variable (based on a rating system where the rating increases as mood improves) and SUNLAMP as the independent variable. You estimate the slope to equal 1.5. Choose the best interpretation of this evidence.

Please choose only one answer:

- For every minute spent under the sun lamp, the SAD rating increases by 1.5 units.
- For every minute spent under the sun lamp, the SAD rating decreases by 1.5 units.
- For every minute spent under the sun lamp, the SAD rating does not change.
- For every 1.5 unit increase in the SAD rating, the number of minutes spent under the sunlamp increase by 1.5 minutes.

4.1.24. A positive outlier in a sample of data will tend to have what effec...

Author: David Bourgeois

A positive outlier in a sample of data will tend to have what effect on the estimated regression line?

Please choose only one answer:

- A positive outlier will make the estimated line the best fit.
- A positive outlier will tend to over-estimate the relationship between x and y.
- A positive outlier will tend to lead to a value for the slope close to zero.
- A positive outlier will tend to lead to a negative value for the slope.

4.1.25. Assume you are interested in using linear regression to test whethe...

Author: David Bourgeois

Assume you are interested in using linear regression to test whether a person smokes or not has an effect on his or her income level. From a sample of 200 working persons, you obtain the following information: whether a person in the sample is a smoker or not (SMOKER) and their personal income in the current year (CURRENT INCOME). Which of the following best describes the dependent and independent variables in this scenario?

Please choose only one answer:

- SMOKER is the dependent variable, and CURRENT INCOME is the independent variable.
- SMOKER is the independent variable, and CURRENT INCOME is the dependent variable.
- SMOKER and CURRENT INCOME are both independent variables.
- Neither SMOKER nor CURRENT INCOME are independent variables.

Check the answer of this question online at QuizOver.com:
Question: Assume you are interested in using linear David Bourgeois @The Business

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4.1.26. If the coefficient of determination between x and y equals 0.40, th...

Author: David Bourgeois

If the coefficient of determination between x and y equals 0.40, then the correlation coefficient must equal which of the following?

Please choose only one answer:

- r = 0.16
- r = 0.63
- r = 0.40
- r = 0.80

4. Chapter: Unit 04: Sampling and Sampling Distributions

1. Unit 04: Sampling and Sampling Distributions Questions

4.1.1. 400 students were asked whether they would be interested in pursuin...

Author: David Bourgeois

400 students were asked whether they would be interested in pursuing an MBA degree at a business school. 100 said yes, and 300 said no. What is the point estimate of the proportion in the population who will respond yes?

Please choose only one answer:

- Approximately 100
- 0.25
- 100
- 0.75

4.1.2. 5 students are to be chosen randomly out of 50 students belonging t...

Author: David Bourgeois

5 students are to be chosen randomly out of 50 students belonging to a student club for a tour of a local manufacturing plant. How many different groups of 5 students can be selected from the total 50 students?

Please choose only one answer:

- 2,118,760
- 3,118,760
- 4,118,760
- 5,118,760

4.1.3. A customer at a bookstore is looking to select two books out of fiv...

Author: David Bourgeois

A customer at a bookstore is looking to select two books out of five. How many different samples of size two out of five can be selected by the customer?

Please choose only one answer:

- 25
- 10
- 32
- 5

4.1.4. A Human Resources Manager is interested in finding the average comp...

Author: David Bourgeois

A Human Resources Manager is interested in finding the average compensation for financial analysts. Through market research she obtained compensation information for a sample of 75 financial planners with an average value of $78,588 and sample standard deviation of $12,000. What is the point estimate of the population standard deviation?

Please choose only one answer:

- $78,588
- $66,588
- $12,000
- $14,000

4.1.5. A simple random sample of size 100 is taken from a large number of ...

Author: David Bourgeois

A simple random sample of size 100 is taken from a large number of tea bags of 50 grams produced during a week. The sample standard deviation is found to be 1 gram. What is the standard error of the mean weight of tea bags?

Please choose only one answer:

- 1 gram
- 0.1 gram
- 0.01 gram
- 0.001 gram

4.1.6. A simple random sample of size 81 is taken from a large population....

Author: David Bourgeois

A simple random sample of size 81 is taken from a large population. The sample standard deviation is found to be 90. What is the standard error of the mean?

Please choose only one answer:

- 0.01
- 0.1
- 1.0
- 10.0

4.1.7. Complete the following sentence. A manufacturing process is being m...

Author: David Bourgeois

Complete the following sentence. A manufacturing process is being monitored by collecting data on an important parameter of every 10th item being produced. The data collected are then plotted on a chart for observing and detecting any trends or patterns to assess the health of the process. The sampling method used in this situation is an example of:

Please choose only one answer:

- systematic random sampling.
- stratified random sampling.
- cluster sampling.
- simple random sampling.

4.1.8. Complete the following sentence. As part of an investigation to stu...

Author: David Bourgeois

Complete the following sentence. As part of an investigation to study the transaction costs of tellers versus ATMs, a bank has collected a sample of 36 teller transaction costs. The average transaction cost for the sample was $1.39. It is known from previous experience that the population standard deviation of the transaction cost is approximately $0.29. As per the central limit theorem, the sampling distribution of mean teller transaction costs would tend to be:

Please choose only one answer:

- an exponential distribution.
- a normal distribution.
- a chi-square distribution.
- a t-distribution.

4.1.9. Complete the following sentence. At the inspection of a company, 50...

Author: David Bourgeois

Complete the following sentence. At the inspection of a company, 50 components are randomly selected from a lot of 800 components that are received from a supplier. A critical dimension for this sample of 50 components is measured to make a decision about acceptance or rejection of all 800 components from the supplier. The sampling method used in this situation is an example of:

Please choose only one answer:

- judgment sampling.
- stratified sampling.
- cluster sampling.
- simple random sampling.

4.1.10. Complete the following sentence. The incoming quality of sand to be...

Author: David Bourgeois

Complete the following sentence. The incoming quality of sand to be used in a foundry is inspected by taking five sand samples from the top of a truck as the interior of the truck filled with sand is difficult to reach. This type of sampling is an example of:

Please choose only one answer:

- stratified random sampling.
- quota sampling.
- convenience sampling.
- simple random sampling.

4.1.11. Complete the following sentence. The standard deviation of the samp...

Author: David Bourgeois

Complete the following sentence. The standard deviation of the sampling distribution of the average age of employees in a company where the sample standard deviation is 35 years and sample size is 49 is given by:

Please choose only one answer:

- 20 years.
- 35 years.
- 5 years.
- 25 years.

4.1.12. Complete the following sentence. When each sample of size n has the...

Author: David Bourgeois

Complete the following sentence. When each sample of size n has the same probability of being selected, the sample is called a:

Please choose only one answer:

- judgment sample.
- simple random sample.
- cluster sample.
- stratified sample.

4.1.13. Complete the following statement. To predict the next US president ...

Author: David Bourgeois

Complete the following statement. To predict the next US president a sample of 5,000 eligible voters from a university in Washington, DC is taken by direct interview. This approach of collecting data for a sample is likely to result in a:

Please choose only one answer:

- non-response bias.
- overestimate.
- bias causing estimates of the population parameters to be either too low or too high.
- underestimate.

4.1.14. Data on the weight of a hundred coffee bags were collected using a ...

Author: David Bourgeois

Data on the weight of a hundred coffee bags were collected using a simple random sampling method. The sample mean and sample standard deviation obtained from the data were 101 grams and 2 grams, respectively. What is the point estimate of the population mean?

Please choose only one answer:

- 99 grams
- 100 grams
- 101 grams
- 103 grams

4.1.15. The Excel function to obtain a number of different samples of size ...

Author: David Bourgeois

The Excel function to obtain a number of different samples of size two out of five is given by which of the following?

Please choose only one answer:

- =COMBIN(5,10)
- =COMBIN(5,25)
- =COMBIN(2,2)
- =COMBIN(5,2)

4.1.16. The Excel function to obtain a number of different samples of size ...

Author: David Bourgeois

The Excel function to obtain a number of different samples of size 5 out of 50 is given by which of the following?

Please choose only one answer:

- =COMBIN(50,5)
- =COMBIN(50,25)
- =COMBIN(50,55)
- =COMBIN(5,50)

4.1.17. To select a simple random sample of 10 companies from Fortune 500 c...

Author: David Bourgeois

To select a simple random sample of 10 companies from Fortune 500 companies, what is the correct Excel function to be used?

Please choose only one answer:

- =RANDBETWEEN(1,10)
- =RANDBETWEEN(10,500)
- =RANDBETWEEN(0,500)
- =RANDBETWEEN(1,500)

4.1.18. True or False. A population parameter value is always greater than ...

Author: David Bourgeois

True or False. A population parameter value is always greater than the corresponding sample statistics.

Please choose only one answer:

- True
- False

4.1.19. True or False. A sample should have the same characteristics as the...

Author: David Bourgeois

True or False. A sample should have the same characteristics as the population it represents.

Please choose only one answer:

- True
- False

4.1.20. True or False. Convenience sampling is a statistical sampling plan.

Author: David Bourgeois

True or False. Convenience sampling is a statistical sampling plan.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:
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4.1.21. True or False. Nonresponse bias in sample surveys is caused by the ...

Author: David Bourgeois

True or False. Nonresponse bias in sample surveys is caused by the fact that those who respond to the survey and those who do not may have different views with respect to the subject of the study.

Please choose only one answer:

- True
- False

4.1.22. True or False. Point estimates exist only for average proportions i...

Author: David Bourgeois

True or False. Point estimates exist only for average proportions in the population and not for variability of the proportions in the population.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:
Question: True or False. Point estimates exist only David Bourgeois @The Business

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4.1.23. True or False. Random numbers can be generated using Excel.

Author: David Bourgeois

True or False. Random numbers can be generated using Excel.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:
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4.1.24. True or False. Sample mean and sample standard deviations are examp...

Author: David Bourgeois

True or False. Sample mean and sample standard deviations are examples of sample statistics.

Please choose only one answer:

- True
- False

4.1.25. True or False. Sample statistic and population parameters are alway...

Author: David Bourgeois

True or False. Sample statistic and population parameters are always the same.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:
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4.1.26. True or False. Simple random sampling helps to reduce bias.

Author: David Bourgeois

True or False. Simple random sampling helps to reduce bias.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:
Question: True or False. Simple random sampling David Bourgeois @The Saylor

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4.1.27. True or False. Simple random sampling should only be used when data...

Author: David Bourgeois

True or False. Simple random sampling should only be used when data follows a normal distribution.

Please choose only one answer:

- True
- False

Check the answer of this question online at QuizOver.com:
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4.1.28. True or False. Systematic random sampling plans are better than clu...

Author: David Bourgeois

True or False. Systematic random sampling plans are better than cluster sampling plans as they always provide better estimates of population parameters.

Please choose only one answer:

- True
- False

4.1.29. True or False. When repeated samples of size n are taken from a pop...

Author: David Bourgeois

True or False. When repeated samples of size n are taken from a population, the mean calculated for each sample must be same.

Please choose only one answer:

- True
- False

4.1.30. Which of the following is not a potential source of bias in sample ...

Author: David Bourgeois

Which of the following is not a potential source of bias in sample surveys?

Please choose only one answer:

- Frame bias
- Interviewer bias
- Question wording
- Simple random sample

Check the answer of this question online at QuizOver.com:
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4.1.31. Which of the following sampling methods is a non-statistical sampli...

Author: David Bourgeois

Which of the following sampling methods is a non-statistical sampling method?

Please choose only one answer:

- Simple random sampling
- Convenience sampling
- Stratified random sampling
- None of these answers

Check the answer of this question online at QuizOver.com:
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4.1.32. Which of the following sampling methods is a statistical sampling m...

Author: David Bourgeois

Which of the following sampling methods is a statistical sampling method?

Please choose only one answer:

- Judgment sampling
- Convenience sampling
- Stratified random sampling
- None of these answers

Check the answer of this question online at QuizOver.com:
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4.1.33. Which of the following statements about sampling is true?

Author: David Bourgeois

Which of the following statements about sampling is true?

Please choose only one answer:

- Sampling saves money, time, and resources.
- Sampling helps to make timely estimates possible.
- Sampling is essential in destructive testing.
- All of these answers

4.1.34. XYZ, Inc. manufactures a certain type of metallic bar with tensile ...

Author: David Bourgeois

XYZ, Inc. manufactures a certain type of metallic bar with tensile strength of 85 kilograms. Several of its customers have complained about deterioration in average tensile strength of bars that were recently purchased. As part of an investigation to check the validity of these complaints, an engineer has performed destructive testing on 34 samples providing an average of 84 kilograms and a sample standard deviation of 3.8 kilograms. To evaluate whether or not the customer concerns are valid, what is the point estimate of mean tensile strength in the population?

Please choose only one answer:

- 84 kilograms
- 85 kilograms
- 88.8 kilograms
- 87.8 kilograms