Unit 04: Sampling and Sampling Distributions

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4. Chapter: Unit 04: Sampling and Sampling Distributions

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

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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

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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

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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

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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

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.

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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.

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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.

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.

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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)

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)

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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)

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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

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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

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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

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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

Check the answer of this question online at QuizOver.com:
Question: True or False. Nonresponse bias in sample David Bourgeois @The Business

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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

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

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

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

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

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

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

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Question: Which of the following is not a potential David Bourgeois Saylor

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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:
Question: Which of the following sampling methods David Bourgeois Saylor Business

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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

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

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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

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Question: XYZ Inc. manufactures a certain type of David Bourgeois @The Saylor

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