Statistics Final Review

Author: Madison Christian

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4. Chapter: Statistics Final Review

1. Statistics Final Review Questions

4.1.1. Which of the following about the binomial distribution is not a tru...

Author: Madison Christian

Which of the following about the binomial distribution is not a true statement?

Please choose only one answer:

- Each outcome is independent of the other.
- The random variable of interest is continuous.
- The probability of success must be constant from trial to trial.
- Each outcome may be classified as either "event of interest" or "not event of interest."

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Question: Which of the following about the binomial Madison Christian Statistics

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4.1.2. A financial analyst is presented with information on the past recor...

Author: Madison Christian

A financial analyst is presented with information on the past records of 60 start-up companies and told that in fact only 3 of them have managed to become highly successful. He selected 3 companies from this group as the candidates for success. To analyze his ability to spot the companies that will eventually become highly successful, he will use what type of probability distribution?

Please choose only one answer:

- binomial distribution
- hypergeometric distribution
- Poisson distribution
- None of the above.

4.1.3. If n = 10 and p = 0.70, then the mean of the binomial distribution is:

Author: Madison Christian

If n = 10 and p = 0.70, then the mean of the binomial distribution is:

Please choose only one answer:

- 14.29
- 0.07
- 7.00
- 1.45

4.1.4. A campus program evenly enrolls undergraduate and graduate students...

Author: Madison Christian

A campus program evenly enrolls undergraduate and graduate students. If a random sample of 4 students is selected from the program to be interviewed about the introduction of a new fast food outlet on the ground floor of the campus building, what is the probability that all 4 students selected are undergraduate students?

Please choose only one answer:

- 0.0256
- 1.00
- 0.16
- 0.0625

4.1.5. TABLE 5-4

The following table contains the probability distribut...

Author: Madison Christian

TABLE 5-4

The following table contains the probability distribution for X = the number of traffic accidents reported in a day in Corvallis, Oregon.

[TABLE]

X;0;1;2;3;4;5;

P(X);0.10;0.20;0.45;0.15;0.05;0.05

[/TABLE]

Referring to Table 5-4, the probability of 3 accidents is _____.

Please choose only one answer:

- 0.15
- 0.16
- 0.17
- 0.18

4.1.6. In its standardized form, the normal distribution

Author: Madison Christian

In its standardized form, the normal distribution

Please choose only one answer:

- has a mean of 1 and a variance of 0.
- has an area equal to 0.5.
- cannot be used to approximate discrete probability distributions.
- has a mean of 0 and a standard deviation of 1.

4.1.7. For some positive value of Z, the probability that a standard norma...

Author: Madison Christian

For some positive value of Z, the probability that a standard normal variable is between 0 and Z is 0.3340. The value of Z is:

Please choose only one answer:

- 0.37
- 0.07
- 0.97
- 1.06

4.1.8. If we know that the length of time it takes a college student to fi...

Author: Madison Christian

If we know that the length of time it takes a college student to find a parking spot in the library parking lot follows a normal distribution with a mean of 3.5 minutes and a standard deviation of 1 minute, find the probability that a randomly selected college student will find a parking spot in the library parking lot in less than 3 minutes.

Please choose only one answer:

- 0.1915
- 0.3085
- 0.3551
- 0.2674

4.1.9. Let X represent the amount of time it takes a student to park in th...

Author: Madison Christian

Let X represent the amount of time it takes a student to park in the library parking lot at the university. If we know that the distribution of parking times can be modeled using an exponential distribution with a mean of 4 minutes, find the probability that it will take a randomly selected student between 2 and 12 minutes to park in the library lot.

Please choose only one answer:

- 0.556744
- 0.656318
- 0.049787
- 0.606531

4.1.10. Which of the following is true about the sampling distribution of t...

Author: Madison Christian

Which of the following is true about the sampling distribution of the sample mean?

Please choose only one answer:

- The standard deviation of the sampling distribution is always ?.
- The mean of the sampling distribution is always ?.
- The shape of the sampling distribution is always approximately normal.
- All of the above are true.

Check the answer of this question online at QuizOver.com:
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4.1.11. At a computer manufacturing company, the actual size of computer ch...

Author: Madison Christian

At a computer manufacturing company, the actual size of computer chips is normally distributed with a mean of 1 centimeter and a standard deviation of 0.1 centimeter. A random sample of 12 computer chips is taken. Above what value do 2.5% of the sample means fall?

Please choose only one answer:

- 1.057
- 1.06

4.1.12. The owner of a fish market has an assistant who has determined that...

Author: Madison Christian

The owner of a fish market has an assistant who has determined that the weights of catfish are normally distributed, with mean of 3.2 pounds and standard deviation of 0.8 pound. If a sample of 16 fish is taken, what would the standard error of the mean weight equal?

Please choose only one answer:

- 0.200
- 0.800
- 0.050
- 0.003

4.1.13. True or False: As the sample size increases, the standard error of ...

Author: Madison Christian

True or False: As the sample size increases, the standard error of the mean increases.

Please choose only one answer:

- True
- False

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4.1.14. It is desired to estimate the average total compensation of CEOs in...

Author: Madison Christian

It is desired to estimate the average total compensation of CEOs in the Service industry. Data were randomly collected from 18 CEOs and the 95% confidence interval was calculated to be ($2,181,260, $5,836,180). Which of the following interpretations is correct?

Please choose only one answer:

- We are 95% confident that the mean of the sampled CEOs falls in the interval $2,181,260 to $5,836,180.
- We are 95% confident that the average total compensation of all CEOs in the Service industry falls in the interval $2,181,260 to $5,836,180.
- 95% of the sampled total compensation values fell between $2,181,260 and $5,836,180.
- In the population of Service industry CEOs, 95% of them will have total compensations that fall in the interval $2,181,260 to $5,836,180.

4.1.15. A confidence interval was used to estimate the proportion of statis...

Author: Madison Christian

A confidence interval was used to estimate the proportion of statistics students that are females. A random sample of 72 statistics students generated the following 90% confidence interval: (0.438, 0.642). Based on the interval above, is the population proportion of females equal to 0.60?

Please choose only one answer:

- No. The proportion is 54.17%.
- No, and we are 90% sure of it.
- Maybe. 0.60 is a believable value of the population proportion based on the information above.
- Yes, and we are 90% sure of it.

4.1.16. A major department store chain is interested in estimating the aver...

Author: Madison Christian

A major department store chain is interested in estimating the average amount its credit card customers spent on their first visit to the chain's new store in the mall. Fifteen credit card accounts were randomly sampled and analyzed with the following results: = $50.50 and S2 = 400. Construct a 95% confidence interval for the average amount its credit card customers spent on their first visit to the chain's new store in the mall assuming that the amount spent follows a normal distribution.

Please choose only one answer:

- $50.50 ± $10.12
- $50.50 ± $11.00
- $50.50 ± $11.08
- $50.50 ± $9.09

Check the answer of this question online at QuizOver.com:
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4.1.17. An economist is interested in studying the incomes of consumers in ...

Author: Madison Christian

An economist is interested in studying the incomes of consumers in a particular region. The population standard deviation is known to be $1,000. A random sample of 50 individuals resulted in an average income of $15,000. What total sample size would the economist need to use for a 95% confidence interval if the width of the interval should not be more than $100?

Please choose only one answer:

- n = 1537
- n = 40
- n = 385
- n = 20

4.1.18. True or False: A race car driver tested his car for time from 0 to ...

Author: Madison Christian

True or False: A race car driver tested his car for time from 0 to 60 mph, and in 20 tests obtained an average of 4.85 seconds with a standard deviation of 1.47 seconds. A 95% confidence interval for the 0 to 60 time is 4.52 seconds to 5.18 seconds.

Please choose only one answer:

- True
- False

4.1.19. Which of the following would be an appropriate null hypothesis?

Author: Madison Christian

Which of the following would be an appropriate null hypothesis?

Please choose only one answer:

- The mean of a population is equal to 55.
- The mean of a sample is equal to 55.
- The mean of a population is greater than 55.
- Only A and C are appropriate.

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4.1.20. How many tissues should the Kimberly Clark Corporation package of K...

Author: Madison Christian

How many tissues should the Kimberly Clark Corporation package of Kleenex contain? Researchers determined that 60 tissues is the mean number of tissues used during a cold. Suppose a random sample of 100 Kleenex users yielded the following data on the number of tissues used during a cold: = 52, S = 22. Give the null and alternative hypotheses to determine if the number of tissues used during a cold is less than 60.

Please choose only one answer:

- H0 : X ? 60 and H1 : X
- H0 : ? ? 60 and H1 : ?
- H0 : ? ? 60 and H1 : ? > 60.
- H0 : X = 52 and H1 : X? 52.

4.1.21. How many tissues should the Kimberly Clark Corporation package of K...

Author: Madison Christian

How many tissues should the Kimberly Clark Corporation package of Kleenex contain? Researchers determined that 60 tissues is the mean number of tissues used during a cold. Suppose a random sample of 100 Kleenex users yielded the following data on the number of tissues used during a cold: = 52, S = 22. Suppose the alternative we wanted to test was H1 : ? < 60. State the correct rejection region for ? = 0.05.

Please choose only one answer:

- Reject H0 if t > 1.9842 or Z
- Reject H0 if t
- Reject H0 if t
- Reject H0 if t > 1.6604.

4.1.22. A survey claims that 9 out of 10 doctors recommend aspirin for thei...

Author: Madison Christian

A survey claims that 9 out of 10 doctors recommend aspirin for their patients with headaches. To test this claim against the alternative that the actual proportion of doctors who recommend aspirin is less than 0.90, a random sample of 100 doctors results in 83 who indicate that they recommend aspirin. The value of the test statistic in this problem is approximately equal to:

Please choose only one answer:

- -2.33.
- -1.86.
- -4.12.
- -0.07.