

Disclaimer

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Chapter 7 Test



Chapter 7 Test

DIRECTIONS: For this multiple-choice test, select the most appropriate answer for each statement or question.

1. Construct a 95% confidence interval for the population mean given the following: sample mean = 16, population standard deviation = 1.5 and sample size = 49.
 - a) (15.6, 16.4)
 - b) (14.3, 19.3)
 - c) (11.2, 19.8)
 - d) (12.8, 16.3)

2. A confidence interval resulted in the following: 110 ± 21 . What is the margin of error?
 - a) 110
 - b) 89
 - c) 131
 - d) 21

3. What common confidence level was most likely used to create the confidence interval (122, 138) given $n = 64$ and $\sigma = 32$?
 - a) 99%
 - b) 98%
 - c) 95%
 - d) 90%



4. For a t-distribution, the degrees of freedom are equal to _____.
- a) $n + 1$
 - b) $n - 1$
 - c) n
 - d) N
5. For a situation that follows a t-distribution with a sample size = 6, what are the degrees of freedom?
- a) 7
 - b) 4
 - c) 6
 - d) 5
6. What would be the t critical value used to construct a 90% confidence interval given $n = 18$?
- a) 1.753050
 - b) 1.745884
 - c) 1.739607
 - d) 1.734064
7. Construct a 99% confidence interval for the population mean given the following: sample mean = 25, sample standard deviation = 4 and sample size = 10. Assume the sample was taken from a normal population.
- a) (20.9, 29.1)
 - b) (22.7, 27.3)
 - c) (22.8, 27.2)
 - d) (23.25, 26.75)



8. What is the standard error of the proportion given $p = 0.34$ and $n = 50$?
- a) 0.007
 - b) 0.067
 - c) 0.004
 - d) 0.082
9. Construct a 90% confidence interval for the population proportion given the following: sample proportion = 0.60 and sample size = 40.
- a) (0.370, 0.830)
 - b) (0.473, 0.727)
 - c) (0.448, 0.752)
 - d) (0.400, 0.800)
10. What minimum sample size is needed to estimate the population mean to within 6 units with 99% confidence given the population standard deviation = 20?
- a) 74
 - b) 73
 - c) 71
 - d) 70
11. What minimum sample size is needed to estimate the population proportion to within 4% with 90% confidence given the sample proportion from a previous study is equal to 44%?
- a) 600
 - b) 1692
 - c) 44
 - d) 417



Answers

1. (15.6, 16.4)
2. 21
3. 95%
4. $n - 1$
5. 5
6. 1.739607
7. (20.9, 29.1)
8. 0.067
9. (0.473, 0.727)
10. 74
11. 417

