

- The sample mean, \bar{x} is called a _____ of the population mean μ .
 - Point estimate
 - Margin of error
 - Critical z-value
 - Confidence level
 - Interval estimate
- The standard deviation of SAT scores is 100 points. A researcher decides to take a sample of 500 students' scores to estimate the mean score of students in your state. What is the standard deviation of the sample mean?
 - .2
 - 4.47
 - Can't be determined without sample mean
 - 5
 - 100
- The 99.7% confidence interval for the mean length of frog jumps is (12.64 cm, 14.44 cm). Which of the following statements is a correct interpretation of 99.7% confidence.
 - Of the total number of frogs in your area of the country, 99.7% can jump between 12.64 cm and 14.44 cm.
 - There's a 99.7% chance that the mean length of frog jumps falls between 12.64cm and 14.44 cm.
 - If we were to repeat this sampling many times, 99.7% of the confidence intervals we could construct would contain the true population mean.
 - 99.7% of the confidence intervals we could construct after repeated sampling would go from 12.64 cm to 14.44 cm.
 - There's a 99.7% chance that any particular frog I catch can jump between 12.64 cm and 14.44 cm.
- True or False: A 95% confidence interval is narrower than a 90% confidence interval for the same data set.
- What's the critical z-value for an 85% confidence interval?
 - .8023
 - 1.44
 - 1.04
 - Can't be determined without knowing the population standard deviation
 - Can't be determined without knowing the sample size
- True or False: Increasing the sample size will decrease the margin of error in your confidence interval.
- You have a table of standard normal probabilities that gives you the area of the curve from the left tail to the z-score of interest. When using this type of table, what area of the curve would you use to find the corresponding z-score for confidence interval of 95%?
 - .05
 - .90
 - .95
 - .975
 - 2.0
- You want to compute a 90% confidence interval for the mean of a population with unknown population standard deviation. The sample size is 30. The value of t^* you would use for this interval is
 - 1.96
 - 1.645
 - 1.699
 - 0.90
 - 1.311

9. A 95% confidence interval for the mean reading achievement score for a population of third-grade students is (44.2, 54.2). Suppose you compute a 99% confidence interval using the same information. Which of the following statements is correct?
- The intervals have the same width.
 - The 99% interval is shorter.
 - The 99% interval is longer.
 - The answer cannot be determined from the information given.
 - None of the above.
10. A researcher computes a 90% confidence interval for the mean weight (in lb) of widgets produced in a factory. The interval is (7.2, 8.9). Which of these is a correct interpretation of this interval?
- Out of all the widgets produced in all widget factories, 90% weigh between 7.2 and 8.9 lbs.
 - We can be 90% confident that all widgets weigh between 7.2 and 8.9 lbs.
 - There is a 90% chance the population value is between 7.2 and 8.9 lbs.
 - Ninety percent of all sample means are equivalent to the true mean weight of all the widgets.
 - If you drew many samples of size n and constructed a confidence interval from each sample, 90% of the intervals would contain the true population value.

For questions 11-15 refer to the data below:

To estimate the mean height of female high school juniors, you take a random sample of 30 female students and get these results (in inches.) **You want to construct a 97% confidence Interval.**

72	51	67	68	61	69	58	56	60	56
66	61	60	59	59	54	58	53	68	63
57	62	63	64	56	62	58	67	57	70

11. What is your point estimate of μ ?
- 61.17
 - 30
 - 5.4
 - .968
 - 65
12. What is your critical value for the t- score?
- 1.645
 - 2.28
 - 1.96
 - 2.576
 - 2.17
13. What is your \bar{x} value?
- 61.17
 - 5.37
 - 5.27
 - 2.17
 - .98
14. What is the margin of error?
- 5.432 in
 - .968 in
 - 3.66 in
 - 2.2 in
 - σ/\sqrt{n}
15. What is this interval?
- (58.93, 63.40)
 - (60.20, 62.14)
 - (65, 69.4)
 - (40,60)
 - (60,65)