

Chapter 7 Summary MATH 160

Assume that all samples have been randomly selected from a population with a normal distribution.

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- 1) You randomly select and weigh 25 samples of ALAVERT, an allergy medicine. The *sample* standard deviation is 1.30 mg and the sample mean is 2.15 mg. Assuming the weights are normally distributed, construct a 95% confidence interval for the population mean of the weights for this particular brand of allergy medicine.

(Round your answer to the thousandths place.)

- 2) You want to estimate the percentage of U.S. statistics students who get grades of “B” or higher. How many students must you survey if you want 90% confidence that the sample percentage is off by no more than three percentage points (this means that the margin of error is .03) No other information is available.

(Round using the round off rule for Sample Sizes)

- 3) A sociologist develops a test to measure attitudes about public transportation, and 27 randomly selected subjects are given the test. Their mean score is 76.2 and their standard deviation is 21.4. Construct the 95% confidence interval for the standard deviation of the scores of all subjects. (Round your answer to the nearest thousandths)
- 4) Of 101 randomly selected adults, 34 were found to have high blood pressure. Construct a 95% confidence interval for the true percentage of all adults that have high blood pressure. (true percentage refers to the population proportion)
- 5) 43 packages are randomly selected from packages received by a parcel service. The sample has a mean weight of 12.5 pounds and a population standard deviation of 3.6 pounds. What is the 99 percent confidence interval for the mean weight of all packages received by the parcel service?