

Lab Assignment #17

This lab is due at 9:35 AM on Monday, 4/8 and is worth 6 points. This may be done individually, or in a group of 2 or 3 people.

Make sure to write a 1-sentence summary for questions 3-5.

1) Find z-values that bound the central 85% of a normal distribution.

2) A confidence interval for the average weight of all red beets sold at the March 26 Sacramento Farmers Market is 39.4 grams to 83.1 grams. Find the sample mean and margin of error that were used to create this confidence interval.

3) A hardware store in West Covina, CA, conducts a survey to estimate the average number of houseplants in people's houses. A sample of 40 people gives the following data:

13, 5, 18, 20, 0, 1, 3, 0, 3, 1,
23, 16, 0, 0, 19, 10, 24, 20, 3, 2,
7, 24, 0, 6, 1, 11, 2, 2, 16, 1,
3, 2, 14, 1, 10, 5, 2, 6, 1, 8

Find a 90% confidence interval for the average number of plants in all West Covina houses.

4) Find a 99% confidence interval for the average number of cars owned by all residents in North Verdes. Use the sample data of 93 residents. (For t , use whatever value in the chart is nearest to 92 df.)

# of cars	Frequency
0	3
1	10
2	18
3	27
4	19
5	12
6	4

5) A social scientist finds that in a survey of 50 shoppers at the March 26 Sacramento Farmers Market, the average amount spent by each customer is \$48.50, with a standard deviation of \$20.05.

a) Find a 95% confidence interval for the average amount spent per customer.

b) How big of a sample would be needed to decrease the margin of error for the confidence interval to \$2.00?