

MAT-120 – HW #15– Answers

Please select the correct answer number of each question. There are more answers than questions.
Answers may be repeated.

1) The mean and standard deviation round to the values given.

2) 95% $CI = (14.05, 17.37)$

3)

Using the rounded values for the mean and standard deviation given in part a, the interval is from 143.8 to 149.2.

4) 95% length = 1.9, as confidence level increases length increase

95% length = 1.04, as n increases length decreases.

5)

Using the rounded values for the mean and standard deviation given in part a, the interval is from 143.0 to 150.0.

6) DO NOT USE

7)

Using the rounded values for the mean and standard deviation given in part a, the interval is from 50.37 to 51.95.

8)

Using the rounded values for the mean and standard deviation given in part a, the interval is from 49.92 to 52.40.

9)

We can be 99% sure that the average January temperature is between 49.92 and 52.4°F. It is possible that the average is 53°F, but not very likely. It is possible that a few more years of observation might be needed before such a claim could be made.

10) 74.87 to 80.21

11)

Using the rounded values for the mean and standard deviation given in part a, the interval is from 141.0 to 152.0.

12) 95% CI = (14.63, 16.53)

13) 95% CI = (15.07, 16.11)

14)

The lengths increase as c increases because the values of z_c increase as c increases. If we want to be more certain that μ is in the interval based on the given sample, we have to make the interval wider.