Below are your interpretations of the confidence interval that you constructed. Now assess the quality of each interpretation. Below each number, assign a rating (from 0 to 10) to each interpretation. The correlation between your ratings and my ratings will be calculated, and your score for this activity will be based on this correlation.

I assigned marks on the basis of correctness, context (i.e. units), reference to population, reference to “mu” (pop. mean) and not x (individual scores), reference to confidence level interval with units. and the quality of your writing.

1. We are 95% confident that the unknown mean height of all Wittenberg Students is between 168.22cm and 178.03cm.

[10] Excellent! Hit all the bases!

2. There is a 95 percent chance that the population mean, or parameter, for measured height will be within the range of 168.22 cm and 178.03cm centered on the sampling mean from the statistic class measured heights. The mean for the class is 173.13 using 22 degrees of freedom, we get a Z-score of 2.069, giving us a significance level, alpha of 0.05 for two tail p-test. Through the use of table A we determined that the area outside the confidence interval was 0.04 which indicates a significant difference in the population parameter and the sampling statistic.

[7] need to define population; interpreting a confidence interval not a significance test

3. \( n=24 \ s=11.61 \ \text{mean}=173.13 \ \text{95% CI}= (168.23, 178.03) \)

\( 2.069=t \text{ score} \)

\( 173.13+ - 2.069(11.61/\sqrt{24}) \)

\( p=.025 \)

[2] raw numbers are correct but there is no interpretation; what do the numbers means?
4. The confidence intervals that I got were between 168.23 and 178.03 with a 95% confidence. I would interpret this to mean that for the most tend to be of similar or balancing height. This would mean that for every female that is really short there is one who is equally above average and vice versa with men. I would also take it to mean that this could get skewed if there were more average sized women in the class then average sized men as this would bring the mean down and skew it.

[3] No units. No description of what was in the interval.

5. If our sample was a true SRS of the Witt student population with N=24, X-bar=173.13 cm, S=11.61 cm and SE Mean=2.37 cm, then 95% of the Witt student population will have a height between 168.22 cm and 178.03 cm with a population mean (μ) also within that range.

[5] The population mean μ is in the interval. But it is not the case that 95% of all Witt students will have a height in this interval. Confusing the sampling distribution with the population distribution.

6. An interpretation of (168.22, 178.03) with a confidence interval of 95%.

[3] no units, population not identified, what is in the interval?

7. Using the above data to represent the Wittenberg population, we can be 95% certain that the probability that the population mean is within 168.22-178.03. This value is accurate if the data is an SRS, observations from the population is a Normalish distribution, and the population size is twenty times the sample size. Using a histogram of the data, one could see that the data is right skewed. With a larger sample, the data could be more accurate, and the distribution will become more Normal.

[6] no units; population mean of what; what is in interval?

8. The probability that a student's height will fall between 168.22 and 178.03 inches is about 95%.

[3] No. Mean height of all Witt students is in interval not the height of a student; confusing sampling distribution with population distribution. Units are cm, not inches.

9. As the confidence interval is 65.587 to 69.413, we are 95% confident that the mean will fall between these two values

[2] Wrong figures; no units, mean of what not given; need to identify population.
10. The shape of the density curve is similar in shape to the normal standard curve but the difference is that the main peaked area is not symmetric at 0. The spread of the t distributions is quite large compared to the standard Normal distribution. I am 95% confident that the confidence interval lies between 168.48 and 176.94.

[3] no units, population not identified; what is in confidence interval?

11. The interval is 168.22, 178.03

[0] no interpretation given