

To receive full credit, you must show your work and explain your answers.

1. An original sample is given: 85, 72, 79, 97, 88, 82, 83. Indicate whether each option is a possible bootstrap sample from this original sample. Explain your answers.

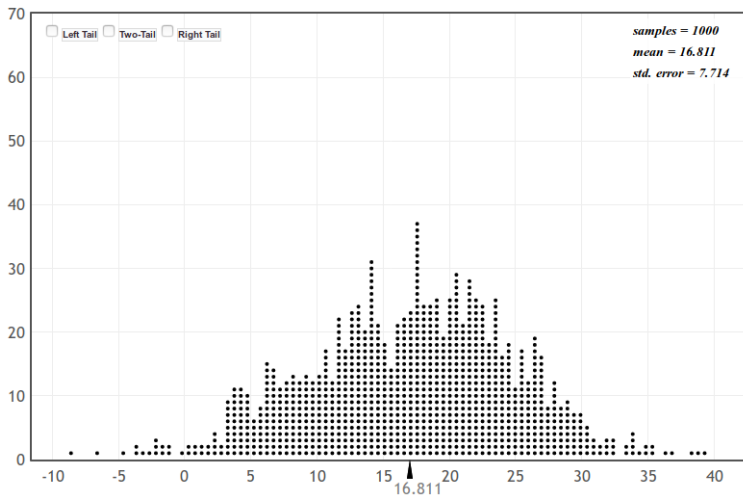
a) 72, 79, 85, 88, 97, 88

b) 88, 97, 81, 78, 85, 72, 83

Reason:

Reason:

2. A study was conducted to estimate the difference in mean immune response between tea drinkers and coffee drinkers. The dotplot below shows the distribution of 1000 bootstrap samples generated for this difference.



- (a) Give notation for the population parameter.
- (b) Give notation for the associated sample statistic.
- (c) What is the value of this statistic?
- (d) Find a 95% confidence interval for the parameter in part (a). Use the formula and the information given on the plot. **Show you work.**

- (e) Using the plot, find a 99% confidence interval for the parameter in part (a). (You need to count dots!) **Show you work.**

Taking this assessment unsupervised during the allotted time, I hereby certify that I have not communicated and will not communicate with anyone else other than Prof. Barghi about the assessment. Also, I have not consulted and will not consult any outside sources (books, articles, websites, classmates, friends etc.) for this assessment. Following the Saint Michael's Honor Code, I also certify that I have not used any inappropriate means to complete this assessment.

Signature:

Date and Time: