

ECO240 Statistics II Quiz 2 <March 30, 2018>

ID:

Name:

Question:

A random sample of 25 students from IIBF was taken and “sleep hours” were recorded. The sample mean sleep hour was calculated as 7.2 hours. Suppose that the population size is 600 and normally distribution with population standard derivation of 0.5. Answer the following questions.

1. Find 95% confidence interval for the population mean. (Use $z = 1.96$)
2. A confidence interval for the population mean was calculated as $[7.116 \quad 7.284]$. Find the confidence level of the interval.
3. Test at the 5% significance level the null hypothesis that the population mean sleep hours is equal to 7 against the alternative that it is greater than 7. Clearly state your hypotheses, decision rules, your decisions and the interpretation of the decisions.
4. Draw necessary figures to illustrate the Hypothesis Test from 3. In your figure, include (a) Type-I error, (b) Type-II error, (c) the critical value, (d) sample mean and (e) population mean under null hypothesis.