
Q1. An article describes several characteristics of fuel rods used in a reactor owned by an electric utility in Norway. Descriptive measures on the percentage of enrichment of a sample of 12 rods were reported as follows: Mean = 2.90167, St.Dev. = 0.09935.

a. Using a 1% level of significance test that the mean percentage enrichment of ALL such rods exceeds 2.825. State any necessary assumptions and the critical value(s).

b. Given that the standard deviation of the percentage enrichment of All the fuel rods is 0.11, redo the test in part a before stating the assumptions and the p -value.

Q2. A study is to be conducted of the percentage of homeowners who own more than two television sets. A sample of 500 homeowners showed that 173 of them own more than two TV sets. At a 2% significance level, test that 40% of ALL of the homeowners owns at least two TV sets using the confidence interval approach.

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