3330-ass1

Due: Wednesday May 19, 2021 11:59 PM (EDT)

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Help

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Q1 (8 points)

Q1(8 points). Use the distribution tables to determine the following critical values values.

1(2). Given $Z \sim N(0,1)$ find value for $z_{0.4}, z_{0.95}$.

2(4). Find value for $t_{0.4}^{(5)}, t_{0.4}^{(10)}, t_{0.4}^{(40)}, t_{0.4}^{(120)}$, and compare with $z_{0.4}$

3(2). Find value for $F_{0.05}^{(2,4)}, F_{0.01}^{(1,6)}$.

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Q2 (10 points)

Q2(10 points). Suppose the sediment density (g/cm) of a randomly selected specimen from a certain region is normally distributed with mean $\mu = 2.65$ and standard deviation $\sigma = 0.85$.

1(4). Calculate the probability that the density is between 2 and 3.

2(2). Derive the distribution of the sample mean of the density, given the sample size $n = 25$.

3(4). If a random sample of 25 specimens is selected, what is the probability the sample mean sediment density is at most 3.00?

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8 days, 4 hours