EX: A financial analyst has developed a theory of investment and claims it will produce results that are better than the average return from the stock market. The true average rate of return for the market during the period of the test was exactly $\mu_0 = 10\%$, and the volatility of the market (standard deviation of prices) was 4%. The measured results for the performance of the new theory are as follows:

$n = 25$ $X = 12\%$ $s^2 = (5.844\ \%)^2$

a) Use a confidence interval to determine whether the analyst's average results are quite likely better than the average rate of return of the market. Use a significance level of 1%. Assume you are creating the confidence interval before you know the measured results for the new theory.

b) Use a confidence interval to determine whether the analyst's theory produces a variance that is quite likely higher than the average for the market, thus indicating that the investment is higher risk. Use a significance level of 1%. Assume you are creating the confidence interval before you know the measured results for the new theory.

TOOL: CONCEPTUAL TOOLS

BKGND:

eqn

tabbed list

1)

$$f_T(t) = \frac{\Gamma((\nu+1)/2)}{\Gamma(\nu/2)\sqrt{\pi\nu}}\left(1+\frac{t^2}{\nu}\right)^{-(\nu+1)/2}$$

i) numbered list

a)

b)

c)

NOTE:

PROOF:

PSEUDOCODE:

```
        1.250000000000000   1.250000000000000
    7878
      899889
```

SOL'N: a)

b)

NOTE:

eqn

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