Quiz 2, Attempt 2

Find a 90% upper confidence limit for the variance of a normal population based on a random sample of size 100, in which the outcome of the sample mean was recorded to be 7.3, and the outcome of the sample variance was recorded to be 1.6.

$$.90 = P\left(\chi^2_{0.10}(99) < \frac{99\,S^2}{\sigma^2}\right)$$

$$= P\left(\sigma^2 < \frac{99\,S^2}{\chi^2_{0.10}(99)}\right)$$

A 90% upper confidence limit is $\dfrac{99(1.6)}{\chi^2_{0.10}(99)}$.