

- iv. **FOR EXTRA CREDIT ONLY:** Now consider the case that θ is not known. $\alpha=2$ is known. A sample of Cholesterol levels is given: $y_1=153$ $y_2=125$ $y_3=190$ $y_4=115$. We know by additivity of Gamma that $V=X_1+X_2+X_3+X_4$ has a Gamma ($\alpha = 8, \theta$) with the same unknown θ . Using the $W = \left(\frac{2}{\theta}\right) V$ as a pivot, can you find a 95% confidence interval for θ *using χ^2 tables*? Remember to subtract 80 from the 4 numeric cholesterol levels before computing V .

GOOD LUCK! Have you checked your work and told me which 2 problems to grade in Part III?