Mathematics 571
Winter 1999
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**Assignment #9. Due March 25.**

**1.** Ciarlet 2.3-2.

**2.** Ciarlet 2.3-4. **Hint** Show that the desired is assertion is equivalent to showing that eignevectors normalized to have lenght one cannot have a limit.

**3.** Verify the formula

$$b_{pi} = a_{pi}\,\cos\theta - a_{qi}\,\sin\theta \qquad \text{for} \quad i \neq p, q$$

from page 190 of Ciarlet. *Hint* The classroom verification for $b_{pp}$ serves as a model.

**4.** Perform the optimal SOR calculation described in problem 4 of assignment 8. In that problem you estimated the rate of convergence. Evaluate the accuracy of that estimate.