a**11.** Consider $A = \begin{bmatrix} 5 & 4 & 1 & 1 \\ 4 & 5 & 1 & 1 \\ 1 & 1 & 4 & 2 \\ 1 & 1 & 2 & 4 \end{bmatrix}$. Find the eigenvalues and accompanying eigenvectors

of this matrix, from Gregory and Karney [1969], without using software. *Hint:* The answers can be integers.