Bonus Quiz!

If your score on this quiz is higher than any of your previous quiz scores, it will replace your lowest quiz score. Otherwise it will not count for anything. There are no make-ups for this quiz. You must be in class on Monday, November 24 to take advantage of this exciting opportunity.

1. Let $A = \begin{bmatrix} 2 & 1 \\ 3 & 4 \end{bmatrix}$. Find all eigenvalues of A. For each eigenvalue, find an associated eigenvector. (6 pts)

2. Suppose 3 is an eigenvalue of the matrix B and that $\mathbf{x}$ is an eigenvector associated with 3. Prove that $\mathbf{x}$ is also an eigenvector of $B + 2I$. What is the associated eigenvalue? (4 pts)