| Name: | | |
|----------|-------------------|-----------------------|
| Math 110 | | Professor K. A. Ribet |
| | November 19, 2002 | |

Let T be a linear transformation on a finite-dimensional vector space V over F. Suppose that T^2 has an eigenvector in V with eigenvalue λ^2 ($\lambda \in F$). Show that T has an eigenvector in V with eigenvalue $\pm \lambda$.