Answer on Question #40381, Math, Linear Algebra

If V is an eigenvector of an $n \times n$ invertible matrix A, then V is also an eigenvector of the matrix A^2.

Solution.

Suppose

$$AV = \lambda V$$

Then we have

$$A^2V = A(AV) = A(\lambda V) = \lambda AV = \lambda^2 V.$$

Answer:

So V is an eigenvalue of A^2 with eigenvalue λ^2.