The zero map $V \to V$ has eigenvectors $\vec{v}$ with the eigenvalue 0 for all nonzero vectors $\vec{v} \in V$.

The zero map $V \to V$ is $Z(v) = 0 = 0 \cdot v$ for all $v \in V$. Thus all $v \in V$ are eigenvectors with eigenvalue 0.