Complex Eigenvalues

Complex Properties

- $\overline{(x+y)} = \overline{x} + \overline{y}$
- $\overline{A\vec{v}} = A\overline{\vec{v}}$
- $\text{Lm}(x\overline{x}) = 0$

Complex Roots of the Characteristic Polynomial

All real numbers are complex numbers so,
Every polynomial of degree n has exactly n complex roots, counting multiplicity.

If λ is an eigenvalue of real matrix A with eigenvector $\vec{v}$, then $\overline{\lambda}$ is an eigenvalue of A with eigenvector $\overline{\vec{\lambda}}$.