

These are the topics that you should prepare for.

1. Definition of eigenvalues, eigenvectors and eigenspaces, characteristic equations.
2. Checking if given numbers are eigenvalues or if given vectors are eigenvectors.
3. Calculation of the characteristic equation, eigenvalues and bases of eigenspaces.
4. Matrix of a linear transformation with respect to a given basis.
5. Definition of a similar matrix.
6. Writing A as PDP^{-1} using eigenvalue calculations. Recognizing when it may not be possible.
7. Definition of a diagonalizable matrix and determination of diagonalizability.