

# HOMEWORK 21

#	Question ID	Objective
1	5.1.3	Determine if a vector or a value is an eigenvector or eigenvalue.
2	5.1.4	Determine if a vector or a value is an eigenvector or eigenvalue.
3	5.1.7	Determine if a vector or a value is an eigenvector or eigenvalue.
4	5.1.9	Find a basis for the eigenspace corresponding to an eigenvalue.
5	5.1.12	Find a basis for the eigenspace corresponding to an eigenvalue.
6	5.1.13	Find a basis for the eigenspace corresponding to an eigenvalue.
7	5.1.16	Find a basis for the eigenspace corresponding to an eigenvalue.
8	5.1.17	Find the eigenvalues of matrices.
9	5.1.18	Find the eigenvalues of matrices.
10	5.1.19	Find the eigenvalues of matrices.

## HOMEWORK 22

#	Question ID	Objective
1	5.2.1	Find the characteristic polynomial and eigenvalues of a 2x2 matrix.
2	5.2.3	Find the characteristic polynomial and eigenvalues of a 2x2 matrix.
3	5.2.5	Find the characteristic polynomial and eigenvalues of a 2x2 matrix.
4	5.2.9	Find the characteristic polynomial of a 3x3 matrix.
5	5.2.13	Find the characteristic polynomial of a 3x3 matrix.
6	5.2.15	Find eigenvalues of matrices.
7	5.2.16	Find eigenvalues of matrices.
8	5.2.17	Find eigenvalues of matrices.
9	5.2.18	Understand concepts related to the characteristic equation.
10	5.2.21	Understand concepts related to the characteristic equation.

## HOMEWORK 23

#	Question ID	Objective
1	5.3.1	Compute $A^k$ for $A=PDP^{-1}$ .
2	5.3.2	Compute $A^k$ for $A=PDP^{-1}$ .
3	5.3.3	Compute $A^k$ for $A=PDP^{-1}$ .
4	5.3.5	Use the Diagonalization Theorem to find the eigenvalues of a matrix and a basis for each eigenspace.
5	5.3.7	Diagonalize matrices.
6	5.3.11	Diagonalize matrices.
7	5.3.12	Diagonalize matrices.
8	5.3.15	Diagonalize matrices.