Linear Algebra
Spring 2024

Assignment 14.1
Due April 24

Exercise 1. Textbook exercise 6.2.9.

Exercise 2. The characteristic polynomial of the matrix

$$A = \begin{pmatrix} -5 & 16 & -9 & 1 \\ 0 & 3 & -1 & 1 \\ 4 & -8 & 6 & 1 \\ 4 & -8 & 3 & 4 \end{pmatrix}$$

is $(\lambda + 1)(\lambda - 3)^3$. Find a basis for the 3-eigenspace of A. Is A diagonalizable?

Exercise 3. Textbook exercise 6.3.2.

Exercise 4. Textbook exercise 6.3.7. See equation (16) on page 34.

Exercise 5. Textbook exercise 6.3.17.