

College of the Redwoods
Mathematics Department

Linear Algebra — Math 45
Extra Quiz #8

Instructions. *Place your solution in the space provided. All work must be your own.*

EXERCISE 1. Consider the matrix

$$A = \begin{pmatrix} 3 & 0 & 0 \\ -10 & 1 & -6 \\ -5 & 0 & -2 \end{pmatrix}$$

Derive the characteristic polynomial of matrix A . Plot the resulting characteristic polynomial (either with your calculator or Matlab). Use one of the roots r of the polynomial and division (long or synthetic) to divide the characteristic polynomial by $x - r$. Continue to find the the remaining eigenvalues. Use hand calculations only.