

## MATH 121

HAPPY THANKSGIVING!

HOMEWORK 13, DUE DECEMBER 3

### Part I

Please read the first three pages of Chapter 10 for Part I.

- (1) Axler, page 244, Problem 3.
- (2) Axler, page 244, Problem 4.
- (3) Axler, page 244, Problem 5.

### Part II

- (4) Axler, page 246, Problem 20.
- (5) Let  $A$  be the following matrix:

$$A = \begin{pmatrix} 0 & 4 & 6 \\ 1 & 0 & 3 \\ 1 & 2 & 5 \end{pmatrix}$$

Find the determinant, characteristic polynomial, and eigenvalues and eigenvectors of  $A$ .