Math 349 Exam 2 on December 4

The material you need to know and optional related problems to practice

1. **Inverse of a Matrix**: Section 3.3 # 35, 36, 42, 52, 53, 54, 55, 56, 57.
2. **Subspaces, Basis, Dimension and Rank**: Section 3.5 #1, 12, 15, 18, 19, 27, 28, 39, 40, 42, 46, 47, 48.
3. **Introduction to Linear Transformations**: Section 3.6 # 2, 4, 5, 7, 10, 30-35.
4. **Determinants**: Section 4.2 # 3, 5, 24, 25, 30, 32, 45, 46, 54, 55.
5. **Eigenvalues and Eigenvectors of $n \times n$ Matrices**: Section 4.3 # 2, 3, 4, 5, 6, 10, 20, 24.
6. **Similarity and Diagonalization**: Section 4.4 # 8-15, 24-27, 37, 39,
7. **Orthogonality in $\mathbb{R}^n$**: Section 5.1 # 4, 5, 9, 10, 13, 14, 18-20.
8. **Orthogonal Complements and Orthogonal Projections**: Sections 5.2 # 3, 4, 5, 8, 12, 13, 16, 18, 21, 23, 30.

- Study well all the problems in homework sets 4, 5, 6 and the problem 8 in homework set 3

Notes

- A copy of the complete solution manual is available for you in the reserved room of Morris Library. You can consult the book for the solution of some of optional practice problems.
- Both the regular and honor's session will take the same exam.