

**MATH 165**  
**Linear Algebra & Diff. Equation**  
**Midterm II**  
**Review Note with Examples**

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## Chapter 1

# Determinants

- 1.1 Lecture 9: Def. of Determinants & it's calculation
- 1.2 Lecture 10: Rank, Invertibility, Elementary Row Operations & additional properties of determinants

## Chapter 2

# Vector Spaces

- 2.1 Lecture 11: Vector Spaces, Zero-Vectors, Dimensions, basis, & Linear Combinations
- 2.2 Lecture 12: Vector Subspace & Proof
- 2.3 Lecture 13: Spanning Set
- 2.4 Lecture 14: Spanning, Linear Independence & Basis
- 2.5 Lecture 15: Linear Independence & Basis and dimension
- 2.6 Lecture 16: Basis, Row and Columns Spaces