

MATH-332: Linear Algebra

Chapter: 1

Linear Equations in Linear AlgebraSection 1.1: Systems of Linear Equations

pgs. 2-13

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Lecture: Systems of Linear Equations**Topics:**

- Systems of Linear Equations
- Solution Sets
- Matrix Notation
- Solutions via Elementary Row operations

Problems

- Prac: 1-4
- Prob: 7, 11, 13, 19, 23, 25

Section Goals

- Understand the geometric and algebraic properties of systems of linear equations.
- Devise a method for finding general solution sets of systems of linear equations.

Section Objectives

- Define the relevant notation associated with systems of linear equations. In particular, highlight the equivalence between linear systems, $\mathbf{Ax} = \mathbf{b}$, augmented matrices and linear combinations of vectors.
- Define the algebraic meaning of solutions and its geometric interpretation.
- Define the row-reduction algorithm in connection to the algebra of linear systems and use it to define the general solution of a linear system of equations.