

Linear Equations

**Systems of Linear Equations**

**Linear Equation:**

**Coefficients:**

**System of Linear Equations**

**Definition:**

**Solutions**

- (a) **No Solution:**
- (b) **Exactly one solution:**
- (c) **Infinitely many solutions:**

**Matrix Notation**

**Usage:**

**Examples:**

Size:

### Example of a Basic Solution

## Elementary Row Operations

- (a) Swap Rows
- (b) Scalar Multiplication
- (c) Adding Rows

## Existence and Uniqueness

Existence:

Uniqueness: