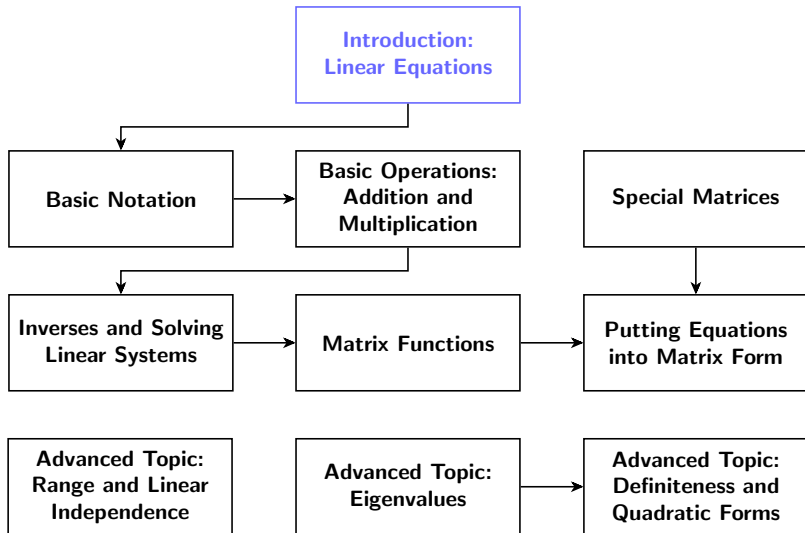


Linear Algebra Review



Linear equations

- Set of linear equations (two equations, two unknowns)

$$\begin{array}{rcl} 4x_1 & - & 5x_2 = -13 \\ -2x_1 & + & 3x_2 = 9 \end{array}$$

- Set of linear equations (two equations, two unknowns)

$$\begin{aligned}4x_1 - 5x_2 &= -13 \\ -2x_1 + 3x_2 &= 9\end{aligned}$$

- Can represent compactly using matrix notation

$$Ax = b$$

with

$$A = \begin{bmatrix} 4 & -5 \\ -2 & 3 \end{bmatrix}, \quad x = \begin{bmatrix} x_1 \\ x_2 \end{bmatrix}, \quad b = \begin{bmatrix} -13 \\ 9 \end{bmatrix}$$