

Disciplina: 6876

Turma: 02

## Lista 1: Matrizes I

1. Calcule as potências abaixo.

(a) Dado

$$A = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$$

Calcule  $A^{100}$ .

(b) Dado

$$A = \begin{bmatrix} 1 & 0 \\ 0 & 3 \end{bmatrix}$$

Calcule  $A^{35}$ .

(c) Dado

$$A = \begin{bmatrix} 0 & -1 \\ 1 & 0 \end{bmatrix}$$

Calcule  $A^{201}$ .

(d) Dado

$$A = \begin{bmatrix} 4 & 0 \\ 3 & -4 \end{bmatrix}$$

Calcule  $A^{50}$ .

2. Encontre a inversa em cada item usando a fórmula inversa-adjunta.

(a)

$$A = \begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$$

(b)

$$A = \begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$$

(c)

$$\begin{bmatrix} 1 & 0 & 2 \\ 2 & 1 & 3 \\ 3 & 1 & 0 \end{bmatrix}$$

(d)

$$\begin{bmatrix} 1 & 0 & 1 \\ 2 & -1 & 1 \\ 0 & 0 & -2 \end{bmatrix}$$

(e)

$$\begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

(f)

$$\begin{bmatrix} 1 & 0 & 0 \\ a & 1 & 0 \\ b & c & 1 \end{bmatrix}$$