

$$\left[\begin{array}{ccc|c} 6 & -1 & 3 & 4 \\ 0 & 5 & -1 & 1 \end{array} \right]$$

1.2

3) ELIMINAÇÃO GAUSSIANA

a)

$$\left[\begin{array}{ccc|c} 1 & -3 & 4 & 7 \\ 0 & 1 & 2 & 2 \\ 0 & 0 & 1 & 5 \end{array} \right] \times 3$$

$$x_3 = 5$$

$$\left[\begin{array}{ccc|c} 1 & 0 & 10 & 13 \\ 0 & 1 & 2 & 2 \\ 0 & 0 & 1 & 5 \end{array} \right] \times 10$$

$$= \left[\begin{array}{ccc|c} 1 & 0 & 0 & -37 \\ 0 & 1 & 2 & 2 \\ 0 & 0 & 1 & 5 \end{array} \right] \times 2$$

$$x_1 = -37$$

$$\left[\begin{array}{ccc|c} 1 & 0 & 0 & -37 \\ 0 & 1 & 0 & -8 \\ 0 & 0 & 1 & 5 \end{array} \right]$$

$$x_2 = -8$$

$$L_2 - 2 \cdot L_3$$

MATRIZ INVERSA

$$\begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix} \times M^{-1} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \cdot \begin{bmatrix} a & b \\ c & d \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

$$A \cdot A^{-1} = I$$

$$\begin{bmatrix} a+2c & b+2d \\ 3a+4c & 3b+4d \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

$$| \quad a + 2c = 1 \Rightarrow a = 1 - 2c$$

$$| \quad b + 2d = 0 \Rightarrow b = -2d$$

$$| \quad 3a + 4c = 0$$

$$| \quad 3b + 4d = 1$$

$$| \quad -8d + 4d = 1$$

$$| \quad -4d = 1$$

$$| \quad d = -\frac{1}{4}$$

$$| \quad 3(1 - 2c) + 4c = 0$$

$$| \quad 3 - 6c + 4c = 0$$

$$| \quad 3 - 2c = 0$$

$$b = -2 \cdot -\frac{1}{4}$$

$$b = \frac{1}{2}$$

$$a = 1 - 2 \cdot \frac{3}{2}$$

$$a = -2$$

$$2c = 3$$

$$c = \frac{3}{2}$$

$$A^{-1} = \begin{bmatrix} -2 & 1 \\ \frac{3}{2} & -\frac{1}{2} \end{bmatrix}$$

$$A^{-1} = \frac{1}{ad - bc}$$

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

