

$$\begin{cases} -4a - 4c = 0 \Rightarrow \boxed{a = -c} \\ b = 3c \\ \boxed{a = -c} \end{cases}$$

$$6a = -2b$$

$$\boxed{-3a = b}$$

$$a = -c$$

$$b = 3c$$

$$c = c$$

S. C. $\Sigma c \in \mathbb{R}$
Inf. Soluciones

$$B = \begin{pmatrix} -c & 3c \\ 0 & c \end{pmatrix}$$

$$c \in \mathbb{R}$$

$$5) \begin{pmatrix} 2 & -1 \\ a & b \end{pmatrix} \cdot \begin{pmatrix} 2 & -1 \\ a & b \end{pmatrix} = \begin{pmatrix} 5 & -2 \\ -2 & 1 \end{pmatrix}$$

$$\begin{pmatrix} 4-a & -2-b \\ 2a+ab & -a+b^2 \end{pmatrix} = \begin{pmatrix} 5 & -2 \\ -2 & 1 \end{pmatrix}$$

Resolver
 $a = -1$
 $b = 0$

$$D = \begin{pmatrix} 2 & -1 \\ -1 & 0 \end{pmatrix}$$

$D = D^t \Rightarrow D$ Simétrica

$$6) \begin{pmatrix} -1 & -2 & -2 \\ 1 & 2 & 1 \\ 0 & -1 & -1 \end{pmatrix} \cdot \begin{pmatrix} -1 & -2 & -2 \\ 1 & 2 & 1 \\ 0 & -1 & -1 \end{pmatrix} =$$

$$\begin{pmatrix} -1 & 0 & 2 \\ +1 & 1 & -1 \\ -1 & -1 & 0 \end{pmatrix}$$

$$\begin{pmatrix} -1 & 0 & 2 \\ 1 & 1 & -1 \\ -1 & -1 & 0 \end{pmatrix} \cdot \begin{pmatrix} -1 & -2 & -2 \\ 1 & 2 & 1 \\ 0 & -1 & -1 \end{pmatrix} = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$A^{13} = (A^3)^4 \cdot A = A \quad A^3 - I = \Theta \quad \text{c.g.d}$$

$$\begin{matrix} 13 & 3 \\ 1 & 4 \end{matrix}$$

$$A^3 = I \quad \leftarrow$$

$$A^2 \cdot X = A - I \Rightarrow \underline{A \cdot A^2 \cdot X = A \cdot (A - I)}$$

$$IX = A \cdot (A - I) \quad \boxed{X = A \cdot (A - I)}$$

$$X = \begin{pmatrix} -1 & -2 & -2 \\ 1 & 2 & 1 \\ 0 & -1 & 1 \end{pmatrix} \cdot \begin{pmatrix} -2 & -2 & -2 \\ 1 & 1 & 1 \\ 0 & -1 & -2 \end{pmatrix} = \begin{pmatrix} 0 & 2 & 4 \\ 0 & -1 & -2 \\ -1 & 0 & 1 \end{pmatrix}$$