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$$1.- \begin{pmatrix} -2 & 3 & 3 \\ 5 & 6 & -3 \\ -1 & -1 & 4 \end{pmatrix} \begin{matrix} F_2 = F_3 \\ F_3 = F_1 \end{matrix} \rightarrow \begin{pmatrix} -1 & -1 & 4 \\ 5 & 6 & -3 \\ -2 & -3 & 3 \end{pmatrix} \begin{matrix} F_2 = F_2 + 5F_1 \\ F_3 = F_3 - 2F_1 \end{matrix} \rightarrow \begin{pmatrix} -1 & -1 & 4 \\ 0 & 1 & 17 \\ 0 & -1 & -5 \end{pmatrix} \begin{matrix} F_3 = F_3 + F_1 \end{matrix}$$

$$\rightarrow \begin{pmatrix} -1 & -1 & 4 \\ 0 & 1 & 17 \\ 0 & 0 & 12 \end{pmatrix}$$

desminante cambia de signo

$$\det(A) = (-1) \cdot [(-1)(1)(12)] = 12$$

$$2.- \begin{matrix} 4x + y + z = -80 \\ x + y + z = 1 \\ x + y + 4z = 1 \end{matrix} \begin{matrix} F_2 = F_2 - F_1 \\ F_3 = F_3 - 4F_1 \end{matrix} \rightarrow \begin{matrix} -3y - 15z = -57 \\ 3y - 3z = 0 \\ x + y + 4z = 1 \end{matrix} \begin{matrix} F_3 = F_3 + F_2 \\ -18z = -57 \end{matrix}$$

$$\begin{matrix} z = 3, \\ y = 3 - z, \\ x + 3 + 12 = 1 \\ x = -14 \end{matrix}$$

$$3.- \Delta B = \begin{pmatrix} 1 & 0 & 0 & a & 1 \\ 3 & -2 & 0 & (2a-2) & -1 \\ -1 & -1 & (a-3) & -4 & 3 \\ 2 & 3 & (2a-6) & (4a-8) & 17 \end{pmatrix}$$

$$\begin{matrix} F_2 = F_2 - 3F_1 \\ F_3 = F_3 + F_1 \\ F_4 = F_4 - 2F_1 \end{matrix}$$

$$\begin{pmatrix} 1 & 0 & 0 & a & 1 \\ 0 & -2 & 0 & -2 & -4 \\ 0 & -1 & (a-3) & -4 & 4 \\ 0 & 3 & (2a-6) & (4a-8) & 15 \end{pmatrix} \xrightarrow{F_2 = F_2 / (-2)} \begin{pmatrix} 1 & 0 & 0 & a & 1 \\ 0 & 1 & 0 & 1 & 2 \\ 0 & -1 & a-3 & a-4 & 4 \\ 0 & 3 & 2a-6 & 2a-8 & 15 \end{pmatrix} \begin{matrix} F_3 = F_3 + F_2 \\ F_4 = F_4 - 3F_2 \end{matrix}$$

$$\rightarrow \begin{pmatrix} 1 & 0 & 0 & a & 1 \\ 0 & 1 & 0 & 1 & 2 \\ 0 & 0 & a-3 & a-3 & 6 \\ 0 & 0 & 2a-6 & 2a-8 & 9 \end{pmatrix} \xrightarrow{F_4 = F_4 - 2F_3} \begin{pmatrix} 1 & 0 & 0 & a & 1 \\ 0 & 1 & 0 & 1 & 2 \\ 0 & 0 & a-3 & a-3 & 6 \\ 0 & 0 & 0 & -2 & -3 \end{pmatrix} \begin{matrix} F_4 = F_4 / (-2) \\ F_2 = F_2 - F_4 \\ F_1 = F_1 - aF_4 \\ F_3 = F_3 - (a-3)F_4 \end{matrix}$$

$$\rightarrow \begin{pmatrix} 1 & 0 & 0 & 0 & 1+a \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & a-3 & 0 & 9a \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix} \xrightarrow{a=3} \begin{pmatrix} 1 & 0 & 0 & 0 & 4 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 27 \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix} \begin{matrix} F_3 = F_3 / 3 \end{matrix}$$

¡a!?

no

no

Sin terminar