D) $\begin{cases} x+2y+z+t=0 \\ x+3y-z+2t=0 \end{cases}$ $\begin{cases} x+2y+z+t=0 \\ y-2z+t=0 \end{cases}$

k_1 k_2

$l_2 = -1 l_1 + l_2$

$-x-2y-z-t=0$

$x+3y-z+2t=0$

$y-2z+t=0$

$y-2k_1+k_2=0$

$y=2k_1-k_2$

$x+2(2k_1-k_2)+k_1+k_2=0$

$x+4k_1-2k_2+k_1+k_2=0$

$x+5k_1-k_2=0$

$x=-5k_1+k_2$

$S=(-5k_1+k_2, 2k_1-k_2, k_1, k_2)$

D S T Q Q S S

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e) $\begin{cases} -x + 2y - z = 3 \\ 2x + y + 3z = 5 \\ 3x + 4y + 5z = 13 \end{cases}$ $\begin{cases} -x + 2y - z = 3 \\ 5y + z = 11 \end{cases}$

$l_2 = 2l_1 + l_2$

$-2x + 4y - 2z = 6$

$2x + y + 3z = 5$

$5y + z = 11$

$l_3 = 3l_1 + l_3$

$-3x + 6y - 3z = 9$

$3x + 4y + 5z = 13$

$10y + 2z = 22$: 2

$5y + z = 11$

$z = k$

$\begin{cases} -x + 2y - k = 3 \\ 5y + k = 11 \end{cases}$ → $y = \frac{11 - k}{5}$

$-x + 2\left(\frac{11-k}{5}\right) - k = 3$ → $-x + \frac{22 - 2k}{5} - \frac{5k}{5} = \frac{15}{5}$

$-x + 22 - 7k = 15$ → $-x = \frac{15 - 22 + 7k}{5}$

$-x = \frac{-7 + 7k}{5} \cdot (-1)$ → $x = \frac{7 - 7k}{5}$

SÃO DOMINGOS

D S T Q Q S S

5-) a) $\begin{vmatrix} 5 & 3 \\ 8 & 5 \end{vmatrix}$ $25 - 24 = 1$

$$\begin{vmatrix} 5 & 3 \\ 8 & 5 \end{vmatrix} \cdot \begin{vmatrix} x & y \\ a & b \end{vmatrix} = \begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix}$$

$$\begin{matrix} 5x+3a & 5y+3b \\ 8x+5a & 8y+5b \end{matrix} = \begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix}$$

$$\begin{cases} 5x+3a=1 \\ 8x+5a=0 \end{cases} \quad \begin{cases} -40x+24a=-8 \\ 40x+25a=0 \end{cases}$$

$a = -8$

$5x + 3 \cdot (-8) = 1 = 25$

$5x = 25 \Rightarrow \boxed{x = 5}$

$$\begin{cases} 5y+3b=0 \\ 8y+5b=1 \end{cases} \quad \begin{cases} -40y-24b=0 \\ 40y+25b=5 \end{cases}$$

$b = 5$

$5y + 3 \cdot 5 = 0$

$5y + 15$

$5y = -15$

$\boxed{y = -5}$

$$\begin{vmatrix} 5 & -3 \\ -8 & 5 \end{vmatrix} //$$

SÃO DOMINGOS

D S T Q Q S S

b) $\begin{vmatrix} 1 & 0 & 0 \\ 3 & 1 & 0 \\ 5 & 7 & 1 \end{vmatrix}$ $1+0+0-(0+0+0)$

Det = 1

$\begin{vmatrix} 1 & -3 & 16 \\ 0 & 1 & -7 \\ 0 & 0 & 1 \end{vmatrix}$

$A_{11} = (-1)^{1+1} = \begin{vmatrix} 1 & 0 \\ 7 & 1 \end{vmatrix} = 1$ $A_{12} = (-1)^{3} = \begin{vmatrix} 3 & 0 \\ 5 & 1 \end{vmatrix} = -3$

$A_{13} = -1^{4} = \begin{vmatrix} 3 & 1 \\ 5 & 7 \end{vmatrix}$ $21-5=16$ $A_{21} = -1^{3} = \begin{vmatrix} 0 & 0 \\ 7 & 1 \end{vmatrix} = 0$

$A_{22} = -1^{4} = \begin{vmatrix} 1 & 0 \\ 5 & 1 \end{vmatrix} = 1$ $A_{23} = -1^{5} = \begin{vmatrix} 1 & 0 \\ 5 & 7 \end{vmatrix} = -7(-1) = -7$

$A_{31} = -1^{4} \begin{vmatrix} 0 & 0 \\ 1 & 0 \end{vmatrix} = 0$ $A_{32} = -1^{5} \begin{vmatrix} 1 & 0 \\ 3 & 0 \end{vmatrix} = 0$

$A_{33} = -1^{6} = \begin{vmatrix} 1 & 0 \\ 3 & 1 \end{vmatrix} = 1$

D S T Q Q S S

coluna vira linha
linha vira coluna

$$\left|\begin{array}{ccc|c|ccc} 1 & -3 & 16 & -t & 1 & 0 & 0 \\ 0 & 1 & -7 & = & -3 & 1 & 0 \\ 0 & 0 & 1 & & 16 & -7 & 1 \end{array}\right|$$

$$A^{-1} = \frac{1}{1} \cdot \begin{matrix} t & z \end{matrix}$$

D S T Q Q S S

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6-a)

$$\begin{vmatrix} 1 & 1 & 2 \\ 2 & 3 & 4 \\ 4 & 5 & 4 \end{vmatrix}$$

$12 + 16 + 20 - (24 + 8 + 20)$

$48 - 52$

$\boxed{Det = -4}$

b)

$$\begin{vmatrix} 4 & 1 \\ 2 & 0 \end{vmatrix}$$

$0 - 2$

$\boxed{Det = -2}$

c)

$$\begin{vmatrix} 1 & 3 & 4 \\ 2 & 1 & 0 \\ 0 & 1 & 1 \end{vmatrix}$$

$1 + 0 + 2 - (0 + 6 + 0)$

$3 - 6$

$\boxed{Det = -3}$

d)

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

$1 + 6 + 0 - (1 + 4 + 0)$

$7 - 5$

$\boxed{Det = 2}$

D S T Q Q S S

e)

$$\begin{vmatrix} 1 & 0 & 0 & 0 \\ 3 & 2 & 0 & 0 \\ 1 & 1 & 4 & 0 \\ 4 & 0 & 4 & -1 \end{vmatrix}$$

$$\begin{vmatrix} 0 & & \to 1 & \\ 2 & 0 & 0 & \\ 1 & 4 & 0 & \\ 0 & 1 & -1 & \\ 2 & & 0 & \end{vmatrix}$$

$(-8 + 0 + 0) - (0 + 0 + 0)$

$\boxed{Det = -8}$ u

f)

$$\begin{vmatrix} 1 & 0 & 0 & 0 \\ 0 & 3 & 0 & 0 \\ 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 2 \end{vmatrix} = \begin{vmatrix} 3 & 0 & 0 \\ 0 & 4 & 0 \\ 0 & 0 & 2 \end{vmatrix}$$

$\boxed{Det = 24}$ u