LISTA 3 - GA

$$\begin{bmatrix} 2 \cdot 3 - 1 & 1 + 2 & 1 + 3 \\ 1 - 2 & 2 \cdot 2 - 2 & 2 + 3 \\ 3 - 3 & 2 - 3 & 2 \cdot 3 - 3 \end{bmatrix} = \begin{bmatrix} 1 & 3 & 4 \\ 4 & 2 & 5 \\ 2 & 1 & 3 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 1 & 2 & 5 & 0 & 1 & 0 \\ 2 & 1 & 3 & 0 & 0 & 1 \end{bmatrix} \theta_2 + \theta_2 - \theta_4 \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 2 & 1 & 3 & 0 & 0 & 1 \end{bmatrix} \theta_3 + \theta_3 - 2\theta_3 \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -5 & -5 & -2 & 0 & 1 \end{bmatrix} \theta_2 + \theta_2 \cdot (\theta_3) \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -5 & -5 & -2 & 0 & 1 \end{bmatrix} \theta_2 + \theta_2 \cdot (\theta_3) \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -5 & -5 & -2 & 0 & 1 \end{bmatrix} \theta_2 + \theta_3 \cdot (\theta_3) \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -5 & -5 & -2 & 0 & 1 \end{bmatrix} \theta_2 + \theta_3 \cdot (\theta_3) \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -5 & -5 & -2 & 0 & 1 \end{bmatrix} \theta_3 + \theta_3 \cdot (\theta_3) \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -5 & -5 & -2 & 0 & 1 \end{bmatrix} \theta_3 + \theta_3 \cdot (\theta_3) \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -5 & -5 & -2 & 0 & 1 \end{bmatrix} \theta_3 + \theta_3 \cdot (\theta_3) \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -5 & -5 & -2 & 0 & 1 \end{bmatrix} \theta_3 + \theta_3 \cdot (\theta_3) \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -5 & -5 & -2 & 0 & 1 \end{bmatrix} \theta_3 + \theta_3 \cdot (\theta_3) \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -5 & -5 & -2 & 0 & 1 \end{bmatrix} \theta_3 + \theta_3 \cdot (\theta_3) \rightarrow \begin{bmatrix} 1 & 3 & 4 & 1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 1 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -1 & 1 & -1 & 1 & 0 \\ 0 & -1 & 1 &$$

$$\begin{array}{c} \ell_{1} + \ell_{1} - 3\ell_{2} + \begin{bmatrix} 1 & 0 & 7 & -2 & 3 & 0 \\ 0 & 1 & -1 & 1 & -1 & 0 \\ 0 & -5 - 5 & -2 & 0 & 1 \end{bmatrix} & \theta_{3} + \ell_{3} + 5\ell_{2} \rightarrow \begin{bmatrix} 1 & 0 & 7 & -2 & 3 & 0 \\ 0 & 1 & -1 & 1 & -1 & 0 \\ 0 & 0 & -10 & 3 & -5 & 1 \end{bmatrix} & \ell_{3} + \ell_$$

$$\begin{bmatrix} 1 & 0 & 7 & -2 & 3 & 0 \\ 0 & 1 & 0 & 7/10 & -1/2 & -1/10 \\ 0 & 0 & 1 & -3/10 & 1/2 & -1/10 \\ 0 & 0 & 1 &$$

$$\begin{bmatrix} 0.12 & -0.5 & 0.7 \\ 0.7 & -0.5 & -0.1 \\ -0.3 & 0.5 & -0.1 \end{bmatrix} \begin{cases} x & 0.17 - 1 + 0.3 = 3 \\ 3 & 0.17 - 1 + 0.3 = 3 \end{cases} \begin{cases} x - 3 \\ 3 = 1 \\ 3 & 0.17 - 1 + 0.3 = 3 \end{cases}$$

(a. a.)
$$A = \begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}$$
 $A = \begin{bmatrix} 2 \\ -3 \end{bmatrix}$ $A \times B = A \times B + A \times$

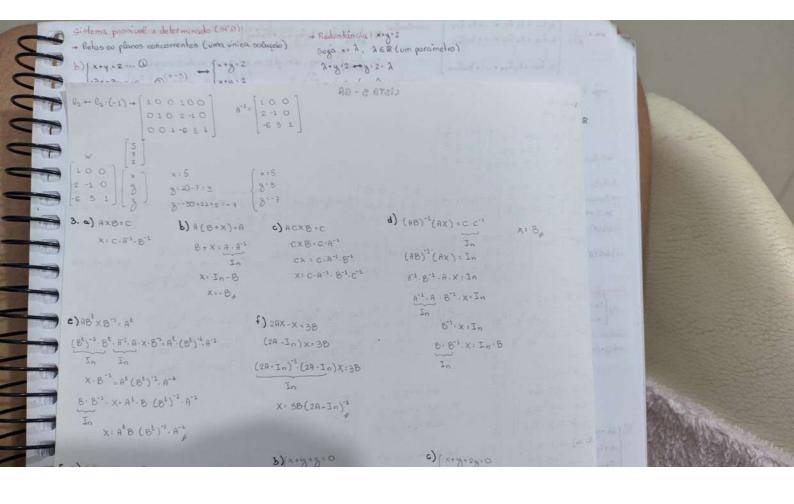
$$A^{-3} = \begin{bmatrix} 2 & 3 \\ 3 & -4 \\ 2 & 1 \end{bmatrix} \cdot \frac{1}{1 \cdot 3 - 2 \cdot 4} \rightarrow \begin{bmatrix} 3 & -4 \\ -2 & 1 \end{bmatrix} \cdot \frac{1}{5} \rightarrow \begin{bmatrix} -\frac{3}{5} & \frac{4}{5} \\ \frac{2}{5} & -\frac{1}{5} \end{bmatrix}$$

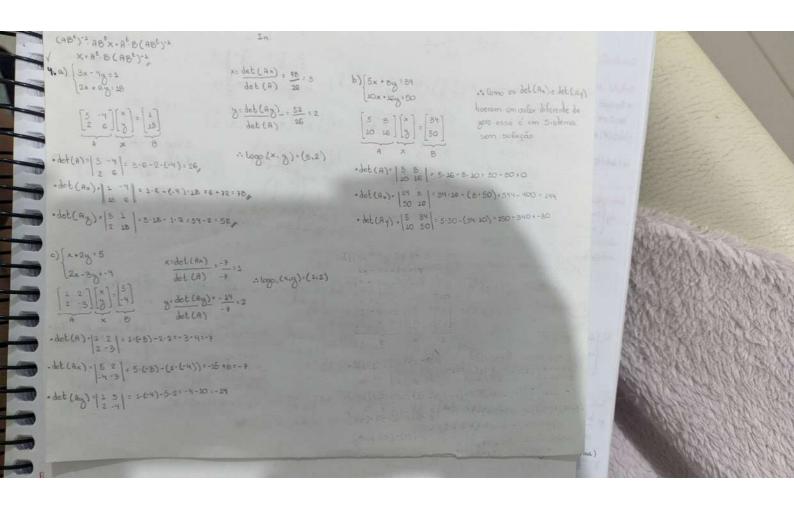
$$X = \begin{bmatrix} -2 \\ 1 \end{bmatrix}$$

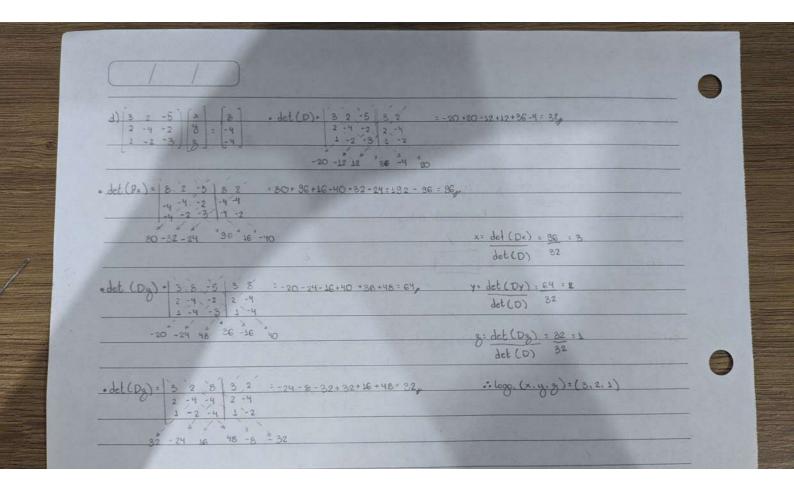
b)
$$\theta = \begin{bmatrix} 2 & 3 \\ 5 & 5 \end{bmatrix}$$
; $\theta = \begin{bmatrix} 1 & 2 \\ 3 & 5 \end{bmatrix}$; $C = \begin{bmatrix} 1 & 3 \\ 2 & 7 \end{bmatrix}$

$$8^{-1} = \begin{bmatrix} 5 & -2 \\ -3 & 1 \end{bmatrix}$$
 $\frac{1}{5 \cdot 1 - (-3) \cdot (-2)} = \begin{bmatrix} 5 & -2 \\ -3 & 1 \end{bmatrix} - 1 = \begin{bmatrix} -5 & 2 \\ 3 & -1 \end{bmatrix}$

$$\begin{bmatrix} 1 & 0 & 0 & 1 & 0 & 0 \\ 2 & -1 & 0 & 0 & 1 & 0 \\ 2 & 3 & 1 & 0 & 0 & 1 \end{bmatrix} \ell_2 + \ell_2 - 2\ell_1 \rightarrow \begin{bmatrix} 1 & 0 & 0 & 1 & 0 & 0 \\ 0 & -1 & 0 & -2 & 1 & 0 \\ 2 & 3 & 1 & 0 & 0 & 1 \end{bmatrix} \ell_3 + \ell_3 - 2\ell_1 \rightarrow \begin{bmatrix} 1 & 0 & 0 & 1 & 0 & 0 \\ 0 & -1 & 0 & -2 & 1 & 0 \\ 0 & 3 & 1 & 0 & 0 & 1 \end{bmatrix} \ell_3 + \ell_3 + 3\ell_2 \rightarrow \begin{bmatrix} 1 & 0 & 0 & 1 & 0 & 0 \\ 0 & -1 & 0 & -2 & 1 & 0 \\ 0 & 0 & 1 & 6 & 3 & 1 \end{bmatrix}$$







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\begin{bmatrix} 1 & 2 & -1 \\ 2 & -1 & 3 \\ 3 & 3 & -2 \end{bmatrix} \begin{bmatrix} x \\ y \\ 3 \end{bmatrix} = \begin{bmatrix} 2 \\ 9 \\ 3 \end{bmatrix}
 · det (E): 1 2 -1 1 2 = 2+18+8-6-3-3= 50/
                                                                             · det(Ex)= 2 2 -1 2 2 = 36+18+4-27-18-3=10/

9-1 3 9-1

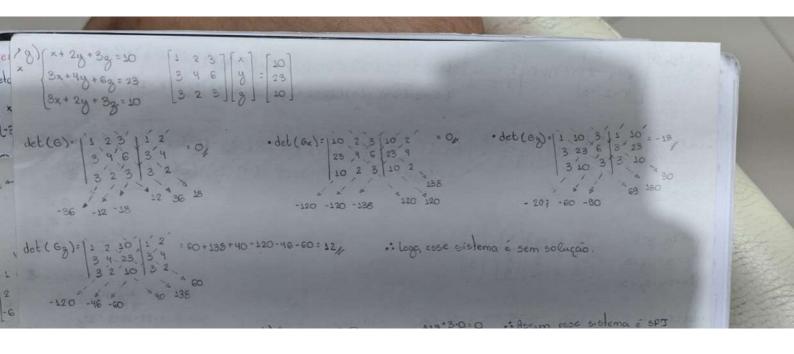
3 3-2 3 3

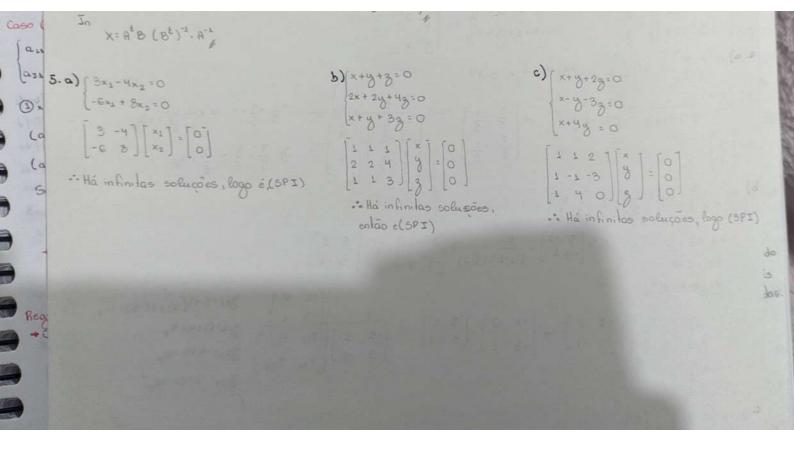
-3-18 36 9 18-27
8 · det (Eg) = 1 2 -1 1 2 = -18-8-6+27+8+18=20,
2 9 3 2 9
3 3 -2 3 3
                                                                                · det (63) = 1 2 2 1 2 = -27-12-8+12+54+6 = 30/
             27 -8 8 -18 18 -6
                                                                                       6 -27 -12 -3 54 *12
   .: logo, (x, y, 3) = (1, 2, 3)
  f) \begin{cases} x+3g+6=-2 \\ 2x-4y=-4 \\ 3x-2y-5g=26 \end{cases} \begin{bmatrix} 1 & 0 & 3 \\ 2 & 4 & 0 \\ 3 & -2 & -5 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} -8 \\ 4 \\ 26 \end{bmatrix}
  · det(F): 1 0 3 1 0 = -12+20+36:44,
2-4 0 2-4
3-2-5 3-2
                                                                 • det(Fx)=1-8 0 3 1-8 0 = 812+24-180=176,

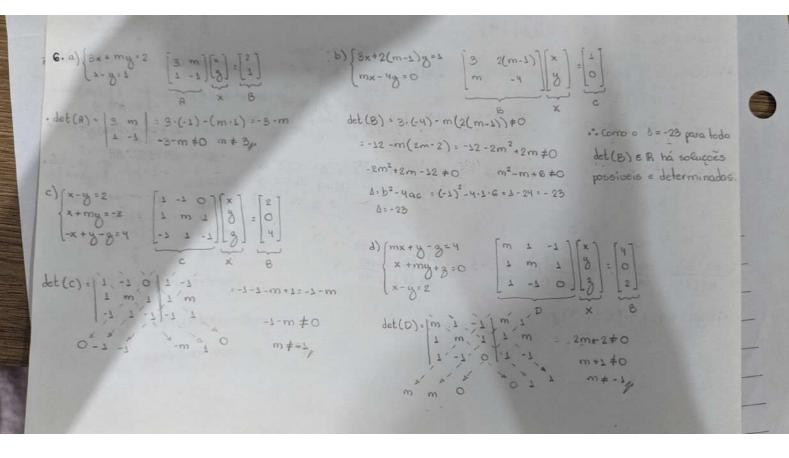
-4 -4 0 -4 -4

26 -2 -5 26 -2

312 0 0 -160 0 24
   36 0 0 20 0 12
  x= det (Fx) = 176, 4 y= det (Fy) = 132 = 3 g= det (Fg) = 176 = 44
   ·: logo, (x, y, g) . (4, 3, -4) /
```







2 225 - 2 2 2 2	6x-2y: 950 @	La contrar of the con			
8) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	x+y=225 ②				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	D+2 subatitoi com @	8.)	60 m + 20c = 20p00	3m+c=1500	
$3(540 - c) + c - 1500$ $675 - 3y - y - 375$ $-1y - 200$ $-2c^{2} - 12 - c = 60$ $-2c^{2} - 12 - c = $	3×-9 = 375		m+c: 540	m+c=540	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	x = 225-y			m=540-c	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	s(225-y)-y=375			3(540-0)+0-4500	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	675-3y-4: 375			1620 - 3c + c = 1.500	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				-2c = -12 c=60 /	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	4=75 ×= 225-75 = 180,	THE DOOR			
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	y=75 x=225-75 = 180/				
24+3:92 24+53:500 24+53:500 24:40 24+3:92 124+53:500 24+3:92 124+53:500 4:20, ×:20, -6.(24+3:92):-124-63:-552			24+8 *92		
24+3=92 124+53=500 4:20, ×:20, -6.(24+3=92) -124-63=-552	x= 27ea 15 g= 10 reas g= Sreas	0			
-6·(29+3=32)12y-63=-552	x= 27ea > g= 10 reas g= 5reas		24+52=92		
	x=27ea13 g= 10 rea13 g=5rea13 Ey (3) (3+5) (3+3) 32 2y+10 24+3:92 2y+2	9+53=500	24+52±32 24 * 40		
(\2u+50,:500 -> 0u-2:-52	** 27 cas > g= 10 cross g= 5 reas = = y	94+53=500 53=500	24+52=82 24:40 4:20, ×:20,		
(-12y-63-552 y:52.	= 27 cas g= 10 rais g= 5 reas = y	94+53=500 53=500	24+52=82 24:40 4:20, ×:20,		

K+A=109@ A=109	3-k ©+6	2
K+T:142®	T+(109-K)=97	[T-K=-12 K+A:109 -77+108=A
T+A = 97 3	T - K = 97-109	T+K=142 A=32kg
	T-K=-12	2T \= 130
COLUMN PARK		T=65kg K= 77kg
11 11 11 11 11 11	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	