1. Peceller de cuereary ypoblience merogon (X1+X2-X3-2x4=0 1 2x1+X2-X3+ X4 =-2  $(X_1 + X_2 - 3X_3 + X_4 = 4)$ Bonumen pacunepennyo narpusy Theboquen marpusy k orgnenzarone bugg 1 1 -1 -2 0 1 1 -1 -2 0 21-1112-> 0-115-2 X1+X2-X3-2x4=0  $-X_2 + X_3 + 5xy = -2$ -2x3+3x4=4

Cucremo uneer muoxecs60 peruencia.

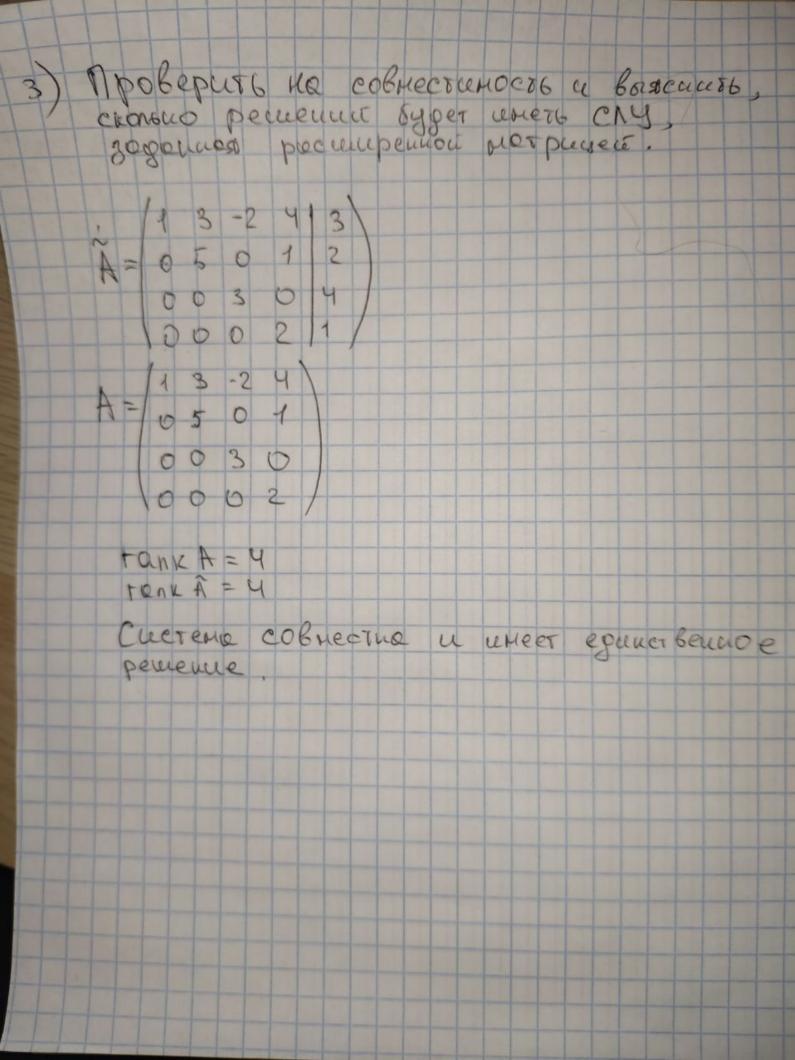
$$X_4 = C$$
 $X_1 + X_2 - X_3 = 2C = 0$ 
 $-X_2 + X_3 + 5C = -2$ 
 $-X_2 + X_3 + 5C + 2$ 
 $-X_3 + 5C + 2$ 
 $-X_2 + X_3 + 5C + 2$ 
 $-X_3 + 5C + 2$ 
 $-X_2 + X_3 + 5C + 2$ 
 $-X_3 + 5C + 2$ 

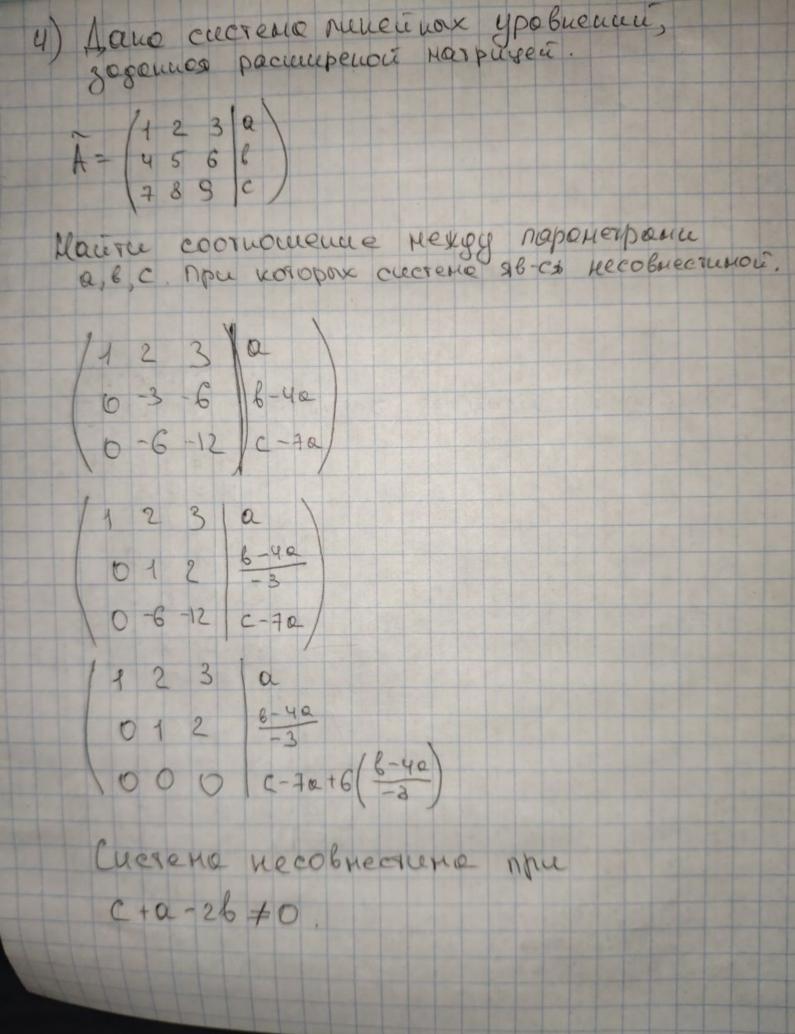
$$\begin{cases} X_1 + 2x_2 + 5x_3 = 4 \\ 3x_1 + x_2 - 8x_3 = -2 \end{cases}$$

$$A = \begin{pmatrix} 1 & 2 & 5 \\ 3 & 1 & -8 \end{pmatrix}, \tilde{A} = \begin{pmatrix} 1 & 2 & 5 & 4 \\ 3 & 1 & -8 & -2 \end{pmatrix}$$

TankA = 2

Т. к число перенениях не совпороет с рангом, система имеет весмонегное копигество решений





1) Permits CMY merogon Kpanepa a)  $\{x_1 - 2x_2 = 1$   $\{3x_1 - 4x_2 = 1\}$ det A = 3 -4 = -4+6 = 2 det A = 1 -2 = -4+14=10 de+Az= 1 1 = 7-3=4 X = 10 = 5

8) 
$$\begin{cases} 2x_1 + x_2 + 5x_3 = 10 \\ x_1 + x_2 - 3x_3 = -2 \\ 2x_1 + 4x_2 + x_3 = 1 \end{cases}$$

$$\begin{vmatrix} 2x_1 + 4x_2 + x_3 = 1 \\ 2x_1 + 4x_2 + x_3 = 1 \end{vmatrix}$$

$$= 2(1+12) + (1+6) + 5(4-2) = 26 + 7 + 10 = 43$$

$$= 2(1+12) + (1+6) + 5(4-2) = 26 + 7 + 10 = 43$$

$$= 40(1+12) + (-2+3) + 5(-8-4) = 130 + 1 + 45 = 86$$

$$= 40(1+12) + (-2+3) + 5(-8-4) = 130 + 1 + 45 = 86$$

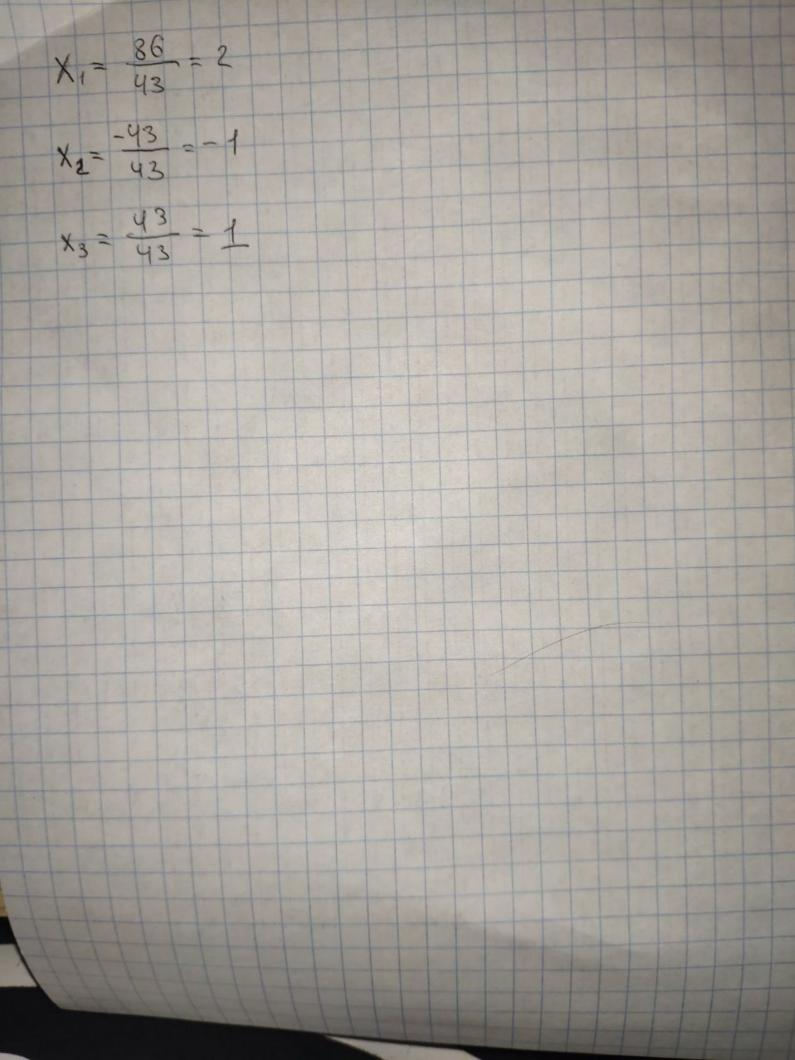
$$= 40(1+12) + (-2+3) + 5(-8-4) = 130 + 1 + 45 = 86$$

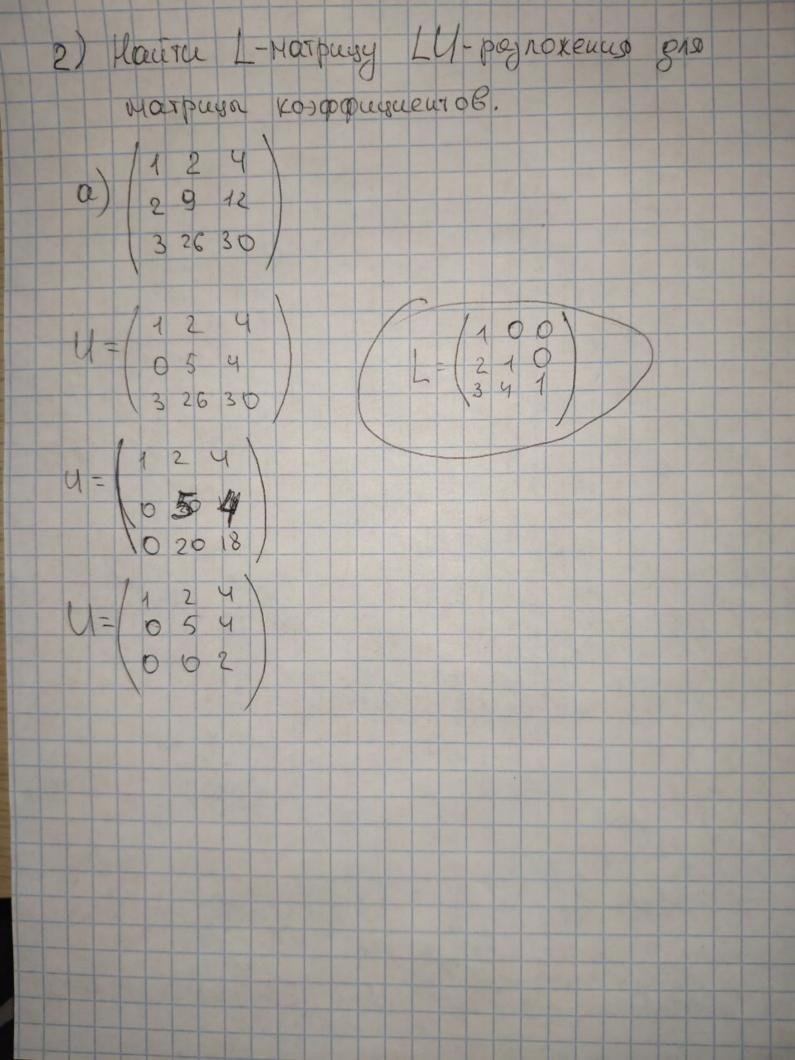
$$= 40(1+12) + (-2+3) + 5(-8-4) = 130 + 1 + 45 = 86$$

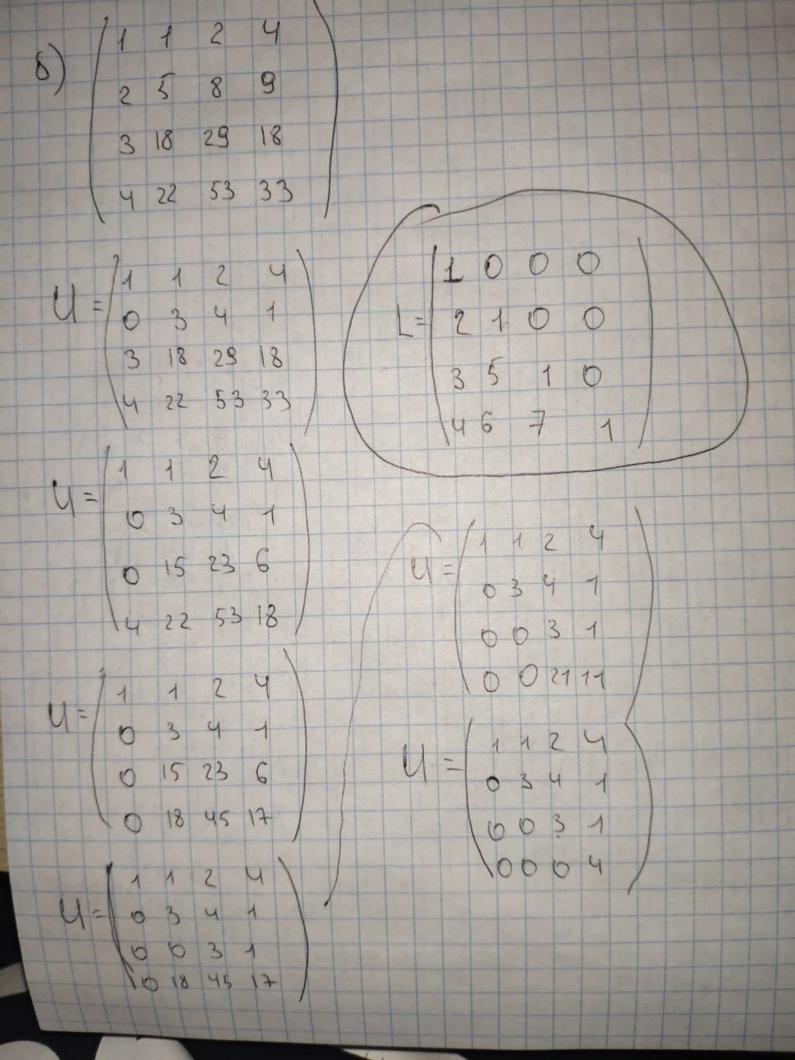
$$= 2(-2+3) - 10(1+6) + 5(1+4) = 2 + 70 + 25 = -43$$

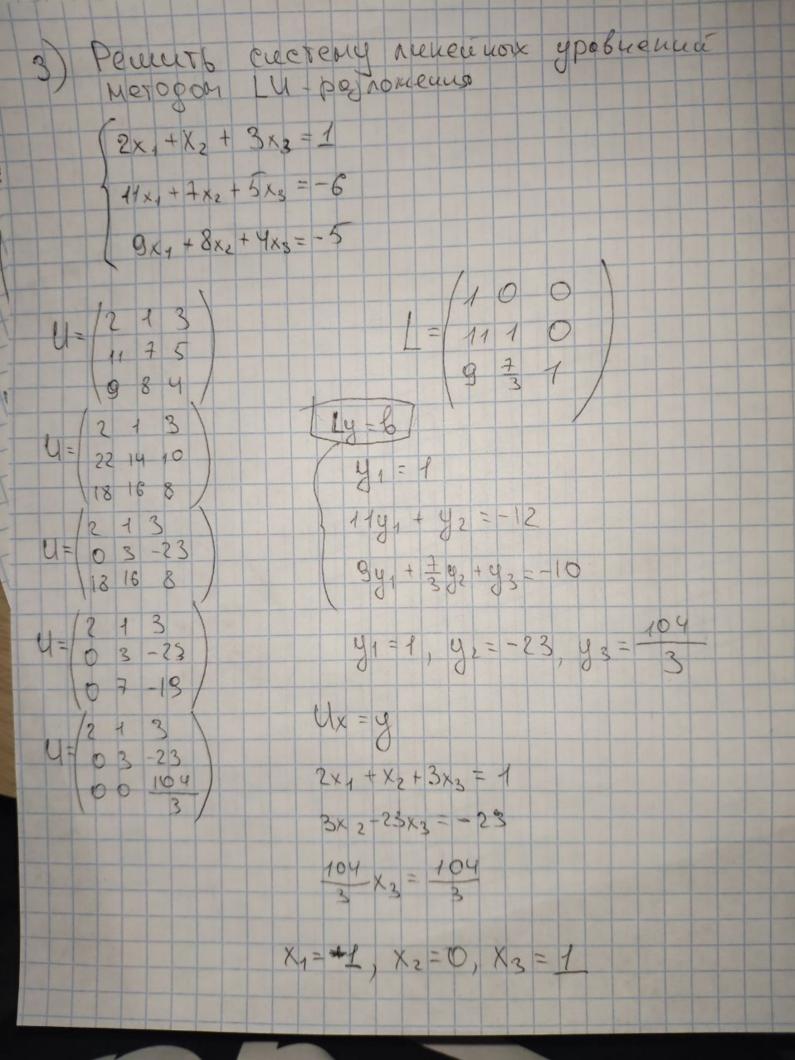
$$= 2(-2+3) - 10(1+6) + 5(1+4) = 2 + 70 + 25 = -43$$

$$= 2(1+8) + (1+4) + 10(4+2) = 18 + 5 + 20 = 43$$









4) Perent cucreng renework ypoblement 1 -1 17 (81x, -45x2+45x3=531 1-45x,+50x2-15x3=-460 (45x1-15x2+38x3=193 L1= 101 = 181 = 9 (21 = azr = -45 = -5 l31= 031 = 45 = 5 luz = Vari-les = 50-25 = 5 (32 = (032 - l21 (31) = 10 = 2 l33= Ja33-l31-l32= J38-25-4=3  $L = \begin{pmatrix} 9 & 0 & 0 \\ -5 & 5 & 0 \\ 5 & 2 & 3 \end{pmatrix}, \quad L = \begin{pmatrix} 9 & -5 & 5 \\ 0 & 5 & 2 \\ 0 & 0 & 3 \end{pmatrix}$  $\begin{cases} 3y_1 = 531 \\ -5y_1 + 5y_2 = -460 \end{cases}$ ( 5y1+242+343=193

$$y_1 = 59$$
 $y_2 = -460 + 295 = -33$ 
 $y_3 = 193 - 5.59 - 2.(-33) = -12$ 

$$\begin{cases} 9x_{4} - 5x_{2} + 5x_{3} = 59 \\ 5x_{2} + 2x_{3} = -33 \\ x_{3} = -9 \end{cases}$$

$$\begin{cases} 8x_4 - 5x_2 + 20 = 59 \\ 5x_2 - 8 = -33 \\ x_3 = -4 \end{cases}$$

$$3x_1 + 5x_2 = 19$$
 $x_2 = -5$ 
 $x_3 = -4$ 

$$\begin{cases} X_1 = 6 \\ X_2 = -5 \\ X_3 = -4 \end{cases}$$