2 часть

1) Решить методом Крамера

а) $\begin{cases} x_1 - 2x_2 = 1 \\ 3x_1 - 4x_2 = 7 \end{cases}$

$\left(\begin{array}{cc|c} 1 & -2 & 1 \\ 3 & -4 & 7 \end{array}\right)$ $\det A = 2$; $\det A_1 = 10$; $\det A_2 = 4$

$x_1 = 5$; $x_2 = 2$

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

$\left(\begin{array}{ccc|c} 2 & -1 & 5 & 10 \\ 1 & 1 & -3 & -2 \\ 2 & 4 & 1 & 1 \end{array}\right)$

$$\det A = \begin{vmatrix} 2 & -1 & 5 \\ 1 & 1 & -3 \\ 2 & 4 & 1 \end{vmatrix} = 2\begin{vmatrix} 1 & -3 \\ 4 & 1 \end{vmatrix} + \begin{vmatrix} 1 & -3 \\ 2 & 1 \end{vmatrix} + 5\begin{vmatrix} 1 & 1 \\ 2 & 4 \end{vmatrix} =$$

$= 26 + 7 + 10 = 43$

$$\det A_1 = \begin{vmatrix} 10 & -1 & 5 \\ -2 & 1 & -3 \\ 1 & 4 & 1 \end{vmatrix} = 10\begin{vmatrix} 1 & -3 \\ 4 & 1 \end{vmatrix} + \begin{vmatrix} -2 & -3 \\ 1 & 1 \end{vmatrix} +$$

$$+ 5\begin{vmatrix} -2 & 1 \\ 1 & 4 \end{vmatrix} = 130 + 1 - 45 = 86$$

$$\det A_2 = \begin{vmatrix} 2 & 10 & 5 \\ 1 & -2 & -3 \\ 2 & 1 & 1 \end{vmatrix} = 2\begin{vmatrix} -2 & -3 \\ 1 & 1 \end{vmatrix} - 10\begin{vmatrix} 1 & -3 \\ 2 & 1 \end{vmatrix} + 5\begin{vmatrix} 1 & -2 \\ 2 & 1 \end{vmatrix} =$$

$= 2 - 70 + 25 = -43$

$$\det A_3 = \begin{vmatrix} 2 & -1 & 10 \\ 1 & 1 & -2 \\ 2 & 4 & 1 \end{vmatrix} = 2\begin{vmatrix} 1 & -2 \\ 4 & 1 \end{vmatrix} + \begin{vmatrix} 1 & -2 \\ 2 & 1 \end{vmatrix} + 10\begin{vmatrix} 1 & 1 \\ 2 & 4 \end{vmatrix} = 18 + 5 + 20 = 43$$

$x_1 = 2$; $x_2 = -1$; $x_3 = 1$