EX.1. $\begin{bmatrix} 3 & 0 \\ 0 & 3 \end{bmatrix} \cdot X + 2 \cdot \begin{bmatrix} 1 & 2 \\ -3 & 5 \end{bmatrix}^T = 5 \cdot X + 6 \begin{bmatrix} 3 & 1 \\ 2 & 1 \end{bmatrix}^{-1}$ Find X.

EX.2. Let $A = \begin{bmatrix} 1 & -2 & 3 \\ -2 & 3 & -1 \\ 3 & -1 & 2 \end{bmatrix}$ Calculate $\det A$. Use

a) the Sarrus's method

b) the Laplace theorem.

EX.3. Let $A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 3 & -1 \\ -1 & 1 & -1 \end{bmatrix}$. Find A^{-1}.

EX.4. Let $A = \begin{bmatrix} -1 & 2 & 4 & -3 \\ 2 & -1 & -3 & 2 \\ 4 & 3 & -1 & 3 \\ 3 & 2 & -2 & 4 \end{bmatrix}$. Find $\det A$.