

5.6.

a)

Basispiv:

$$\begin{pmatrix} 2 & 3 & -1 \\ 1 & 0 & 4 \\ 0 & 5 & -1 \end{pmatrix} \cdot \begin{pmatrix} x_1 \\ x_2 \\ x_3 \end{pmatrix} = \begin{pmatrix} -8 \\ 17 \\ -14 \end{pmatrix}$$

$$\begin{vmatrix} 2 & 3 & -1 \\ 1 & 0 & 4 \\ 0 & 5 & -1 \end{vmatrix} = -5 - 40 + 3 = -42 \rightarrow \det(A)$$

$$\begin{vmatrix} -8 & 3 & -1 \\ 17 & 0 & 4 \\ -14 & 5 & -1 \end{vmatrix} = 160 + 51 - 168 - 85 = -42$$

$$\begin{vmatrix} 2 & -8 & -1 \\ 1 & 17 & 4 \\ 0 & -14 & -1 \end{vmatrix} = -34 + 14 + 112 - 8 = 84$$

$$\begin{vmatrix} 2 & 3 & -8 \\ 1 & 0 & 17 \\ 0 & 5 & -14 \end{vmatrix} = -40 - 170 + 42 = -168$$

$$\Rightarrow x = \frac{1}{-42} \begin{pmatrix} -42 \\ 84 \\ -168 \end{pmatrix} = \begin{pmatrix} 1 \\ -2 \\ 4 \end{pmatrix}$$