

Zad.

$$B = \begin{bmatrix} 1 & 1 & 1 \\ 2 & 2 & -1 \\ 1 & -1 & 2 \end{bmatrix}$$

$$\det B = \begin{vmatrix} 1 & 1 & 1 \\ 2 & 2 & -1 \\ 1 & -1 & 2 \\ 1 & 1 & 1 \\ 2 & 2 & -1 \end{vmatrix} = 4 - 2 - 1 - 2 - 1 - 4 = -6$$

$$d_{11} = (-1)^2 \begin{vmatrix} 2 & -1 \\ -1 & 2 \end{vmatrix} = 4 - 1 = 3$$

$$d_{31} = (-1)^4 \begin{vmatrix} 1 & 1 \\ 2 & -1 \end{vmatrix} = -1 - 2 = -3$$

$$d_{12} = (-1)^3 \begin{vmatrix} 2 & -1 \\ 1 & 2 \end{vmatrix} = -(4 + 1) = -5$$

$$d_{32} = (-1)^5 \begin{vmatrix} 1 & 1 \\ 2 & -1 \end{vmatrix} = -(-1 - 2) = 3$$

$$d_{13} = (-1)^4 \begin{vmatrix} 2 & 2 \\ 1 & -1 \end{vmatrix} = -2 - 2 = -4$$

$$d_{33} = (-1)^6 \begin{vmatrix} 1 & 1 \\ 2 & 2 \end{vmatrix} = 0$$

$$d_{21} = (-1)^3 \begin{vmatrix} 1 & 1 \\ -1 & 2 \end{vmatrix} = -(2 + 1) = -3$$

$$d_{22} = (-1)^4 \begin{vmatrix} 1 & 1 \\ 1 & 2 \end{vmatrix} = 2 - 1 = 1$$

$$d_{23} = (-1)^5 \begin{vmatrix} 1 & 1 \\ 1 & -1 \end{vmatrix} = -(-1 - 1) = 2$$

$$B^{-1} = -\frac{1}{6} \begin{bmatrix} 3 & -5 & -4 \\ -3 & 1 & 2 \\ -3 & 3 & 0 \end{bmatrix}^T = -\frac{1}{6} \begin{bmatrix} 3 & -3 & -3 \\ -5 & 1 & 3 \\ -4 & 2 & 0 \end{bmatrix} = \frac{1}{6} \begin{bmatrix} -3 & 3 & 3 \\ 5 & -1 & -3 \\ 4 & -2 & 0 \end{bmatrix}$$