

Zad. Oblicz

$$\begin{vmatrix} -1 & 2 & -3 & 4 \\ 0 & 5 & 3 & -7 \\ 1 & 3 & -5 & 9 \\ 2 & -2 & 4 & 6 \end{vmatrix} \begin{matrix} w_1 + w_3 \\ = \\ w_1 - 2w_3 \end{matrix} \begin{vmatrix} 0 & 5 & -8 & 13 \\ 0 & 5 & 3 & -7 \\ 1 & 3 & -5 & 9 \\ 0 & -8 & 14 & -12 \end{vmatrix} = 1 \cdot (-1)^{3+1} \begin{vmatrix} 5 & -8 & 13 \\ 5 & 3 & -7 \\ -8 & 14 & -12 \end{vmatrix} \begin{matrix} w_2 - w_1 \\ = \end{matrix}$$

$$= \begin{vmatrix} 5 & -8 & 13 \\ 0 & 11 & -20 \\ -8 & 14 & -12 \end{vmatrix} = -660 - 1280 + 1144 + 1400 = 604.$$

$\begin{matrix} 5 & -8 & 13 \\ 0 & 11 & -20 \end{matrix}$