Практика 2

(1.1) $\begin{vmatrix} 3 & 5 \\ 2 & 4 \end{vmatrix} = 12 - 10 = 2$

(2.3) $\begin{vmatrix} 2 & 1 & 3 \\ 0 & 4 & 2 \\ -1 & 2 & 3 \end{vmatrix} = 24 + (-2) + 12 - 8 = 26$

(4.1) $|A| = \begin{vmatrix} 2 & -1 & 4 & 1 \\ 3 & 2 & 1 & 2 \\ a & b & c & d \\ 4 & 3 & -1 & 2 \end{vmatrix} = a_{11} \cdot A_{11} + a_{21} A_{21} + a_{31} \cdot A_{31} + a_{41} \cdot A_{41}$

$A_{11} = (-1)^2 \cdot \begin{vmatrix} 2 & 1 & 2 \\ b & c & d \\ 3 & -1 & 2 \end{vmatrix} = 4c + 3d - 2b - 6c - 2b + 2d = -4b + 5d - 2c$

$A_{21} = -1 \cdot \begin{vmatrix} -1 & 4 & 1 \\ b & c & d \\ 3 & -1 & 2 \end{vmatrix} = -2c + 12d - b - 3c - 8b - d = -(-9b + 11d - 5c) = 9b - 11d + 5c$

$$A_{31} = \begin{vmatrix} -1 & 4 & 1 \\ 2 & 1 & 2 \\ 3 & -1 & 4 \end{vmatrix} = -2 + 24 - 2 - 3 - 16 - 25 = -1$$

$$A_{41} = \begin{vmatrix} -1 & 4 & 1 \\ 2 & 1 & 2 \\ b & c & d \end{vmatrix} \cdot (-1) = -d + 8b + 2c - b - 8d + 2c =$$
$$= (-9d + 7b + 4c) =$$
$$= 9d - 7b - 4c$$

$$|A| = 2 \cdot (5d - 4b - 2c) + 3 \cdot (-11d + 9b + 5c) +$$
$$+ a \cdot (-1) + 4 \cdot (-7b + 9d - 4c) =$$
$$= 10d - 8b - 4c - 33d + 27b + 15c +$$
$$- 28b + 36d - 16c - a =$$
~~$= 7d - 7b - 3c - a$~~
$$= -a - 9b - 5c + 13d$$