

Cofactors

The minor M_{ij} multiplied by $(-1)^{i+j}$ is called the cofactor of the element a_{ij} . We denote it by A_{ij} or C_{ij} .

$$\text{The cofactor of } a_{11} = A_{11} = (-1)^{1+1} M_{11} = \begin{vmatrix} a_{22} & a_{23} \\ a_{32} & a_{33} \end{vmatrix}$$

$$\text{The cofactor of } a_{12} = A_{12} = (-1)^{1+2} M_{12} = - \begin{vmatrix} a_{21} & a_{23} \\ a_{31} & a_{33} \end{vmatrix}$$

$$\text{The cofactor of } a_{13} = A_{13} = (-1)^{1+3} M_{13} = \begin{vmatrix} a_{21} & a_{22} \\ a_{31} & a_{32} \end{vmatrix}$$