$$\Gamma = -\,{}^{t}\Gamma \in {}^{n}_{2}\mathbb{B}^{\cap}_{n}$$

$$\operatorname{Pf}\Gamma = \frac{1}{n!2^{n}} \sum_{\pi \in \mathcal{S}_{n}} {}^{1\pi}\Gamma_{2\pi} \cdots {}^{n-1\pi}\Gamma_{n\pi}$$

$$\operatorname{Pf}\begin{array}{cc|cc} 0 & a & b & c \\ -a & 0 & d & e \\ \hline -b & -d & 0 & f \\ -c & -e & -f & 0 \end{array} = af - be + cd$$

$$\det\begin{array}{cc|cc} 0 & a & b & c \\ -a & 0 & d & e \\ \hline -b & -d & 0 & f \\ -c & -e & -f & 0 \end{array} = a\begin{bmatrix} a & b & c \\ -d & 0 & f \\ -e & -f & 0 \end{bmatrix} - b\begin{bmatrix} a & b & c \\ 0 & d & e \\ -e & -f & 0 \end{bmatrix} + c\begin{bmatrix} a & b & c \\ 0 & d & e \\ -d & 0 & f \end{bmatrix}$$

$$= a\left(-bfe + cdf + adf\right) - b\left(-bee + cde + aef\right) + c\left(adf - bed + cdd\right) = \left(af - be + cd\right)^{2}$$