Determinant Of a Matrix

Saturday, 26 July 2025 3:06 PM

The determinant of a matrix is a single numerical value which is used when calculating the inverse or when solving system of linear equation

$$A = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

$$|A| = a(ei - fh) - b(di - gf) + c(dh - eg)$$

In terms of Cofactor:

$$\begin{bmatrix} a & & \\ & \begin{vmatrix} e & f \\ h & i \end{vmatrix} & \end{bmatrix} - \begin{bmatrix} & b & \\ & \begin{vmatrix} d & f \\ g & i \end{vmatrix} & \end{bmatrix} + \begin{bmatrix} & & c \\ & \begin{vmatrix} d & e \\ g & h \end{vmatrix} & \end{bmatrix}$$