

# Matrix Theory



**Matrix** is defined as a rectangular array of numbers which are arranged in rows and columns. The number of rows and columns determine its dimensions.

Matrix can be added or subtracted if they have same dimensions.

Matrix can be multiplied if the number of columns of first matrix is same as number of rows of the second matrix.

**Identity Matrix** has all non-zero entries along the diagonal in form of 1's.

**Determinant** of a Matrix is used to calculate its inverse.

**Transpose** of Matrix is calculated by changing rows with column.

**Inverse** of a Matrix  $A$  is denoted by  $A^{-1}$  and which upon multiplication with the original matrix results in identity matrix.

## Notes

1. Use calculator to carry out most of the Matrix operations
2. On-demand course contains multi-part series on Matrices + calculator tutorials