Matrix notation:

\[ A = [a_{ij}] \]

If a matrix has order of \( m \times n \), it has \( m \) rows and \( n \) columns.

\[ A = \begin{bmatrix} 3 & 2 & 0 \\ -4 & -5 & \frac{1}{5} \end{bmatrix} \] has \( \_ \times \_ \) order

\( a_{22} \) is the element \(-5\)

A square matrix has the same \# of rows as columns. \((m = n)\)

Equality of matrices:

Two matrices \( A \) and \( B \) are equal iFF they have the same order \( m \times n \) and \( a_{ij} = b_{ij} \) for all rows and columns \((i = 1, 2, \ldots, m)\) \((j = 1, 2, \ldots, n)\).

If \( A = B \) and \( A = \begin{bmatrix} x + y + 1 \\ 2 \\ z \end{bmatrix} \) \& \( B = \begin{bmatrix} 1 & 5 \\ 2 & 6 \end{bmatrix} \)

Then \( x = 1 \), \( y + 1 = 5 \), \( z = 3 \)
\( y = 4 \)