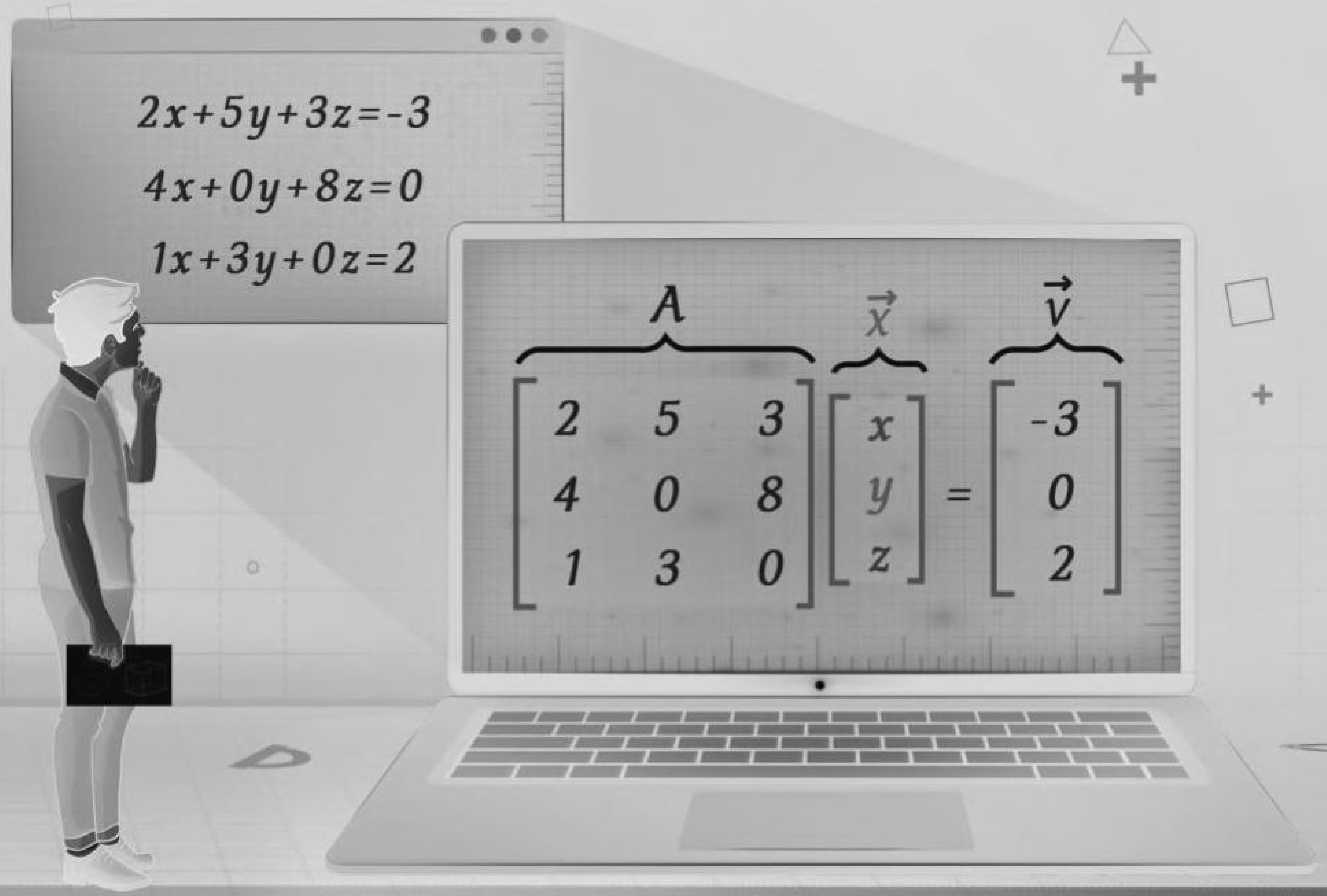
Welcome to

Aakash + BYJU'S LIVE

Matrices & Determinants



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Key Takeaways

- A rectangular arrangement of $m \cdot n$ numbers (real or complex) or expressions (real or complex valued), having m rows and n columns is called a matrix. $(m, n \in N)$

$$\begin{array}{cc} A = \begin{bmatrix} a_{11} & a_{12} & a_{13} & \cdots & a_{1n} \\ a_{21} & a_{22} & a_{23} & \cdots & a_{2n} \\ \vdots & \vdots & \vdots & & \vdots \\ a_{m1} & a_{m2} & a_{m3} & \cdots & a_{mn} \end{bmatrix} & \text{Rows} \\ \text{Columns} & \end{array}$$

- An element of a matrix is denoted by

  a_{ij}: Element of i^{th} row & j^{th} column.

Key Takeaways

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$$A = \left.\underbrace{\begin{bmatrix} a_{11} & a_{12} & a_{13} \cdots a_{1n} \\ a_{21} & a_{22} & a_{23} \cdots a_{2n} \\ \vdots & \vdots & \vdots & \vdots \\ a_{m1} & a_{m2} & a_{m3} \cdots a_{mn} \end{bmatrix}}_{\text{Columns}}\right\}\text{Rows}$$

- Number of elements in a matrix

$$= \text{Number of rows} \times \text{Number of columns}$$
$$= m \times n$$

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