LaTeX for Students, Engineers, and Scientists

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Session: Mathematics - II

You will learn to ...

- Integration
- Matrices
- Equations

Integration and Limits

- Integration
  `\int_{min}^{max}`
- Limits
  `\lim_{ ... }`
- $\int_0^{\infty} f(x)dx$
  `\[ \int_{0}^{\infty} f(x)dx \]`
- $\lim_{x \to c} f(x) = L$
  `\[ \lim_{x \to c} f(x) = L \]`

Matrix

- ```
  $ \begin{...}
      ...
  \end{...} $
  ```

- matrix: without border
- pmatrix: with round bracket
- bmatrix: with box bracket
- Bmatrix: with curly bracket
- vmatrix: with |
- Vmatrix with ||
- & denotes the new column
- \\denotes a new row
  ```

Equation

- ```
  \begin{equation}
      ...
  \end{equation}
  ```

- Centered and numbered. No need of dollar
- Only one equation
- Examples

$$3x + 5y = 2 \tag{1}$$

$$5x + 8y = 3 \tag{2}$$

$$x^2 - y^2 = (x + y)(x - y) \tag{3}$$
  ```

Align Environment

- Solve the equation
- Equation on multiple lines

$$\begin{aligned} 3x - 6 &= 9 \\ 3x &= 9 + 6 \\ x &= \frac{9+6}{3} \\ x &= 5 \end{aligned} \tag{4}$$

Now, you can ...

- Typeset
  - Integration
  - Limits
  - Marices
  - Equations

Thank you