Sample LaTeX File

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Abstract

This document represents the output from the file "sample.tex" once compiled using your favorite LaTeXcompiler. This file should serve as a good example of the basic structure of a ".tex" file as well as many of the most basic commands needed for typesetting documents involving mathematical symbols and expressions. For more of a description on how each command works, please consult the links found on our course webpage.

1 Lists

1. **First Point (Bold Face)**
2. *Second Point (Italic)*
3. Third Point (Large Font)
   (a) First Subpoint (Small Font)
   (b) Second Subpoint (Tiny Font)
   (c) Third Subpoint (Huge Font)

- Bullet Point (Sans Serif)
- Circle Point (Small Caps)

2 Equations

2.1 Binomial Theorem

Theorem 1 (Binomial Theorem) *For any nonnegative integer n, we have*

$$(1+x)^n = \sum_{i=0}^{n} \binom{n}{i} x^i$$

2.2 Taylor Series

The Taylor series expansion for the function e^x is given by

$$e^x = 1 + x + \frac{x^2}{2} + \frac{x^3}{6} + \cdots = \sum_{n\geq 0} \frac{x^n}{n!} \tag{1}$$

2.3 Sets

Theorem 2 *For any sets A, B and C, we have*

$$(A \cup B) - (C - A) = A \cup (B - C)$$

Proof:

$$\begin{aligned}
(A \cup B) - (C - A) &= (A \cup B) \cap (C - A)^c \\
&= (A \cup B) \cap (C \cap A^c)^c \\
&= (A \cup B) \cap (C^c \cup A) \\
&= A \cup (B \cap C^c) \\
&= A \cup (B - C)
\end{aligned}$$

□

3 Tables

left justified	center	right justified
1	3.14159	5
2.4678	3	1234
3.4678	6.14159	1239

4 A Picture