

# Sample L<sup>A</sup>T<sub>E</sub>X File

David P. Little

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## Abstract

This document represents the output from the file “sample.tex” once compiled using your favorite L<sup>A</sup>T<sub>E</sub>X compiler. 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

