

# Sample L<sup>A</sup>T<sub>E</sub>XFile

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## 1 Math Mode

### 1.1 Inline mode

Inline mode is used to write formulas that are part of a text. To display math in inline mode, use any of the following,

- `\( ... \)`
- `$ ... $`
- `\begin{math} ... \end{math}`

In physics, the mass-energy equivalence is stated by the equation  $E=mc^2$ , discovered in 1905 by Albert Einstein.

### 1.2 Display mode

Display mode is used to write expressions that are not part of a text or paragraph, and are therefore put on separate lines.

The displayed mode has two versions: numbered and unnumbered.

- `\[ ... \]`
- `\begin{displaymath} ... \end{displaymath}`

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- `\begin{equation} ... \end{equation}`
- `$$ ... $$`. This is discouraged as it can give inconsistent spacing, and may not work well with some math packages.

## 2 Lists

### 2.1 Unordered lists

Unordered lists are produced by the **itemize** environment. Each entry must be preceded by the control sequence `\itemize` as shown below.

```
\begin{itemize}
  \item The individual entries are indicated with a black dot,
        a so-called bullet.
  \item The text in the entries may be of any length.
\end{itemize}
```

By default the individual entries are indicated with a black dot, so-called bullet. The text in the entries may be of any length.

### 2.2 Ordered lists

Ordered list have the same syntax inside a different environment. We make ordered lists using the `enumerate` environment:

```
\begin{enumerate}
  \item This is the first entry in our list
  \item The list numbers increase with each entry we add
\end{enumerate}
```