1 Sections split up your document

1.1 Subsections are also useful

Note that different LaTeX classes (`article`, `book`, etc.) allow for different sectioning commands.

1.2 Another subsection

LaTeX is very good at cross-referencing; the "discussion" of different sectioning commands occurred in section 1.1 on page 1.

2 Mathematics

Mathematics can be included inline, as in $x = y$, or in displayed equations such as

$$f(x) = f(c) + f'(c)(x - c) + \frac{f''(c)}{2!}(x - c)^2 + \ldots + \frac{f^{(n)}(c)}{n!}(x - c)^n + \ldots \quad (1)$$

The advantage of the displayed equation is that it can be cross-referenced; that was equation 1.

2.1 Bibliographies

Nearly everybody wants to cite other work, such as [1].

References

[1] S. Godunov. Finite Difference Method for Numerical Computation of Discontinuous Solutions of the Equations of Fluid Dynamics. *Mat. Sbornik*, **47**:3–271, 1959.