1 My first section

This is a section with a few subsections.

1.1 A part of my first section

Here I could write about the problem I'm trying to solve.

1.2 Another part of my first section

In this subsection I could solve the problem.

1.2.1 Further fragmentation...

anything really

2 My second section

In Section 1 we saw that...

A very helpful reference for LaTeX is [1]. Mathematics can be typed in to LaTeX as x^2 and/or $(a + b)^2 = a^2 + 2ab + b^2$.

$$e = mc^2 \tag{1}$$

In equation (1) we have a very well known relationship!

$$x^2 = 1 \text{ implies } x = \pm 1$$

- $a + b$
- $a - b$
- $-a$
- ab
- $a \cdot b$
- $a \times b$
- a/b
- $\frac{a}{b}$
- $\frac{a}{b}$

$$\int_0^\pi 4x^2 \, dx$$

$$\begin{pmatrix} a & b \\ c & d \\ e & f \end{pmatrix}$$

$$\begin{matrix} a & b \\ c & d \\ e & f \end{matrix}$$

$$\begin{vmatrix} a & b \\ c & d \\ e & f \end{vmatrix}$$

$$
\begin{aligned}
(x+h)^2 - x^2 &= x^2 + 2xh + h^2 - x^2 && \text{(by distributivity)} && (2) \\
&= 2xh + h^2 && \text{(by subtraction)} && (3) \\
&= h(2x+h) && \text{(by factorisation)} && (4)
\end{aligned}
$$

$$
1 + (-1)^n =
\begin{cases}
0, & \text{if } n \text{ odd} \\
2, & \text{if } n \text{ even}
\end{cases}
$$

References

[1] George Grätzer. *More Math Into LaTeX: A Guide for Documentation and Presentation.* Springer, 2007.