Report 0: List of Useful Commands

Zixuan Fan

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1 Introduction

Hello World Hello LaTeX ! in this short introduction of the lab report, I will be testing on the mechanics of Latex, starting with the simple formula of $e^{i\pi}+1=0$, and continuing with the formula of:

$$\begin{aligned} e &= \lim_{n\to\infty}\left(1+\frac{1}{n}\right)^n \\ &= \lim_{n\to\infty}\frac{n}{\sqrt[n]{n!}}. \end{aligned} \tag{1}$$

The addition of `&` here serves to align the equal sign under the effect of "align"

Note that to begin itemize or enumerate, the first item must follow immediately after

- Further, let's include the formula of a sum:

$$e=\sum_{n=0}^{\infty}\frac{1}{n!},$$

- And a continued fraction:

$$e=2+\cfrac{1}{1+\cfrac{1}{2+\cfrac{2}{3+\cfrac{3}{4+\cfrac{4}{5+\ddots}}}}}$$

Equation 1 can be referenced like this.

2 More Formulas

Note that many items here require package amsmath and graphicx in order to function, make sure to import these packages in the beginning of your report.

1. The format of an integral:

$$\int_a^b f(x)dx$$

2. The format of triple integral:

$$\iiint_0^\infty f(x)dx$$

3. The format of single vector:

$$\vec{v} =< v_1, v_2, v_3 >$$

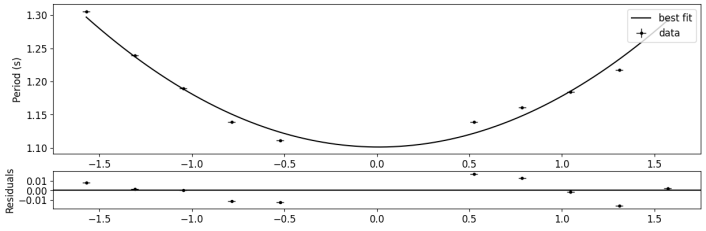
4. The format of dot product:

$$\vec{v} \cdot \vec{w}$$

5. The format of matrix:

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$$

6. The format of importing an image:
   Note that the image must be in the same folder with the report



3 Basic Controls

This section will cover some of the basic controls that someone using google docs could easily achieve with the click of a button

1. bold:
   bold characters

2. italic:
   italic characters

3. underline:
   underline characters

4. Making a table here (Note the h is very important to keep the table right here)

Table 1: A little table

1	2	3
4	5	6

5. I like table 1 so I will reference it

6. figures

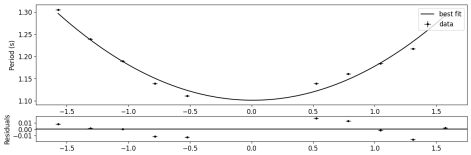


Figure 1: A graph

7. inserting theorems, corollaries, and proofs(Note that newtheorem must be thrown in)

   Theorem 3.1 (test) *This is not a test theorem*

   Corollary 3.1.1 (also a test) *This is not a test corollary*

   Proof 3.1.1.1 (still a test) *This is a test proof*

8. Real number set:
   This is a real number set $\mathbb{R}$
   Or we define using newcommand: R as $\mathbb{R}$