# Title of the report goes here and it may have several lines

G14PJS

Mathematics 3rd Year Project

Spring 2016/17

*School of Mathematical Sciences*

*University of Nottingham*

**Your name**

Supervisor: Dr. Your Supervisor

Project code: XX P99

Assessment type: Review

*I have read and understood the School and University guidelines on plagiarism. I confirm that this work is my own, apart from the acknowledged references.*

## Abstract

The abstract of the report goes here. The abstract should state the topic(s) under investigation and the main results or conclusions. Methods or approaches should be stated if this is appropriate for the topic. The abstract should be self-contained, concise and clear. The typical length is one paragraph.

# Contents

# 1 Introduction

The introductory section goes here. And remember the introduction is the last thing you write.

The end of the introductory section would typically outline the structure of the report. In this template, section 2 gives the background of the topic, sections 3 and 4 contain the bulk of the work and section 5 summarises and discusses what has been achieved. Appendix A displays the raw data, and certain technical calculations for section 3 are deferred to appendix B.

# 2 A section

References can be for example textbooks [3, 7, 13, 1, 6], conventional journal articles [12, 4], conventional journal articles that are also available at an e-print server [8, 2], electronic journal articles [10], articles in conference proceedings [11], PhD theses [5, 9] or websites [14]. This template orders the references by their first citation, cites them by their number and keeps any footnotes[1] separate from the references. Other citation practices exist: Your supervisor can advise as to what is appropriate for your topic.

# 3 Another section

## 3.1 A subsection

Subsections may be used. Use a clear structure in your report.

We denote the set of real numbers by $\mathbb{R}$, the set of integers by $\mathbb{Z}$ and the set of complex numbers by $\mathbb{C}$. Our analysis is based on the equation $e^{\pi i} = -1$ and the relation

$$\frac{2}{4} = \frac{1}{2} \tag{3.1}$$

[1] Such as this.

which we verify in the appendix B. Useful consequences are

$$\frac{4}{8} = \frac{1}{2} \tag{3.2}$$

$$\frac{4}{12} + \frac{1}{\Gamma(s)} \int_0^\infty \frac{t^{s-1}}{e^t - 1} dt = \frac{1}{3} + \sum_{n=1}^{\infty} \frac{1}{n^s} \tag{3.3}$$

$$\frac{2}{10} = \frac{1}{5} \tag{3.4}$$

For any $0 \neq a \in \mathbb{Z}$, the equality

$$\frac{2a}{4a} = \frac{1}{2}$$

follows from equation (3.1).

## 3.2 Another subsection

### 3.2.1 A subsubsection

Sometimes subsubsections may be appropriate.

### 3.2.2 Another subsubsection

This could contain a table of interesting numbers

| $n$ | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| $F_n$ | 1 | 1 | 2 | 3 | 5 | 8 |
| $B_n$ | $\frac{1}{2}$ | $\frac{1}{6}$ | 0 | $-\frac{1}{30}$ | 0 | $\frac{1}{42}$ |
| $p_n$ | 2 | 3 | 5 | 7 | 11 | 13 |

# 4 Yet another section

Graphics can be included. Figure 1 shows an example. Learn about floats and pictures in the LaTeX wikibook to place the figures at the right place in the end.

# 5 Conclusions

Further help on LaTeX can be found easily on the internet. The LaTeX wikibook[2] contains a lot. For instance you would find there how to type theorems and proofs nicely. Or how

[2] http://en.wikibooks.org/wiki/LaTeX

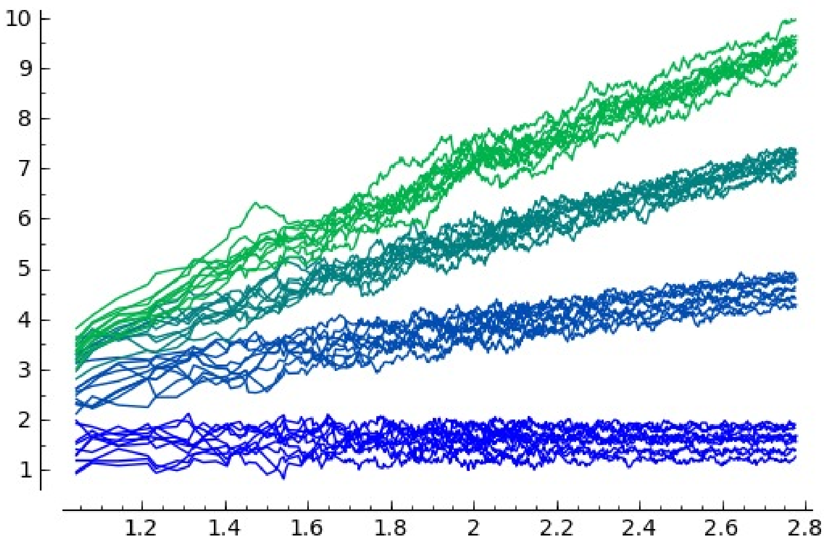


Figure 1: Oh look, something happens here !

to include source code written in some programming language like matlab. There are long lists available with all sorts of common mathematical symbols like $\xi$, $\nabla$, $\infty$, $\log$, $\iff$, etc.

# A Raw data

Material that needs to be included but would distract from the main line of presentation can be put in appendices. Examples of such material are raw data, computing codes and details of calculations.

# B Calculations for section 3

In this appendix we verify equation (3.1).

# References

[1] N. L. Alling and N. Greenleaf, *Foundations of the Theory of Klein Surfaces*, Lecture Notes in Mathematics Vol. 219 (Springer, Berlin, 1971).

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[12] J. A. Wheeler, “Geons”, *Phys. Rev.* **97**, 511–536 (1955).

[13] J. A. Wolf, *Spaces of Constant Curvature*, 5th edition (Publish or Perish, Wilmington, 1984).

[14] Website `http://www.ligo.caltech.edu/`, visited 14 August 2007.