



SENIOR THESIS IN MATHEMATICS

Absolutely Fascinating Thesis Title

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Abstract

In this paper we don't really do much. However, there are a lot of *real* theorems that still need to be proved. That is what you will probably do in your thesis.

Contents

Chapter 1

Boring Title for the First Chapter

Let us do some math:

$$\Delta(h) = h_{(1)} \otimes h_{(2)}$$

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Here is how you declare a theorem:

Theorem 1.1 *A Big Fat Theorem. We assert that the following is true:*

$$x = 1, y = 1 \Rightarrow x + y = 2 \tag{1.1}$$

Let us first consider:

Lemma 1.2 *A Small but Important Lemma. If $x = a$, and $y = b$, then $x + y = a + b$.*

We can then see that Lemma ?? implies Theorem ?? by letting $a = 1$ and $b = 1$ in Equation (??). See how we refer to a previously labeled item in the text?

1.1 A delightful new section

Some text for the section should go here. And let us look at footnotes.^{1 2}

¹This is one way to use a footnote.

²Here is a second way to introduce a footnote

Theorem 1.3 *hmmm*

Here is how you call the proof environment:

Proof hmmm

■

Chapter 2

Cooler Title for the Second Chapter

As we saw in Chapter ??, everything can be made to be complicated. (See, for example, Figure ??.) This is usually not a good idea unless you want to lose your audience.

Most importantly, **NEVER DIVIDE BY ZERO** unless, of course, you are wearing your protective divide-by-zero suit (See [?] for the terrible consequences which might result. And this is how you cite multiple references: [?, ?, ?]. And if you wanted to, you could refer to specific pages: [?, pages 567–569]).

2.1 Another fascinating section

Some text needs to go here.

2.1.1 And sometimes you will need subsections...

More text goes here.

Bibliography

- [1] Abe, Eiichi; Hopf algebras, Cambridge Tracts in Mathematics, **74**, Cambridge University Press, Cambridge-New York, 1980.
- [2] Blohmann, Christian; Tang, Xiang; Weinstein, Alan; “*Hopfish structures and modules over irrational rotation algebras*”, e-arXiv preprint, arXiv:math.QA/0604405
- [3] Böhm, Gabriella; “*An alternative notion of Hopf algebroid*”, Hopf algebras in noncommutative geometry and physics, Lecture Notes in Pure and Appl. Math. **239**, Dekker, New York, 2005, pp.31–53.
- [4] Böhm, Gabriella; “*Integral theory for Hopf algebroids*”, Algebr. Represent. Theory **8** (2005), no. 4, pp.563–599.