# Note Template

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**Abstract**

This is a note template, with all but minimal compilable files provided. Feel free to adjust for your usage.

## Contents



### Lecture 1: First Lecture

13 Oct. 08:00

# 1 A Template for you to take note

This is a simple demo for you to take fancy notes in LaTeX!

## 1.1 Useful Environment

We now see some common environment you'll need to complete your note.

**Lemma 1.1 (useful lemma).** Given the axioms, we have

$$0 \neq 1.$$

**Proposition 1.1 (useful proposition).** From Lemma 1.1, we have

$$0 < 1.$$

**Theorem 1.1 (Mass-energy equivalence).** Given Proposition 1.1, we then have

$$E = mc^2.$$

*Proof.* The blank left for me is too small,[1] hence we put the proof in Appendix A.1. ■

**Corollary 1.1 (Riemann hypothesis).** From Theorem 1.1, we then have the following.

The real part of every nontrivial zero of the Riemann zeta function is $\frac{1}{2}$, where the Riemann zeta function is just

$$\zeta(s) = \sum_{n=1}^{\infty} \frac{1}{n^s} = \frac{1}{1^s} + \frac{1}{2^s} + \frac{1}{3^s} + \cdots .$$

*Proof.* The proof should be trivial, we left it to you. ■

DIY (Do It Yourself)

**As previously seen.** We see that Lemma 1.1 is really helpful in the proof!

**Remark.** This leads to lots of useful theorem!

**Note.** I hope you learn something while proving this!

**Example.** Here are some applications of Corollary 1.1, see the link.[2]

### 1.1.1 Internal Link

You should see all the common usages of internal links. Additionally, we can use citations as [New26], which just link to the reference page!

## 1.2 Figures

A simple demo for drawing:

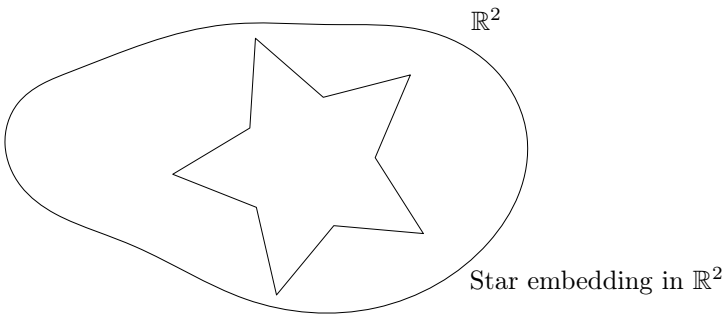


Figure 1: Random Drawing.[3]

[1] https://en.wikipedia.org/wiki/Richard_Feynman

[2] https://math.stackexchange.com/questions/404624/what-does-proving-the-riemann-hypothesis-accomplish

[3] For detailed information, please see https://github.com/sleepymalc/VSCode-LaTeX-Inkscape.

# Appendix

## A Additional Proofs

### A.1 Proof of Theorem 1.1

See https://en.wikipedia.org/wiki/Mass%E2%80%93energy_equivalence.

## References

[New26] I. Newton. *Philosophiae naturalis principia mathematica*. Innys, 1726. URL: https://books.google.com/books?id=WeZO9rjv-1kC.