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# Formal Proof of Prime Number Theory in Lean

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**CONTENTS:**

|          |                                   |          |
|----------|-----------------------------------|----------|
| <b>1</b> | <b>Introduction</b>               | <b>1</b> |
| <b>2</b> | <b>Definitions</b>                | <b>3</b> |
| <b>3</b> | <b>Contour Integral</b>           | <b>5</b> |
| 3.1      | I. Definitions of Paths . . . . . | 5        |
| <b>4</b> | <b>Indices and tables</b>         | <b>7</b> |



**INTRODUCTION**



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CHAPTER  
TWO

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DEFINITIONS





## CONTOUR INTEGRAL

### 3.1 I. Definitions of Paths

A path is a differentiable function  $f : \mathbb{R} \rightarrow \mathbb{C}$  with a continuous derivative, defined on  $\mathbb{R}$ , but we only consider their values on  $[0,1]$ .

**Constant Paths** For example, for any fixed point  $z : \mathbb{C}$  we have a constant path  $\lambda(t : \mathbb{R}), z$ .

**Inverse of Paths** The inverse of a path is to reverse the direction of a path.

For example, given a path  $L : \mathbb{R} \rightarrow \mathbb{C}$ , we define the inverse of the path as  $\lambda(t : \mathbb{R}), L(1 - t)$ .



## INDICES AND TABLES

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