A PROOF OF THE RIEMANN HYPOTHESIS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Mathematics

by
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May 20XX

Acknowledgments

This dissertation would not be possible without several contributions. It is a pleasure to thank ....

This work was motivated by Example 4.3.14 in [1] brought to my attention by ....

It is a pleasure also to thank .... for providing me with a pleasant working environment. A special thanks to Dr. X. Y. Z for

This dissertation is dedicated to .... for their support an encouragement.

Table of Contents

List of Tables

List of Figures

Abstract

In this work .... we begin with a brief survey of .... We accomplish this in the following two chapters.

.... These properties are used in Chapter 5.

Chapter 1

Introduction

Chapter 2
First Step

Consider the following figure.

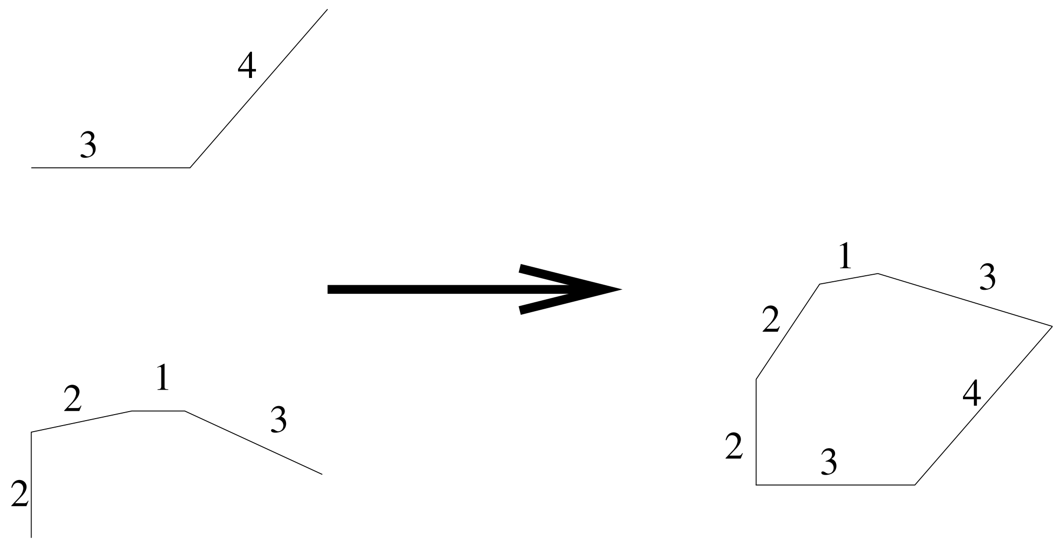

FIGURE 2.1. Forming a Hexagonal Linkage from Two Free Linkages

2.1 One Section of This Chapter

Here is something you want to say for this section.

2.2 Another Section of This Chapter

Chapter 3
Second Step

Consider the data in the following Table.

TABLE 3.1. Table of Zeros
Candidate identifies all zeros of the Riemann Zeta Function here.

Some lines to explain the table.

An example of a long table (from http://users.sdsc.edu/ ssmallen/latex/longtable.html).

TABLE 3.2: Feasible triples for highly variable Grid, MLMMH.

Time (s)	**Triple chosen**	**Other feasible triples**
0	(1, 11, 13725)	(1, 12, 10980), (1, 13, 8235), (2, 2, 0), (3, 1, 0)
2745	(1, 12, 10980)	(1, 13, 8235), (2, 2, 0), (2, 3, 0), (3, 1, 0)
5490	(1, 12, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
8235	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
10980	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
13725	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
16470	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
19215	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
21960	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
24705	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
27450	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
30195	(2, 2, 2745)	(2, 3, 0), (3, 1, 0)
32940	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)

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Table 3.2 – continued from previous page

Time (s)	Triple chosen	Other feasible triples
35685	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
38430	(1, 13, 10980)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
41175	(1, 12, 13725)	(1, 13, 10980), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
43920	(1, 13, 10980)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
46665	(2, 2, 2745)	(2, 3, 0), (3, 1, 0)
49410	(2, 2, 2745)	(2, 3, 0), (3, 1, 0)
52155	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
54900	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
57645	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
60390	(1, 12, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
63135	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
65880	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
68625	(2, 2, 2745)	(2, 3, 0), (3, 1, 0)
71370	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
74115	(1, 12, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
76860	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
79605	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
82350	(1, 12, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
85095	(1, 12, 13725)	(1, 13, 10980), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
87840	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
90585	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
93330	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)

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Time (s)	Triple chosen	Other feasible triples
96075	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
98820	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
101565	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
104310	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
107055	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
109800	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
112545	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
115290	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
118035	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
120780	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
123525	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
126270	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
129015	(2, 2, 2745)	(2, 3, 0), (3, 1, 0)
131760	(2, 2, 2745)	(2, 3, 0), (3, 1, 0)
134505	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
137250	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
139995	(2, 2, 2745)	(2, 3, 0), (3, 1, 0)
142740	(2, 2, 2745)	(2, 3, 0), (3, 1, 0)
145485	(1, 12, 16470)	(1, 13, 13725), (2, 2, 2745), (2, 3, 0), (3, 1, 0)
148230	(2, 2, 2745)	(2, 3, 0), (3, 1, 0)
150975	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
153720	(1, 12, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)

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Table 3.2 – continued from previous page

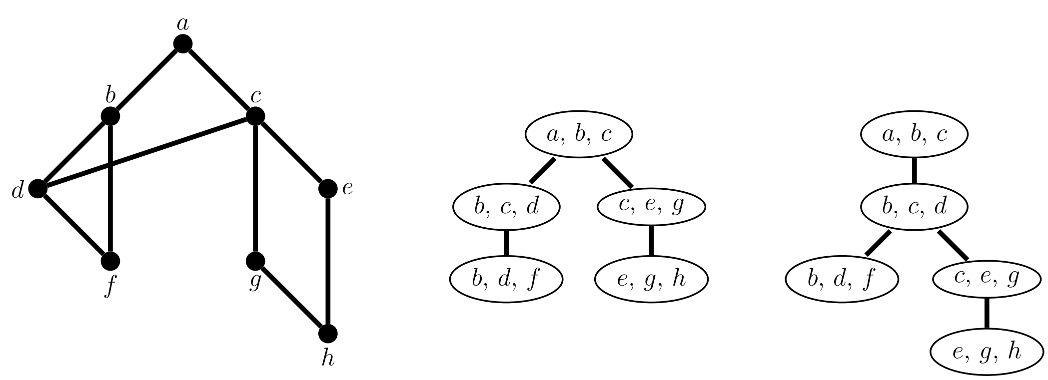
Time (s)	Triple chosen	Other feasible triples
156465	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
159210	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
161955	(1, 13, 16470)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)
164700	(1, 13, 13725)	(2, 2, 2745), (2, 3, 0), (3, 1, 0)

Chapter 4
Third Step

Here is an example of a picture that spread in one page, the code of this picture is written in pstricks. To do this, you need to include the following lines in your header file.

```
\usepackage{pstricks}
\usepackage{pst-node}
```

The following is Figure 4.1.



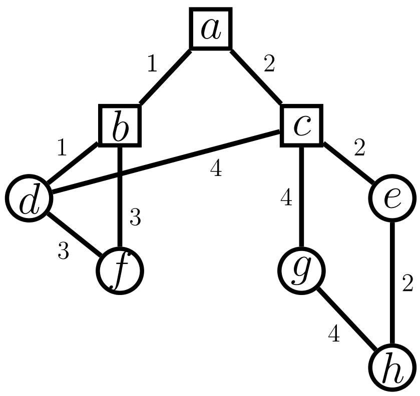
(a) Graph G. (b) A tree decompostion of G. (c) Another tree decompostion of G.

FIGURE 4.1. A graph of bounded treewidth 2 and two of its tree decompositions.

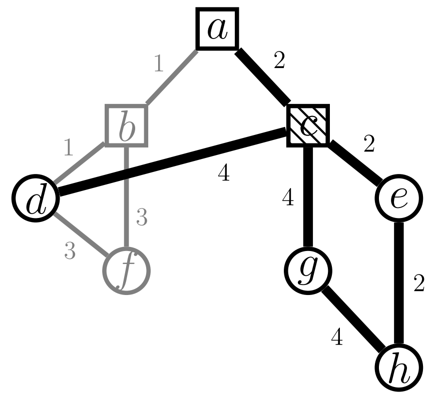
Figure 4.2 is separted in the next page (because it is large).

Note that Figure 4.1 is cited in the caption of Figure 4.2.

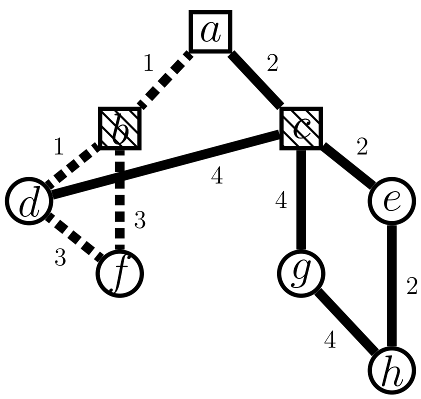
You can explain the meanings of each figure here.



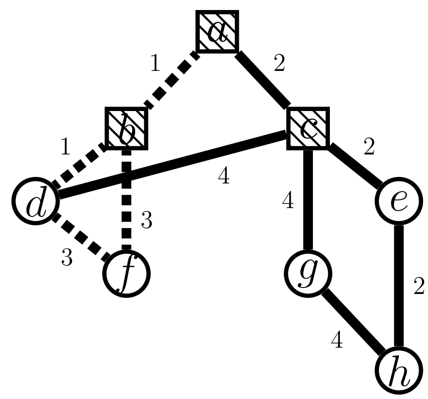
(a) An optical network N of bounded treewidth 2, where a, b, and c are C-nodes.



(b) Node c dominates a, d, e, g, h through the non-gray paths.



(c) Nodes a, b, d, and f can send messages to each other; so are a, c, d, e, g, and h. However, b cannot send messages to c.



(d) Each node can send messages to all the others.

FIGURE 4.2. The dominating set problem in an optical network N. Some tree decompositions of N are shown in Figure 4.1.

Chapter 5

Fourth Step

Chapter 6

Fifth Step

References

[1] G. Glibb and S. Slick, *Propositions equivalent to the Riemann Hypothesis*, Brooklyn Bridge studies in advanced mathematics, **18**, Brooklyn Bridge University Press, 1999.

[2] George Grätzer, *Math into LaTeX: an introduction to LaTeX and AMS-LaTeX, Third Edition*, Library of Congress, Boston, 2000.

Appendix A: Sample C code

The following is a sample code in C.

```
#include<stdio.h>
#include<stdlib.h>
#include<malloc.h>

int main(){
  printf("Hello, world.\n");
  return 0;
}
```

Appendix B: Sample Mathematica Code

The following is a sample Mathematica code, taken from combinatorica.m.

```
  << DiscreteMath`Combinatorica`

EdgeColoring[g_Graph] := Module[
  {c = VertexColoring[LineGraph[g]], e = Edges[g], se},

  se = Sort[ Table[{e[[i]], i}, {i, Length[e]}]];
  Map[Last,
      Sort[Map[Reverse, Table[Prepend[se[[i]], c[[i]]], {i, Length[se]}]]]]
];
```

Vita

Steven S. Smart was born on October xx 19xx, in YY City, Ohio. He finished his undergraduate studies at Elite University May 19XX. He earned a master of science degree in mathematics from Louisiana State University in May 19YY. In August 19ZZ he came to Louisiana State University to pursue graduate studies in mathematics. He is currently a candidate for the degree of Doctor of Philosophy in mathematics, which will be awarded in August 20XX.