This is the title of the thesis submitted to Iowa State University on the first line Note that only the first letter of the first word and proper names are capitalized and this is the second line

by

Alice Wonder

A dissertation submitted to the graduate faculty

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Mathematics

Program of Study Committee:
John Smith, Major Professor
Jane Dee
Allen Wrench

The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this dissertation. The Graduate College will ensure this dissertation is globally accessible and will not permit alterations after a degree is conferred.

Iowa State University

Ames, Iowa

2024

DEDICATION

I would like to dedicate this thesis to my wife Glenda and to my daughter Alice without whose support I would not have been able to complete this work.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

ACKNOWLEDGMENTS

I would like to take this opportunity to express my thanks to those who helped me with various aspects of conducting research and the writing of this thesis. First and foremost, Dr. Susan D. Ross for her guidance, patience and support throughout this research and the writing of this thesis. Her insights and words of encouragement have often inspired me and renewed my hopes for completing my graduate education. I would also like to thank my committee members for their efforts and contributions to this work: Dr. August Tanner and Dr. Lewis Hargrave. I would additionally like to thank Dr. Tanner for his guidance throughout the initial stages of my graduate career and Dr. Hargrave for his inspirational teaching style.

ABSTRACT

This is the text of my abstract that is part of the thesis itself. The abstract describes the work in general and the heading and style match the rest of the document.

CHAPTER 1. OVERVIEW

This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

1.1 Introduction

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief.

1.1.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

1.1.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

1.1.2 Second Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

1.1.2.1 Parts of the second hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

1.2 Criteria Review

Here certain criteria are explained thus eventually leading to a foregone conclusion. (Correa et al., pre-published),(Klee et al., 1963)

CHAPTER 2. REVIEW OF LITERATURE

This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

2.1 Introduction

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief.

did the initial work in this area. But in Struss' work (Bui, 2023) the definitive model is seen.

2.1.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

2.1.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

2.1.2 Second Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

2.1.2.1 Parts of the second hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

2.2 Criteria Review

Here certain criteria are explained thus eventually leading to a foregone conclusion.

2.3 Continuing Tables

Table 2.1: This is a two-part table doing things.

k	q	p+	p-	s1	s2	s3	RHS
2	2	2	-2	1	0	0	1
-T	0	1	-1	0	1	0	0
T	-1	0	0	0	0	1	0
-1	1	-1	1				
2(T+1)	2	0	0	1	-2	0	1
-T	0	1	-1	0	1	0	0
T	-1	0	0	0	0	1	0
-(T+1)	1	0	0	0	1	0	
0	2+2(T+1)/T	0	0	1	-2	-2(T+1)/T	1
0	-1	1	-1	0	1	1	0
1	-1/T	0	0	0	0	1/T	0
0	1-(T+1)/T	0	0	0	1	(T+1)/T	
0	2(2T+1)/T	0	0	1	-2	-2(T+1)/T	1
0	-1	1	-1	0	1	1	0
1	-1/T	0	0	0	0	1/T	0
0	-1/T	0	0	0	1	(T+1)/T	
0	1	0	0	T/2(2T+1)	-T/(2T+1)	-1	T/2(2T+1)
0	0	1	-1	T/2(2T+1)	1-T/(2T+1)	0	T/2(2T+1)
1	0	0	0	1/2(2T+1)	-1/(2T+1)	0	1/2(2T+1)
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	

Table 2.1: Continued

k	q	p+	p-	s1	s2	s3	RHS
2	2	2	-2	1	0	0	1
-T	0	1	-1	0	1	0	0
T	-1	0	0	0	0	1	0
-1	1	-1	1				
2(T+1)	2	0	0	1	-2	0	1
-T	0	1	-1	0	1	0	0
T	-1	0	0	0	0	1	0
-(T+1)	1	0	0	0	1	0	
0	2+2(T+1)/T	0	0	1	-2	-2(T+1)/T	1
0	-1	1	-1	0	1	1	0
1	-1/T	0	0	0	0	1/T	0
0	1-(T+1)/T	0	0	0	1	(T+1)/T	
0	2(2T+1)/T	0	0	1	-2	-2(T+1)/T	1
0	-1	1	-1	0	1	1	0
1	-1/T	0	0	0	0	1/T	0
0	-1/T	0	0	0	1	(T+1)/T	
0	1	0	0	T/2(2T+1)	-T/(2T+1)	-1	T/2(2T+1)
0	0	1	-1	T/2(2T+1)	1-T/(2T+1)	0	T/2(2T+1)
1	0	0	0	1/2(2T+1)	-1/(2T+1)	0	1/2(2T+1)
0	0	0	0	1/2(2T+1)	1-1/(2T+1)	-1+(T+1)/TT	

CHAPTER 3. METHODS AND PROCEDURES

This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

3.1 Introduction

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief.

As can be seen in Table 3.1 it is truly obvious what I am saying is true.

Table 3.1: This table shows a standard empty table(Klee et al., 1963) . Remove the square bracketed information to get longer captions in the LOT/ LOF

3.1.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

This can also be seen in Figure 3.1 that the rest is obvious.

Figure 3.1: This table shows a standard empty figure. Remove the square bracketed information to get longer captions in the LOT/ LOF

3.1.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

3.1.2 Second Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

3.1.2.1 Parts of the second hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

3.2 Criteria Review

Here certain criteria are explained thus eventually leading to a foregone conclusion as can be seen in Table 3.2.

Header	head	head
leg	leg	leg
leg	leg	leg
leg	leg	leg

Table 3.2: This table shows a standard empty table witha limited caption width

CHAPTER 4. RESULTS

This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

4.1 Introduction

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief.

Of course, data on this as seen in Table 4.1 is few and far between.

Table 4.1: Moon Data

Element	Control	Experimental
Moon Rings	1.23	3.38
Moon Tides	2.26	3.12
Moon Walk	3.33	9.29

4.1.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

Or graphically as seen in Figure 4.1 it is certain that my hypothesis is true.

4.1.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

Figure 4.1: Durham Centre

4.1.2 Second Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

4.1.2.1 Parts of the second hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

4.2 Criteria Review

Here certain criteria are explained thus eventually leading to a foregone conclusion.

CHAPTER 5. SUMMARY AND DISCUSSION

This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

5.1 Introduction

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief.

Or graphically as seen in Figure 5.1 it is certain that my hypothesis is true.

Figure 5.1: Durham Centre— Another View

5.1.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

As can be seen in Table 5.1 it is truly obvious what I am saying is true.

Table 5.1: This table shows almost nothing but is a sideways table and takes up a whole page by itself

Element	**Control**	**Experimental**
Moon Rings	1.23	3.38
Moon Tides	2.26	3.12
Moon Walk	3.33	9.29

5.1.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

5.1.2 Second Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

5.1.2.1 Parts of the second hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

5.2 Criteria Review

Here certain criteria are explained thus eventually leading to a foregone conclusion.

5.3 Results And Discussion

Here the results can be inserted

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