TABLE OF CONTENTS

Approval Sheet	i
Biography	ii
Abstrack	111
Preface	iv
Table of Contains	vi
List of Table	ix
List of Figure	х
List of Appendix	xi
CHAPTER I INTRODUCTION	
1.1 Background	1
1.2 Problem Identification	12
1.3 Problem Limitation	13
1.4 Problem Formulation	13
1.5 Research Objectives	13
1.6 Research Benefits	14
1.7 Operational Definition	15

CHAPTER II

LITERATURE REVIEW

2.1 Initial Ability	16
2.2 Initial Ability of Mathematics	20
2.3 High Order Thinking Skills (HOTS)	21
2.3.1 Definition of High Order Thinking Skills (HOTS)	21
2.3.2 Indicator of High Order Thinking Skills (HOTS)	35
2.3.3 Type of High Order Thinking Skills (HOTS)	37
2.3.4 Misconceptions	38
2.3.5 Benefits of High Order Thinking Skills (HOTS)	40
2.2.6 Droparation of instruments High Order Thinking Skil	11.0

2.3.6 Preparation of instruments High Order Thinking Skills

		(HOTS)	42
	2.3.7	Steps of Preparation of High Order Thinking Skills	
		(HOTS)	45
2.4	Materi	als	46
	2.4.1	Definition of Circle	46
	2.4.2	Circle Equation Centered at O $(0,0)$ and The Radius r	47
	2.4.3	Circle Equation Centered at O (0,0) and The Radius r	48
	2.4.4	General Form of Circle Equations	49
	2.4.5	Point Position of The Against The Circle	49
	2.4.6	Distance Point on Circle	50
	2.4.7	Equation Tangent Line Circle	51
2.5	Thinki	ng Framework	53
2.6	Releva	nt Research	54
СНАР	TER I	II RESEARCH METHODOLOGY	
3.1	Туре о	of Research	56
3.2	Locatio	on and Time of Research	57
	3.2.1	Location of Research	57
	3.2.2	Time of Research	57
3.3	Subjec	t and Object of Research	57
3.4	Mecha	nism and Design of Research	57
3.5	Resear	ch Instrument and Technique of Collecting Data	58
1	3.5.1	Research Instrument	58
1 1/	3.5.2	Techunique of Collecting Data	61
3.6	Techni	ique of Analysis Data	62
3.7	Resear	ch Procedure	
~	N	IVERSITY	64
СНАР	TER I	V RESULTS AND DISCUSSION OF RESEARCH	
4.1	Implen	nentation of Research	67
	4.1.1	Research Preparation	68

4.1.2 Data Collection Phase 68

4.2	2 Data A	nalysis and Presentation of Analysis Results	70	
	4.2.1	Analysis of Written Test Results Students' Ability to Solve		
		Mathematical Initial Ability (MIA) Questions	70	
	4.2.2	2 Description of grouping of Early Mathematical Capabilities		
		(MIA)	70	
	4.2.3	Analysis of Written Test Results Students' Ability to Complete		
		High Order Thinking Skills (HOTS) Questions	74	
4.3	B Error A	Analysis Student data in solving the High Order Thinking Skills		
	(HOTS	5) problem	78	
	4.3.1	High-Capacity Students	79	
	4.3.2	Students who are of moderate ability	83	
	4.3.3	Low-ability students	87	
4.4	Discus	sion of Research Results	90	
4.4.1 Mathematical Initial Ability of Students (high, medium, and				
	towards the Resolution of High Order Thinking Skills Problems			
		Reviewed in General, from the Aspects of the Analysis Problem	1,	
		from the Aspects of the Evaluation Question, and from the	e	
		Aspects of the Problem of Creating	91	
	4.4.2 Factors That Cause Students Wrong in Resolving High Orde			
		Thinking Skills Questions	95	

CHAPTER V

CONCLUSION

- 5.1 Conclusion5.2 Suggestions

REFERENCES

APPENDIX

102

96 97

99

LIST OF TABLES

Table 1.1 PISA Ranking and TIMSS for Indonesian Students	7
Table 1.2 Student Answers in Solving Questions on Circle Materials	11
Table 2.1 HOTS in Taksonomi Boom Revisi	27
Table 2.2 Translation of HOTS Based on The Linkage Between Dimensional	34
Table 2.3 The Definition of HOTS According to Experts	35
Table 2.4 Indicator of Higher Order Thinking Skills (HOTS)	36
Table 3.1 Grouping Students by MIA	59
Table 3.2 Test Question Validator	61
Table 3.3 Categorizing Initial Capability Tests	63
Table 4.1 Schedule of research in SMA N 1 Perbaungan	69
Table 4.2 Data on Results of Students' Early Capabilities	71
Table 4.3 Classification of Students' Early Mathematical Capabilities	72
Table 4.4 Level of Early Mathematics ability of students	73
Tabel 4.5 List of Test Results for Class XI MIA Students 1	75
Table 4.6 S20 Student Feelings Sheet	81
Table 4.7 S36 Student Feelings Sheet	83
Table 4.8 S10 Student Feelings Sheet	85
Table 4.9 S28 Student Feelings Sheet	87
Table 4.10 S21 Student Feeling Sheet	89
Table 4.11 Factors That Cause Students to be wrong in solving problems	90



LIST OF FIGURE

Figure 2.1 Four components of HOTS	24
Figure 3.4 Research Process	64
Figure 4.1 Level of Students' Mathematics Initial Ability	73
Figure 4.2 Percentage of students' ability on each question	78
Figure 4.2 Problem 2 (Evaluation problem)	79
Figure 4.3 Problem 3	84
Figure 4.4 Problem 1 and 3	88

UNIVERSIT

LIST OF APPENDIX

Appendix 1 Mathematical Initial Ability (MIA) Test	102
Appendix 2 High Order Thinking Skills (HOTS) Test	104
Appendix 3 Scoring Rubric By Mathematical Initial	
Ability (MIA) Test	107
Appendix 4 Scoring Rubric By Hi <mark>gh Order Th</mark> inking	
Skills (HOTS) Test	110
Appendix 5 Student Feeling Sheet	117
Appendix 6 Indicator Of Mathematical Initial Ability	118
Appendix 7 Test Lattice Hhigh Order Thinking Skills	119
Appendix 8 Documentation	120

UNIVERSI