

## THE INFLUENCE OF HYPNOTEACHING METHOD TO THE STUDENTS' ACHIEVEMENT IN LEARNING VOCABULARY at MTs SWASTA PAB 2 SAMPALI

Skripsi

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#### **ABSTRACT**



MAULIDA AZMI SARAGIH. THE INFLUENCE OF HYPNOTEACHING METHOD TO THE STUDENTS' ACHIEVEMENT IN LEARNING VOCABULARY at MTs SWASTA PAB 2 SAMPALI.

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Keywords: Hypnoteaching Method, The Student's achievement in learning vocabulary.

The objective of this research was to get empirical evidence about the effect of hypnoteaching method on Student's achievement in learning vocabulary. This research used experimental method. The population of this research was all students of class VII at the MTs Swasta PAB 2 Sampali. The samples of this research were taken from 30 students of experimental class (class VII²) and 30 students of control class (class VII³). The instrument of this study is a test. After analyzing the data the writer got; (1) The Student's achievement in learning vocabulary by using hynoteaching method got the mean 70.333 and the variant was 101.687; (2) The Student's achievement in learning vocabulary by using control method got the mean 53.367 and the variant was 91.203. The result of this analysis showed that t<sub>obserbed</sub>=6.70 for was higher than t<sub>table</sub> =1.99 with the level of significance 0.05. This mean that the alternative hypotesis (ha) was accepted and null hypotesis (ho) was rejected. The finding of this research shows the hypnoteaching method is more effective than the conventional one in teaching vocabulary.

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#### LIST OF APPENDICES

**APPENDIX A** :Lesson plan I Experiment Class

**APPENDIX B** :Lesson plan II Control Class

**APPENDIX C** :Postes For Experiment Class

**APPENDIX D** :Postes For Contol Class

**APPENDIX E** :Calculation of the Mean Value and Standard Deviationat

**Experiment Class** 

**APPENDIX F** :Calculation of the Mean Value and Standard Deviation at

**Control Class** 

**APPENDIX G** :Normality Testing of Post Test at Experiment Class and

**APPENDIX H** :The Calculation of Homogenety Test

**APPENDIX I** :The Calculation of Hypothesis Test

**APPENDIX J** :The Critical Value Liliefors

**APPENDIX K** :Tabel Wilayah Luas di Bawah Kurva Normal O ke Z

**APPENDIX L** : Table of F Distribution

**APPENDIX M** : Table of T Distribution

#### TABLE OF CONTENTS

ABSTRACTi	
AKNOWLEDGMENTii	
TABLE OF CONTENTSiv	V
LIST OF APPENDIXESv	ii
CHAPTER I: INTRODUCTION	
A. Background of the Problem1	
B. Identification of the Problem	
C. Limitation of the Problem	
D. Formulation of the Problem	
E. Objective of the Study	
F. Significance of the Study	
CHAPTER II: THEORETICAL REVIEW 4	
A. Theoretical Framework	
1. Achievement in Learning Vocabulary5	
a. Learning Achievement	
b. Vocabulary5	
2. Hypnoteaching Method	
a. The Definition of Hypnoteaching7	
b. Principle of Hypnoteaching	1
c. Design of Hypnoteaching 14	4
d. Procedure of Hypnoteaching	6

e. Advantage and Disadvantage of Hypnoteaching	19
3. Conventional Method	20
a. The Definition of Conventional Method	20
b. Principle of Conventional Method	22
c. Design of Conventional Method	23
d. Procedure of Conventional Method	24
e. Advantage and Disadvantage of Conventional Method	25
4. The Difference Between Hypnoteaching and Conventional	
Method	27
B. Related Study	26
C. Conceptual Framework	27
D. Hypothesis	28
CHAPTER III: RESEARCH METHODOLOGY	26
A. Time and Place of the Study	29
B. Population and Sample	29
C. Research Method	29
D. Instrumentation	30
1. Conceptual Definition	30
2. Operational Definition	30
3. Specification	30
4. Caliberation	31
E. Technique of Data Analysis	
F. Statistical Hypothesis	

#### **CHAPTER IV: RESEARCH FINDING AND**

DI	DISCUSSION32		
A.	Research Finding	.34	
B.	Discussion	.40	
СН	APTER V: CONCLUSION AND SUGGESTION	.41	
A.	Conclucion	.41	
B.	Suggestion	.41	
RF.	FFRFNCFS		

#### **CHAPTER I**

#### INTRODUCTION

#### A. Background of the Problem

The objective of teaching vocaulary is that the students are expected to be able to communicate both orally and in written. Students are required to have an adequate mastery of the vocabulary so that they will be able to communicate well in variety of contexts.

However, in reality, based on the researcher's observation at one of Junior High School in Medan, the researcher found some problems about the students' achievement in learning vocabulary. Firstly, the students have low ability in memorizing vocabulary. Secondly, the students have less practice their vocabulary and theorid, the teacher still applies a traditional strategy in learning vocabulary.

From this case, the reasearcher concludes that there are two factors that can cause the low ability of the students in learning vocabulary. Firstly, the internal factor comes from the students as a leaners. Such as Intelegence Quality (IQ), motivation, interest, lerning style, attention, etc. Second, the external factors comes from outside of the students. Such as, family, teaching method, teacher, facility, discipline, type of task, etc<sup>1</sup>.

There are many strategies which can be used to improve student's vocabularies. One of them is "hypnoteaching method". Hypnoteaching is a

<sup>&</sup>lt;sup>1</sup> Saptawulan Hening Nariswariatmojo, *Factors Which Affect LanguageLearning and Language Learning Process*, accessed on August 7, 2017 at 05.00 p.m. (https://theauzty.wordpress.com).

learning method that presents the subject matter using the languages of the subconscious because the subconscious is greater dominance of the way the brain works. Hypnoteaching also can develop students' motivation in learning process by giving the positive words because hypnoteaching is focused on the subconscious mind where the characteristic of subconscious mind is long memory. Moreover, the students will feel relaxed in teaching learning process because relax condition will make the students understand the material easily and more motivated.

Based on the explained above, the writer discussed about "The Influence of Hypnoteaching Method on Students' Achievement in Learning Vocabulary at MTs Swasta PAB 2 Sampali".

#### **B.** Identification of the Problem

Based on the background of the problem above, the problems can be identified as follows:

- 1. Does teaching method influence the student's achievement in learning vocabulary?
- 2. Does friends influence the student's achievement in learning vocabulary?
- 3. Does environment influence the student's achievement in learning vocabulary?
- 4. Does hypnoteaching method affect student's achievement in learning vocabulary?

And etc. there are still many problems that can be identified. Therefore, the researcher only limits identification of the problem on hypnoteaching method.

#### C. Limitation of the Problem

Based on the identification of the problems, the writer limit the problem on "the influence of hypnoteaching method on students' achievement in learning vocabulary at MTs Swasta PAB 2 Sampali"

#### D. Formulation of the Problem

Based on the background of the problem, the formulation of this problem was formulated as the following: "Is there any significant influence of hypnteaching method on students' achievement in learning vocabulary at MTs Swasta PAB 2 Sampali?"

#### E. Objective of the Study

The objective of this study is to find out the significant influence of hypnteaching method on students' achievement in learning vocabulary at MTs Swasta PAB 2 Sampali.

#### F. Significance of the Study

The result of this study is expected to be useful theoretically and practically.

Theoretically, this study is to enrich the theory of teaching English vocabulary.

The practically of this study are useful for:

- 1. The teachers, they can use this strategy in teaching learning process in increasing students' achievement in vocabulary.
- 2. the students, it will help them in improving their achievement in learning vocabulary.
- 3. the writer, adding knowledge about these method in teaching vocabulary.

2	4.	the other researches, as the comparison if they want to make a research in
		the same topic.

#### **CHAPTER II**

#### REVIEW OF LITERATURE

#### A. Theoretical Framework

In doing a research, some concepts are needed to explain. The terms must be clarified in order to avoid confusion among the readers.

The following terms are used in this study:

#### 1. Achievement in Learning Vocabulary

#### a. Learning achievement

Learning achievement is a sentence consisting of two words namely achievement and learning. Between achievement and learning words have different meanings. Therefore, before understanding learning achievement, it is worth discussion is directed at each issue in advance to gain further understanding about the meaning of words and *learning achievement*. It is also to facilitate in-depth understanding of the meaning achievements of learning itself. Below will put forward some sense of achievement and learning according to experts.

Achievement is the result of an activity that has been done, created both individually and in the groups<sup>2</sup>. Meanwhile, according to Abdul Hassan Mas'ud Dahar in Djamarah that the achievement is what has to be created, the results of a job, pleasing results are obtained with tenacity the way of work

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 $<sup>^2</sup>$  Djamarah,  $Prestasi\ Belajar\ dan\ Kompetensi\ Guru,$  (Surabaya : Usaha Nasional, 1994). p.19

From the definition above, the point at which the outcome of an activity. For that, it is understood of the achievement is the result of an activity that has been done, created, pleasing, obtained with application the way of work, either individually or in groups in certain activities.

According Slameto that learning is a process of one's efforts to acquire a new behavior changes as a whole, as a result of his own experience in interaction with their environment<sup>3</sup>. In simple terms of understanding learning as propounded by the above opinion, can take an understanding of the nature of learning activity is a change that occurs within the individual. Meanwhile, according Nurkencana suggests that learning achievement is the result had been achieved or acquired form of the subject child. It added that learning achievement is the result of which resulted in changes within the individual as a result of activity in learning<sup>4</sup>.

After tracing the above description, it is understandable that learning achievement the result or level of ability that has been achieved by students after attending a teaching-learning process within a certain time in the form of changes in behavior, skills and knowledge and will then be measured and assessed and then realized in numbers or statement.

#### b. Vocabulary

Vocabulary refers to the words we know to communicate effectively. In general, vocabulary can be described as oral vocabulary or

<sup>&</sup>lt;sup>3</sup> Slameto, *Belajar dan Faktor-faktor yang Mempengaruhi Belajar*, (Jakarta:Rineka Cipta, 1995), p.2

<sup>&</sup>lt;sup>4</sup> Nurkencana, Evaluasi Pendidikan. (Surabaya: Usaha Nasional, 1986). p.62

reading vocabulary. Oral vocabulary refers to words that we use in speaking or recognize in listening. Reading vocabulary refers to words we recognize ruse in print<sup>5</sup>.

Vocabulary is one of the important things in language learning besides sound, and grammar. Teachers and text book writers have interpreted the meaning of vocabulary in different points of view. The definitions have similarities and differences to each other. It is good to look at some definitions that have been described as vocabulary. Vocabulary may be defined as the stock of words used by person, class or profession<sup>6</sup>.

David Grambs said that "vocabulary is a list of words usually defined and alphabetized as a dictionary or specialized glossary complete word stock of a language".

Burns says that vocabulary means the stock of words used by a person, class or profession<sup>8</sup>. From the definition, we can infer that vocabulary is a stock or list of words with explanation of their meanings used to make up a language by a person, class or profession. It can be said that vocabulary is the competence or complete knowledge of a list or a set of

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<sup>&</sup>lt;sup>5</sup> Douglas, Fisher & Nancy, Frey .*How the Family Readers Implement Vocabulary*. Accessed on February 1, 2017 at 01.00 am. (http://reading.writeexpress.com/research/vocabulary.html.)

<sup>&</sup>lt;sup>6</sup> Paul, *The Language art in Childhood Education* (Chicago: Rand Mc. Wally & Company, 1966) p. 248

<sup>&</sup>lt;sup>7</sup>David Grambs, *Words about Word* (New York: Mc Graw Hill Book Company, 1984) p. 73

 $<sup>^8</sup>$  Anne Burns,. Doing Action Research in English Language Teaching , (New York: Routledge , 2010).p.74

words that make up a language which might be used by a particular person, class, or profession. Vocabulary mastery is one component to master English as a foreign language in elementary, intermediate and advanced levels. In learning the four language skills (listening, speaking, reading, and writing), vocabulary is one basic component to be mastered. It is reasonable, remembering that the four language skills need knowledge of words because they will get nothing without vocabulary. The larger the students master vocabulary, the better they perform their language. By having too limited vocabulary, the students will find difficulties in mastering reading and other skills. Vocabulary mastery means the students having ability in understanding and using the vocabulary. Vocabulary mastery itself deals with words and meaning. The students are not only hoped to know the words but also their meaning. It is the duty of the teacher to select with what words are suitable to be taught to the students, so the students will learn more easily.

From the definitions above, it can be concluded that vocabulary is the total number of words which are needed to communicate ideas and express the speakers means. That is the reason why it is important to learn vocabulary.

#### 2. Hypnoteaching Method

#### a. Definition of Hypnoteaching

Noer in Indonesian Dictionary written in the book "Hypnoteaching for Success", learning defines hypnosis is a phenomenon similar to the bed, but not sleep. Hypnoteaching under discussion here can be defined as the process of teaching to provide suggestions to the learners. The meaning of sleep here does

not mean a state of sleep normally at night, but a short activity conscious mind and subconscious mind to enable <sup>9</sup>.

According to Bobby and De Potter in the research journal written by Ratnawati stating that the experiments carried out by Dr. George Lozanov who dwell on "suggestology" or "suggestopedia" produces a principle that suggestion can affect the situation and learning outcomes. And, every detail anything can provide both positive and negative suggestions <sup>10</sup>.

"Hypnoteaching method can also be defined as a method of learning that in presenting the material, teachers wear subconscious languages that can foster its own interest to learners".

As an illustration, a lot of people who do not know hypnosis but in fact has been put into practice in daily life. One was a skilled teacher to motivate their students to learn. Teachers that is loved by his students and is regarded as an exemplary teacher, without realizing the fact that teachers have to apply the techniques of hypnosis in everyday life.

The key of the method is actually hypnoteaching how teachers can create a comfortable learning environment internally (psychic) and external (physical). Because when there is comfort in learning, they will also feel the learning process fun, and when in a certain sense of comfort learning materials delivered teachers will be easily absorbed by the learners. It can happen because of favorable conditions are the conditions created by the

<sup>10</sup> Ratnawati, "Aplikasi Quantum Learning", Jurnal Pendidikan Islam", (Vol. XIV, No. 1, Mei/2005), p.61

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<sup>&</sup>lt;sup>9</sup> Muhammad Noer, *Hypnoteaching for Success Learning*, (Yogyakarta : PT, Bintang Pustaka Abadi,2010), p. 117.

hypnotic operator (teacher) with a useful communication brings hypnotic subjects (students) to condition his subconscious.

In essence, a teacher can be required to facilitate a study that is clearly instructed by the prophet through his Hadith which says:

عن ابن عباس رضي الله عنه قال: قال رسول الله صلى الله عليه وسلم:

عِلْمُوا ويشيروا ولا تعسرو وبشِّروا ولاتنفروا فإذا غضب أحدكم فليسكت (حديث صحيح رواه احمد والبخارى)

RA from Ibn abbas said Rasulullah SAW said: "teach to you and make it easy, do not complicate and announce do not make them run away, and when one of you angry then be still" (HR. Ahmad and Bukhari)<sup>11</sup>.

Allah desires ease for His servants and does not want hardship for them. Allah loves gentleness in all matters and provide an advantage in a gentle attitude that was never given to intransigence or coercion. if gentleness role in an affair will undoubtedly decorate it. And if the violence had gotten into an affair would mess it up. And the affairs of the most eligible for meekness is "teaching". So, the teachers seem to be disclosed by Al-Mawardi, should not pupil, does not blame the growing and do not insult a new start. Because away from such attitudes it will be closer teacher to the students, more memorable

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<sup>&</sup>lt;sup>11</sup> Juwariyah, *Hadits Tarbawi*, (Yogyakarta: Teras, 2010), p. 105.

and will be a motivator for students to please and love anything that is on their teacher<sup>12</sup>.

In another hadith about how teachers should behave and treat their students, the Prophet said:

"From Abu Hurairah RA said: Rasulullah SAW said: Do not be cruel, because the real teacher is better than violent men. (H.R. Baihaqi)", <sup>13</sup>.

The teacher can not be separated from the psychological side of teachers to be stable, which means that teachers must be able to adjust his mental state because it can not be escape from personal problems to be happy and the sad, and if the teachers in disturbed psychological condition because he could not control the hearts and minds of the soul towards personal problems, the teacher will be easily offended and angry. And of course the learners who will be impingement. The attitude of teachers as it shows a teacher who can not be professional. It should not be duly carried out by the teacher.

above paragraphs of this obviously impression of a comfort that must be created teachers, and to create such as a teacher is required to provide softness in teaching comfort

<sup>&</sup>lt;sup>12</sup>Yusuf Al-Qardhawi, Konsepsi Ilmu Dalam Persepektif Rasulullah, (Robbani Press:Jakarta, 2010), p.41

13 Juwariyah, op. cit, p.106

languages of motivation as possible and as comfortable as possible for the perceived learners, and when comfort is already being felt by learners, as difficult as any subject matter will be felt easily digested by learners and any same material would be considered impressive for learners. Students can not be denied that before the students loved the lessons are more beloved first is the teacher. When learners already loves their teacher, the subject matter as difficult as it would seem easy for learners who love the teachers who teach the material and moral message must be given by the teacher to the learner will enthusiastically carried by learners, especially learners who are still in MI bench usually make favorite teacher as a role model in any case exceed their own parents. Thus the application of methods hypnoteaching highly expected to be done by all teachers, because the method hypnoteaching is a method that puts a comfort and a sense of relaxation for students who want to learn, when learners feel comfortable to believe that any material will be easily digested by learners and any messages that are submitted by teachers to their students will always executed.

Therefore, hypnoteaching method requires the teacher animates his role and become professional teachers because the methods hypnoteaching many demands on teachers that must be met, in order to truly become a teacher who has a magnet in attracting students to be successful in terms of scientific and moral learners.

#### b. Principle of Hypnoteaching

There are six principles of hypnotaching methods: 1) the appearance of teacher, 2) empathetic attitude, 3) Sympathy, 4) using good language, 5) motivation of students with a story or tale, 6) the understanding of the teacher. The principles of hypnotaching methods are as follows<sup>14</sup>:

#### 1) The Appearance of Teacher

The first step that must be done by the teacher in the success hypnoteaching method is to look at the performance or appearance of self. Teachers should be dressed neatly, if possible can wear a tie, matching origin. Good appearance will bear confidence high and has a powerful magnet for students.

By looking at the appearance of convincing teachers and students will trust the teachers. Scientific teachers will be seen from his performance in the classroom. For that a teacher must pay attention to her appearance before eventually hypnotic glide students with suggestive phrases and sentences from his tongue.

#### 2) Empathetic Attitude

As an educator, we are not just a teacher, a teacher must have a sense of empathy and sympathy to the students. Teachers who have sympathy for the students, will undoubtedly seek with various power assist students in need. He also had a strong faith to advance the students. When found there or even many students with problems, like throwing a tantrum at school, like attention-seeking friends and teachers by way of speaking or

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<sup>&</sup>lt;sup>14</sup> Muhammad Noer, *Hypnoteaching for Succes Learning*, (Yogyakarta: Pedagogia, 2010), p. 137

behaving strangely, and the various actions that are less good, like teasing, as well as a range of actions other destructive, then the teacher empathize not going to simply embed the title "naughty students" to his shoulder. Teachers first explore what the background that causes the student action to excavate and collect a variety of information. Teachers with a typical kind of thing in itself will have a sense of sympathy, pity, and finally happy to help the students concerned.

#### 3) Sympathy

When teachers have sympathy for the students, the students will undoubtedly sympathetic to him. Therefore, the natural law that will apply is the law of reciprocity. Whoever planted the seeds of goodness, then he will reap the fruit of goodness as well. Whoever planted the fruit evil, then he will get the fruit of evil as a result of seeds planted.

If teachers treat students well, although they are very naughty student, the student will undoubtedly shy and respectful to teachers who also respected. Students will try to understand and follow what the teacher said, because teachers also understand her. So attitude and the nature of empathy for an educator. Thus, it is the fairness when each teacher also sought to have the character and attitude, although in doing so is very heavy, full of challenges and obstacles that impede.

#### 4) Using Good Language

A good teacher should have the vocabulary and the language of good and catchy ear, can hold back emotions, not easily provoked

anger, love to appreciate the work, potential, and the ability of students, not condescending, insulting, mocking, or marginalizing students with various expressions words that are not supposed to get out of his tongue. Teachers who can keep his tongue well, surely the students would not dare to say a sentence that hurt him. At the very least, students are cared for and counseled by the language of the heart will obey whole heartedly anyway.

#### 5) Motivation of Students with a Story or Tale

Motivation of students with stories of successful people. One of the success factors hypnoteaching is using the technique of story and story. The nature and character of the basic workings of the mind is imagination and fantasy. The story and the story is a study of the imagination. Thus, it would be nice if a teacher is also often give a story or a third person traveling in accordance with the theme of class. When a teacher saw a lot of students are having problems, do not have the motivation to learn, and a variety of problems in your life, then a teacher can advise and guide them without patronizing.

#### 6) The Understanding of the Teacher

Learning experience in the field more striking than studying theory in class. Teachers should be able to master the hearts of the students, after which it can control his mind. And, of here anyway teachers can guess the phenomenon of why most students who have problems in school are often lied to his teacher, including teachers Counseling.

#### c. Design of Hipnoteaching

Hypnoteaching is a new term that often become the object of discussion lately. Hypnoteaching itself means an attempt to decrease the frequency of brain waves so that the learners become more relaxed and suggestive in capturing the positive values of a teaching process. Thus, the learning hypnosis is not as understood in several television shows such as Uya Kuya, Romy Rafael, and so on. But in learning hypnosis is directed only to create conditions conducive to the learning process.

The process of learning to use hypnosis is different than the process of learning in general, so there are some things that should be distinguished in its implementation. Hajar mentioned seven steps that need to be done by the teacher so that learning objectives can be achieved by either, the seven steps are as follows<sup>15</sup>: (1) Identify the needs of students. Identifying the needs of students is an early stage before learning process is implicated. Identifying needs of the students to determine what forms of learning exciting for the students, so that students are motivated to learn; Plan learning by linking hypnotic media, such as sound, images, text, motion, and symbols. (2) Start teaching according to the lesson plans that have been made. (3) Doing affirmations or stating something positive about themselves as a material to

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<sup>&</sup>lt;sup>15</sup> Hajar. Hypnoteaching Memaksimalkan Hasil Proses Belajar-Mengajar dengan Hypnoterapi. (Yogyakarta: Diva Press. 2011).p.45

raise the idea of students. For example, the teacher proudly told to the students that: I was personally and my curiosity for knowledge is kept private and will continue to learn with anyone, anytime, and anywhere with motivation. (4) perform visualization as a means for students to create ideas related to the topic of learning. (5) to evaluate, the evaluations are performed to evaluate how teachers are motivated, active, creative students during the learning process. In addition, teachers also evaluate students' understanding of the provided material; To reflect on what happened to the students before the lesson ended. Reflection of the impression made by asking students during the learning process.

#### d. Procedure of Hypnoteaching

According to Muhammad Noer in his book of N. Yustisia, there are several steps that need to be done by the teacher. These steps are as follows:

#### 1) Intention and Motivation

Success depends a lot on its intention to continue to try and work in achieving success to be achieved. Great intentions and determination will foster motivation and commitment in the occupied areas. As a teacher, teachers who have a strong motivation and commitment to his profession, will always try my best to be a teacher who should be a person who deserves and imitated by learners.

#### 2) Pacing

Pacing means to equate the position, gestures, language, and brain waves with others. In case this is how teachers adapt to learners. The principle in this step is a man inclined or prefer to congregate, interact with people who have a lot in common with him. Thus naturally and instinctively, everyone will feel comfortable and happy to come together with others who have in common with him. Because this will make a person feel comfortable when you're in it, through a sense of comfort that comes from the similarity of the brain waves, each message is passed from one person to the other person will be accepted and understood.

#### 3) Leading

Leading means leading or directing after the teacher did pacing learners will feel comfortable with the atmosphere of learning that takes place. When any pronounced that any teacher or teacher assigned to learners, learners will do it willingly and gladly. Despite facing tough material but the subconscious mind learners will capture the subject matter to convey the teacher becomes an easy thing.

#### 4) Using Positive Words

This step is a step supporters in doing pacing and leading. This positive use of the word according to the workings of the subconscious mind accepts whatever is spoken by anyone negatively or positively, so teachers should get used to using positive words that no negative accepted by the subconscious learners.

#### 5) Giving Praise

One important thing to remember teachers is their reward and punishment. Praise is reward increase self esteem. This compliment is one way to establish a person's self-concept. While punishment is a punishment or a warning given teachers when students perform actions that are less good, of course, in giving punishment of teachers do it carefully so that the punishment does not make the learners feel inferior and do not get excited.

#### 6) Modeling

Modeling is the process of giving the model or example through speech and behavior are consistent. This is something very important and the key to the success of implementing the method hypnoteaching. To support and maximize a learning method hypnoteaching, teachers should also master the learning material in a comprehensive manner. This can be done by involving students actively in the learning process, as much as possible deliver contextually material, allowing learners undertake collaborative learning, provide direct feedback to the learner. No less important motivating and positive suggestions must occur during the learning takes place.<sup>16</sup>.

The measures described above illustrate that a teacher who does not have a love for the profession and love of the learners will feel difficulty in doing that, because the method hypnoteaching is not a method that requires physical teachers alone, but requires a psychic teacher must stable. Hypnoteaching method requires teachers to align the physical elements of psychic teacher. It can be

 $<sup>^{16}</sup>$ Yustisia, *Hypnoteaching Seni Ajar Mengeksplorasi Otak Peserta Didik*, (Jogjakarta : Arruzz Media, 2012) p.p. 85-88

seen from how teachers perform steps provide motivation to the learners, teachers whose motivation was quickly accepted students are teachers who are able to motivate yourself because teachers do not motivate learners will be seen from the inconsistency between what was said teachers with the expression on the face teacher.

In addition, teachers are also required to be a good example, means aligning what the command teacher with the teacher's behavior, especially relating to the value of kindness. In this case the teachers are required to be a figure who deserve to be role models for students.

#### e. Advantages and Disadvantages of Hypnoteaching Method

As a method, hypnoteaching also inseparable from its own advantages and disadvantages, while the advantages are as follows<sup>17</sup>: (1) Learners can develop in accordance with the interests and potentials, (2) teachers can create diverse learning process so it is not boring for the learners, (3) diverse learning process so it is not boring for the learners, (4) created a good interaction between teachers and learners, (5) the material presented is able to focus learners, (6) material easily mastered learners so that they are more motivated to learn, (7) there are many skills during the process of learning, (8) the learning process is active, (9) learners can imagine and think more creatively, (10) caused not memorize the absorption capacity of the learners will be faster and last longer, (11) monitoring learners' teachers will become more intensive, (12) due

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<sup>&</sup>lt;sup>17</sup> *Ibid* p.82

to the learning atmosphere relaxed and fun, it makes the students feel happy and excited when the following study.

The Disadvantages of Hypnoteaching Method as follows: (1) the number of learners who are in a class lead teachers find it difficult to give attention to individual learners, (2) teachers need to learn and practice to implement the hypnoteaching method, (3) hypnoteaching method is still part of the new method and has not been widely used by teachers in Indonesia, (4) lack of facilities and infrastructure in schools that could support the implementation of the hypnoteaching method.

#### 3. Conventional Methods

#### a. Definition of Conventional Methods

According Ruseffendi in the conventional method, the teacher is or regarded as a repository of knowledge, teachers are authoritarian, dominating the class teacher<sup>18</sup>. Teachers teach science, teachers immediately prove the arguments, the teacher proves examples of problems. While students must sit neatly listening, imitating the patterns provided by the teacher, to imitate the teacher's ways of solving problems. Pupils bertidak passive. Students who lack understanding forced scored less / ugly and because it may be part of their grades.

"According to Ahmadi (in Widiantari's book)" conventional learning models rely on memorization alone, get more done by teachers, students passively receive information, learning is very abstract and theoretical and do not bersadar

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<sup>&</sup>lt;sup>18</sup> Ruseffendi, *Dasar-dasar Penelitian Pendidikan & Bidang Non-Eksata Lainnya*, (Bandung: Tarsito, 2005), p.17

on the reality of life, provide only a pile of diverse information to students, tend to focus on specific areas, a large part of student learning time is spent working on the task book, hear a lecture teacher, and filling exercise (individual work)" <sup>19</sup>. Conventional learning is still carried out on the assumption that a knowledge can be transferred intact from teacher to student's mind. Conventional teaching method has been more emphasis on the task of teachers to provide instruction or lectures during the learning process, while the students simply receive passively learning.

In the conventional method of learning is marked with lectures, accompanied by an explanation, and the division of tasks and exercises. Metode konvensional adalah metode yang biasa dipakai guru pada umumnya atau sering dinamakan metode tradisional<sup>20</sup>. Since the first teacher in the business of transmitting his knowledge to the students, is orally or lecture. Conventional learning is learning which is usually done by teachers. Conventional teaching (traditional) generally have certain peculiarities, for example, prefers memorizing rather than understanding, emphasizing the numeracy skills, prioritizing the outcome rather than the process, and teacher-centered teaching.

The lecture method is considered as the main cause of the lack of student interest to the lesson deserves justified, but also the assumption was completely inaccurate, since each method or model of learning good learning method classics

<sup>20</sup> Zaenal Mustakim, Strategi dan Metode Pembelajaran, (Pekalongan: STAIN Perss), p.118

<sup>&</sup>lt;sup>19</sup> Ahmadi, in Widiantaris book, *Model Pembelajaran Konvensional*. http://yudiwiratama.blogspot.com/2014/01/pembelajaran-konvensionalpembelajaran.html, p.24

including the lecture method or methods of modern learning both have advantages and disadvantages complementary to one another.

Negative assumptions about the lecture method should should be straightened out, both in terms of understanding the articulation by the teacher as well as its application in the teaching and learning process in schools. Lecture is a form of interaction through lighting and oral narrative from the teacher to the learner, in the implementation of lectures to explain his description, the teacher may use assistive devices such as instructional media and audio-visual images. Another definition lecture by language comes from the word lego (Latin) are defined generally by "teaching" as a result of teachers delivering lessons by reading from the book and dictating lessons using lecture method book then becomes or lecture.

Definition of the lecture method above, when directly absorbed and applied without a prior understanding by teachers of the results obtained from the application of this method will be far short of expectations, as was the case in the current problematic.

Based on some of the above opinion, that the conventional learning is learning which is commonly practiced by teachers in the classroom, the learning centered on the teacher as an information center, and students only passively receive materials.

#### b. The Principle of Conventional Method

As a model of learning, there are also conventional dalam sequence of learning steps, the social system, the principles of reaction, as well as support systems (infrastructure). As revealed by Raka that "conventional teaching (traditional) may be cited as a model of learning because it contains the syntax, the social system, the principles of reaction, and system support".

Conventional learning model requires students to memorize the material given by the teacher and not to associate the material with the real state nya. According Santyasa<sup>21</sup> (in Widiantari's book) states, conventional learning has the following characteristics: (1) acquiring information through sources symbolic, like a teacher or reading, (2) asimilation and organizing so that a general principle is understandable, (3) the use of the general principle in cases of Specific, (4) the application of the general principles of the new state. Conventional learning in evaluating. Meanwhile, according to the general lyas principle of conventional learning models are as follows. (1) The student is the recipient of information passively, where students receive the knowledge of teachers and knowledge is assumed as a body of information and the skills of the output in accordance with the standards, (2) learn individually, (3) Learning is very abstract and theoretical, (4) behavior is built on habit, (5) Truth is absolute and knowledge is final, (6) the teacher is penetu the course of the learning process, (7) of good conduct based on extrinsic motivation, (8) the interaction between students is less, (9) no cooperative groups, (10) social skills are often not directly taught, (11) monitoring through observation and intervention is often not done by the teacher at the time of an ongoing study group, (12) teachers often do not pay attention to the group process that occurs in study group into 2 group.

<sup>&</sup>lt;sup>21</sup> Ahmadi, at Widiantaris book. *Model Pembelajaran Konvensional*. (<a href="http://yudi-wiratama.blogspot.com/2014/01/pembelajaran-konvensionalpembelajaran.html">http://yudi-wiratama.blogspot.com/2014/01/pembelajaran-konvensionalpembelajaran.html</a>). p.p.25-26

#### **Design of Conventional Method**

The procedure of learning with conventional methods are as follows<sup>22</sup>: (a) After presenting several examples, students are given the opportunity to make conclusions and generalizations about their main issues in formulas, rules or general principles. (b) The teacher gives responses to the student's conclusions that can be improvements, corrections and emphasis. (c) The teacher gives the final conclusion in the clearest formulation. (d) Check students' understanding or understanding. At the end of the teaching, the teacher checks students' understanding of the subject matter discussed in various ways, for example: Asking questions on the subject matter, all students make an overview / summary, all students complete/cancel the teacher's stated statement about the material that has been taught, whole students look for their own examples, assign students to demonstrate / use some teaching materials.

#### **Procedure of Conventional Method** d.

The procedure of learning with conventional methods are as follows<sup>23</sup>: (a) The teacher gives apperception to the students and gives motivation to the students about the material being taught. (b) Master gives the motive. (c) Master explains the teaching material verbally. (d) Master gives examples. As an illustration of what is being explained and also to deepen understanding, the teacher gives direct examples of things, people, places, or indirect examples, such as models, miniatures, photographs, drawings on the board and partly. The

*Ibid.*p.38

<sup>&</sup>lt;sup>22</sup> Zulkifli, *Metode Konvesional*, Accessed on April 3, 2017 at 10.00 a.m. (http://zulhasibuan.blogspot.co.id/2013/12/metode-konvensional.html). p.35

examples are as far as possible taken from the environment of everyday life of the students. Especially if the examples are requested from certain students who have been able to grasp the heart of the matter. (e) The teacher provides the opportunity for students to ask questions and answer questions. (f) Teachers assign tasks to students who are in accordance with the material and examples of questions that have been given. (g) The teacher confirms the task that the student has done. (h) The teacher guides the students to deduce the core of the lesson.

#### e. Advantages and Disadvantages of Conventional Methods

Learning is something that is related to the formation of student characteristics. In the existing learning objectives to be achieved. The learning objectives help the students to gain experience and with that experience the student's behavior increases, both quantity and quality. Behavior is knowledge, skills, and values or norms that serve as a controlling attitude and behavior of students<sup>24</sup>.

One is the learning of conventional methods that pivot on the delivery of teacher materials or direct educators to students. This is often seen in the learning process in schools that seem monotonous and the interaction between students is less. This conventional method takes time or a relatively short meeting because the teacher focuses directly on the material to be taught. Here is an explanation of the weaknesses and advantages of conventional methods

<sup>&</sup>lt;sup>24</sup> Max Darsono, *Belajar dan pembelajaran*, (Semarang : IKIP Press, 2000), p.26

The disadvantages of conventional learning methods is impressed monotonous and less innovative because: (a) Students feel bored and bored because there is no competition or interaction between students with one another. (b) The sense of socialization between friends is not interwoven so that arises sense of inadequate students who do not understand with students who understand more. (c) Students who do not know will feel lazy about the lesson because it is impossible for a teacher to correct or evaluate one by one student.

The advantages of conventional learning methods is to require a relatively shorter time than peer tutor methods because: (a) The teacher does not have to determine the peer tutor, and focuses directly on the material to be delivered. (b) Teachers directly face to face with students so that teachers can directly provide material that will be delivered. (c) Teachers have many meeting times so that they finish according to the schedule set by the school being taught.

### 4. The Differences Between Hipnoteaching Method and Conventional Method

The differences between hipnoteaching method and conventional method are as follows:

The Differences of Hipnoteaching Method and Conventional Method

No.	<b>Hipnoteaching Method</b>	Conventional Method
1	Learners can grow in accordance with	teacher-centered learning
	the interests and potentials they have.	
2	Created a good interaction between	passive learning occurs

	teachers and learners.	
3	The learning process will be more	interaction among students is less
	active and dynamic	
4	The material that is presented can	no cooperative groups
	focus the attention of learners	
5	Can make learners feel happy and	prioritize memorization
	excited when following the lesson.	
6	Students will concentrate fully on the	Many learning resources are verbal
	subject matter provided by the teacher	information obtained from books
7	Students can easily master the material	Give priority to results rather than
	because it is more motivated to learn.	process.

#### **B.** Related Study

Cici Ramadhani (2016). *Improving The Students' Vocabulary In By Using Hypnoteaching*. The research aimed to find out the students' achievement in Vocabulary through the use of hypnoteaching method. The population was taken only one class in VIII consists of 26 students. The writer used two cycles on her research, and she found that the students' score increased from the free test until the post test of the first and second cycle. Thus by using hypnoteaching could improve students' vocabulary achievement. She suggested to the English teacher apply this hypnoteaching method is significantly effective in teaching vocabulary.

## C. Conceptual Framework

The hypnoteaching is more affective is teaching vocabulary, that the convetional method because the students more motivated and eager to learn so as to achieve the learning objectives expected by the teacher. That is what indicates an active balance of both teachers and students. Besides, the communication between teachers and students during the implementation progresses, this communication is sometimes done in the same direction, for example at the stage where the core activities are the activities of listening, attention, understanding, and concluded.

While the two-way communication in teaching indicate the occurrence of backflow in students to teachers, this kind of communication occurs when the implementation is done by the method of question and answer.

Assessment is an important activity in the learning process, because the assessment is known planned destination or a change in behavior as a result of learning. Assessment in the application of hypnoteaching used as a basis to obtain feedback on the success of learning which covers various aspects of students' understanding through an assessment of the learning process or the results achieved.

## D. Hypothesis

Based on the above theoretical framework and conceptual framework, the writer formulates the following hypothesis:

Ha: There is a significant difference in the students' achvement in learning vocabulary between hypnoteaching method and conventional method.

Ho: There is no significant difference in the students' achvement in learning vocabulary between hypnoteaching method and conventional method.

#### **CHAPTER III**

#### METHODOLOGY OF RESEARCH

## A. Place and Time of the Study

The research was located at MTs Swasta PABM 2 Sampali, grade VII in the 2016/2017 academic year. This study was conducted at 28 May until 25 June in the 2017.

## B. Population and Sample

#### 1. Population

The population of this research were the seventh grade students at MTs Swasta PAB 2 Sampali. The population consist of 5 classes, they were VII<sup>1</sup>,VII<sup>2</sup>,VII<sup>3</sup>,VII<sup>4</sup>, and VII<sup>5</sup> classes, so the number of population were 165 students.

#### 2. Sample

According to Suharsimi Arikunto, "Sample is half of population that researched". The sample randomly technique was taken by using hynoteaching method. Each class of grade VII students was used conventional method. The classes were VII<sup>2</sup> and VII<sup>3</sup>.

#### C. Research Method

The research method of this study was an experiment. Two methods' were implementation in teaching vocabulary. Hypnoteaching and conventional learning method were implemented the experiment class and the control class.

 $<sup>^{25}</sup>$  Suharsimi Arikunto, <br/> Prosedur Penelitian: Suatu Pendekatan Praktik, (Jakarta : Rineke Cipta, 2006), p. 131.

After teaching the two groups with different method for one semester, the researscher save vocabulary test.

Table of The Design of the Research

No.	Class	Method	Post-Test
1	Experimental	Hpnoteaching	<b>✓</b>
	class	Method	
2	Control class	Conventional	<b>√</b>
		Method	

#### **D.** Instrumentation

## 1. Conceptual Definition

Vocabulary is a list of words usually defined and alphabetized as a dictionary or specialized glossary complete word stock of a language.

## 2. Operational Definition

English vocabulary is the scores of the vocabulary tests In applying the hypnoteaching method reflect maximum creativity on the part of students in learning, and to increase their creativity of students. By way of this kind of expected learning out comes better and knowing the success of students through an assessment conducted at the end of the lesson. On this basis, an attempt to reconcile the two poles are active teachers active students, teachers, students passive to be active.

## 3. Specification

To know the true fact of the research, The researcher use instrument in collecting data. The test will give by the writer to the students. The kind of test will be objective test which consist of 60 items in the form of multiple choices.

**Table of The Specification** 

Variable	Dimention	Subdimention	Number of Items
	Noun	Animal, human,	10
		etc.	
	Verb	Run, eat, sleep,	10
Vocabulary		etc.	
	Adverb	Slowly, very, etc.	10
	Conjuction	and, or, but.	10
	Preposition	on, in, from.	10

#### 4. Caliberation

To test the validity and the realidity of vocabulary test, the researcher tryed out the test item. The result is supported the adequacy and appropriateness of inferences and actions based on test scores and other modes of the vocabulary tests. Teachers and text book writers have interpreted the meaning of vocabulary in different points of view. The definitions have similarities and differences to each other. It is good to look at some definitions that have been described as vocabulary. Vocabulary may be defined as the stock of words used by person, class or profession.

## E. Technique of Analyzing the Data

Before doing hypothesis test, there are two reqirements that have to be done. They are normality and homogenity tests.

## a. Normality Testing

Normality testing is done to know whether the data that got from the sample heve a normal distribution or not. In this research, the normality test was done by using Lilifors test. After getting  $L_o$ , it was compared to  $L_t \alpha = 0.05$ .

The charactereitic of Lilifors test is:

- ightharpoonup If  $L_o < L_t =$  data is normal
- ightharpoonup If  $L_o > L_t =$  data is not normal

## b. Homogenety Testing

Homogenuity testing is done to know whether the sample is homogeneous or not. Homogenety testing that is done in this research is Fisher test. Here is the formula:

Note:

 $s_1^2$  = The biggest variant of both variabel

 $s_2^2$  = The smallest variant of both variabel

After getting the  $F_o$ , it was compared to  $F_t\alpha = 0.05$ . The characteristic of Fisher test is:

ightharpoonup If  $F_o < F_t =$  sample is homogenious

ightharpoonup If  $F_o > F_t =$  sample is heterogeneous

c. Hypothesis Testing

In analyzing the data, the research used t-test formula. The formula of t-test is expressed as follows<sup>26</sup>:

$$t = \frac{Mx - My}{\sqrt{\sum x^2 + \sum y^2} \sqrt{\frac{1}{Nx + Ny - 2} \sqrt{\frac{1}{Nx} - \frac{1}{Ny}}}}$$

Mx: the mean value of experimental group

My : the mean value of control group

 $\sum x$ : the standard deviation of experimental group

 $\sum y$ : the standard deviation of control group

Nx: the total number sample of experimental group

Ny : the total number sample of control group

## F. Statistical Hypothesis

Based on the explanation above, the following statistical hypothesis were formulated by the writer:

G. Ha : $\mu$ A1 >  $\mu$ A2

H. Ho :  $\mu A1 = \mu A2$ 

<sup>&</sup>lt;sup>26</sup>Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek*, (Jakarta: Rineka Cipta, 2013), p. 354-356

#### **CHAPTER IV**

#### RESEARCH FINDING AND DISCUSSION

## A. Research Finding

## 1. Description of Data

After analysing the data, the result of this research shows that the students' achievement in learning vocabulary thought by hypnoteaching method is better than thought by conventional method. The means scores of the students' achievement in learning vocabulary thought by hypnoteaching method is 70.333while the means scores of the studies in learning vocabulary easier by the convetional method is 53.367. Meanwhile the standart deviations of the experiment class is 10.084 the result can be seen in the following table:

**Table of Research Result Data** 

Statistic	Learning Method					
Source	Hypnoteaching Method	Conventional Learning				
N	30	30				
X	70.333	53.367				
S	10.084	9.550				

# a. The Data of the Students' Scores in Vocabulary Taught by Using Hypnteaching Method

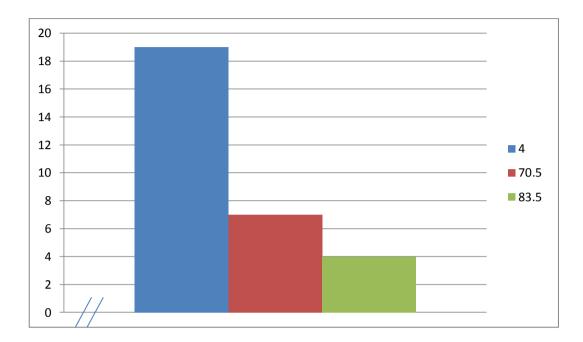
After analyzing the data through statistic description, the results showed that the students were taught by hypnoteaching method got the score range was 58 to 85, the mean of post test was 70,333, the standard deviation of post test was 10,084, the lowest score of post test was 58, the highest score of post test was 85. The distribution of the data can be shown in the distribution of frequency in the following table: (See appendix E).

Table of The Frequency Distribution of The Students' Scores in Vocabulary Taught by Using Hypnteaching Method

No	Interval Class	Absolute	Relative
		Frequency	Frequency
1	57.5 – 69.5	19	63,33%
2	70.5 – 82.5	7	23,33%
3	83.5 – 95.5	4	23,33%
		30	100%

The above frequence distribution could be shown in the following histogram.





# b. The Data of the Students' Scores in Vocbulary Taught by Using Conventional Method

After analyzing the data through statistic description, the results showed that the students were taught by conventional got the score range was 34 to 67, the mean of post test was 53.367, the standard deviation of post test was 9.550, the lowest score of post test was 34, the highest score of post test was 67. The distribution of the data can be shown in the distribution of frequency in the following table: (See appendix F).

Table of The Frequency Distribution of the Students' Scores in Vocbulary

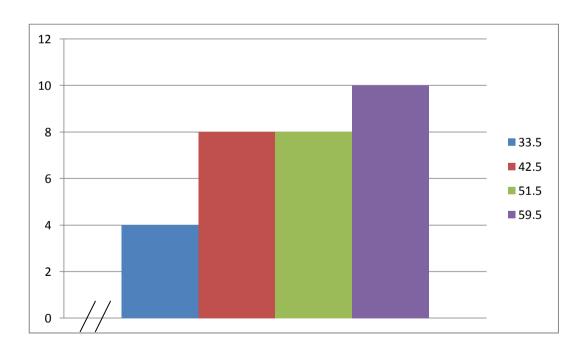
Taught by Using Conventional Teaching

No	Score Range	Absolute	Relative
		Frequency	Frequency
1	33.5 – 41.5	4	13,33%
2	42.5 – 50.5	8	26,67%
3	51.5 – 58.5	8	26,67%
4	59.5 – 66.5	10	33,33%
		30	100%

The above frequence distribution could be shown in the following histogram.

Figure of The Frequency Distribution Histogram of the Students' Score in

Vocabulary Using Conventional Method



## 2. Analysis Requirement Testing

## a. Normality Testing

Normality testing was used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed. (See appendix G).

**Table Normality Testing** 

No	Data	N	α	Lobserved	L <sub>table</sub>	Conclusion
1	Post test of	30	0,05	0,147	0,161	Normal
	experiment class					
2	Post test of control	30	0,05	0,082	0,161	Normal
	class					

Based on the table above, it can be concluded that all of the data distribution was normal, because  $L_0\!<\!L_t.$ 

## b. Homogeneity Testing

To test the homogeneity of the data, the researcher used F-test. This means that the data in categorized low. (See appendix H).

The Table of Homogeneity Test of Post Test

No.	Data	Variant	Fobserved	F <sub>table</sub>	Conclusion
1.	Posttest of	101,687			
	experiment class				
			1,11	1,85	Homogenous
2.	Posttest of	91,203			
	control class				

So  $F_{observed} < F_{table}$  atau (1,11 < 1,85) so it can be concluded that the variant is homogenous.

## 3. Hypothesis Testing

The result of the hypothesis testing of this study can be shown from the table below (See appendix I):

**T-test Result of Post Test** 

erved t <sub>table</sub>	Conclusion	
1,99	There is significant effect of hypnoteaching method on the students' vocabulary in English learning.	

The data shows that there was significant test though t-test was found that  $t_{observed} = 6,70$  where as the  $t_{table} = 1,99$ . It showed that students' mastery in English articles by using hypnoteaching method was significant at 0,05. From the result, the researcher found that there was significant of the students' vocabulary in English learning were taught by hypnoteaching method. This means that the students' vocabulary in English learning were taught by hypnoteaching method was better than taught by conventional learning.

#### **B.** Interpretation of Findings

As it has been mentioned in chapter one that field research was conducted in order to know whether the effect of hypnoteaching method on the student's ability in learning vocabulary at MTs Swasta PAB 2 SAMPALI is more effective that before it.

The data shows that there was significant test though t-test was found that  $t_{observed} = 6,70$  where as the  $t_{table} = 1,99$ . It showed that students' mastery in English articles by using hypnoteaching method was significant at 0,05. From the result, the researcher found that there was significant of the students' vocabulary in English learning were taught by hypnoteaching method. From the explanation above, we can see that teaching through hypnoteaching method is adequate success. It can be seen that the students who accept the hypnoteaching method in teaching get higher scores than the students who accept without hypnoteaching method. It means that teaching through hypnoteaching method cannot be compared by at seventh grade of MTs Swasta PAB 2 SAMPALI.

#### **CHAPTER V**

#### CONCLUSION AND SUGGESTION.

#### A. Conclusion

From the data obtained it is seen that the result of hypnoteaching method to the students' mastery at grade eight of private Junior High School MTs Swasta PAB 2 Sampali was higher than using the conventional learning. It is significant to be used in improving the students' vocabulary in English learning. The result of  $t_{observed}$  was 6,70 and  $t_{table}$  was 1,99 ( $t_{observed}$ >  $t_{table}$ , 6,70 > 1,99). It means that alternative hypothesis (Ha) was accepted and null hyphothesis (Ho) was rejected. There was an effect of hypnoteaching method on the students' vocabulary in English learning.

#### B. Suggestion

Dealing with the conclusion, the writer would like to suggest as follow:

#### 1. To the teacher:

- a. Teacher should improve their way in teaching English, especially in teaching vocabulary in order to increase the students' vocabulary.
- b. Teacher should realize that there are many ways in teaching English to get the students' attention in the classroom, especially in teaching vocabulary.
- c. Teacher should master many new vocabulary in teaching students in classroom.
- d. The teacher should determine the right method based on their objectives and learning situation, because different learning objectives and different learning

situation need different teaching method.

e. The teacher should using hypnoteaching method in lower class.

## 2. To the students:

- Students should be active in learning English not just depending on the materials given by the teacher in the class.
- b. Students should increase their vocabulary by reading the books either fiction or non-fiction

#### **APPENDIC VI**

#### THE CALCULATION OF MEAN VALUE

#### AND STANDARD DEVIATION

# A. Calculation of the Mean Value and Standard Deviationat Experiment Class

1. Calculation of Post TestData

Tabulationofthe values obtained:

$$\sum X_i = 2110$$
  $\sum X_i^2 = 151352$   $n = 30$ 

So the mean was:

$$\overline{X} = \frac{\sum X}{n} = \frac{2110}{30} = 70,333$$

And standard deviation was:

$$S = \sqrt{\frac{n\sum X_i^2 - (\sum X_i)^2}{n(n-1)}} = \sqrt{\frac{30(151352) - (2110)^2}{30(30-1)}}$$
$$= \sqrt{\frac{4540560 - 4452100}{30(29)}}$$
$$= \sqrt{\frac{88460}{870}}$$
$$= 10,084$$

$$S^2 = 101,687$$

## B. Calculation of the Mean Value and Standard Deviation at Control Class

## 1. Calculation of Post TestData

Fromtabulatingthe values obtained:

$$\sum X_i^2 = 1601 \qquad \sum X_i^2 = 88085 \qquad n = 30$$

So the meanwas:

$$\overline{X} = \frac{\sum X}{n} = \frac{1601}{30} = 53,367$$

And the standard deviation was:

$$S = \sqrt{\frac{n\sum X_i^2 - (\sum X_i)^2}{n(n-1)}} = \sqrt{\frac{30(88085) - (1601)^2}{30(30-1)}}$$
$$= \sqrt{\frac{2642550 - 2563201}{30(29)}}$$
$$= \sqrt{\frac{79349}{870}}$$
$$= 9,550$$

$$S^2 = 91,203$$

## APPENDIX G

## THE CALCULATION OF NORMALITY TESTING

## A. Normality Testing of Post Test at Experiment Class

## 1. Normality Testing of Post Test

Find Z score by using the formula:

$$Z_i = \frac{x_i - \bar{x}}{S}$$

a. 
$$Z_{i} = \frac{58 - 70,333}{10,084} = -1,223$$

b. 
$$Z_{i=\frac{59-70,333}{10,084}} = -1,124$$

c. 
$$Z_{i=\frac{60-70,333}{10.084}} = -1,025$$

d. 
$$Z_{i} = \frac{67 - 70,333}{10,084} = -0,331$$

e. 
$$Z_{i=}\frac{69-70,333}{10,084} = -0,132$$

f. 
$$Z_{i=}\frac{70-70,333}{10,084} = -0,033$$

g. 
$$Z_{i=\frac{72-70,333}{10.084}} = 0,165$$

h. 
$$Z_{i=}\frac{73-70,333}{10,084}=0,264$$

i. 
$$Z_{i=\frac{82-70,333}{10,084}} = 1,157$$

j. 
$$Z_{i=\frac{83-70,333}{10,084}} = 1,256$$

k. 
$$Z_{i=}\frac{85-70,333}{10,084}=1,455$$

Find out S(Zi) I used the formula : S(Zi) =  $\frac{Fcum}{n}$ 

a. 
$$S(Z_i) = \frac{6}{30} = 0.200$$

b. 
$$S(Z_i) = \frac{8}{30} = 0.267$$

c. 
$$S(Z_i) = \frac{9}{30} = 0.300$$

d. 
$$S(Z_i) = \frac{13}{30} = 0.433$$

e. 
$$S(Z_i) = \frac{15}{30} = 0,500$$

f. 
$$S(Z_i) = \frac{19}{30} = 0.633$$

g. 
$$S(Z_i) = \frac{20}{30} = 0.667$$

h. 
$$S(Z_i) = \frac{21}{30} = 0.700$$

i. 
$$S(Z_i) = \frac{23}{30} = 0.767$$

j. 
$$S(Z_i) = \frac{26}{30} = 0.867$$

k. 
$$S(Z_i) = \frac{30}{30} = 1,000$$

## **Normality Testing of Post Test at Experiment Class**

No	Score	F	Fcum	Zi	Fzi	Szi	Fzi-Szi
1	58	6	6	-1,223	0,111	0,200	0,089
2	59	2	8	-1,124	0,131	0,267	0,136
3	60	1	9	-1,025	0,153	0,300	0,147
4	67	4	13	-0,331	0,370	0,433	0,063
5	69	2	15	-0,132	0,447	0,500	0,053
6	70	4	19	-0,033	0,487	0,633	0,147
7	72	1	20	0,165	0,566	0,667	0,101

8	73	1	21	0,264	0,604	0,700	0,096
9	82	2	23	1,157	0,876	0,767	0,110
10	83	3	26	1,256	0,895	0,867	0,029
11	85	4	30	1,455	0,927	1,000	0,073

From the table above, it can be seen that the Liliefors Observation or  $L_0 = 0,147$  with n=30 and at real level  $\alpha=0,05$  from the list critical value of Liliefors table,  $L_t=0,161$ . It can be concluded that the data distribution was normal, because  $L_0(0,147) < L_t(0,161)$ .

#### **B.** Normality Testing of Control Class

## 1. Normality Testing of Post Test Control Class

Find Z score by using by using the formula:

$$Z_i = \frac{x_i - \bar{x}}{s}$$

a. 
$$Z_{i=\frac{34-53,367}{9,550}} = -2,028$$

b. 
$$Z_{i=} = \frac{36-53,367}{9,550} = -1,818$$

c. 
$$Z_{i} = \frac{41-53,367}{9,550} = -1,295$$

$$d. \quad Z_{i=} \frac{43-53,367}{9,550} = -1,085$$

e. 
$$Z_{i=} = \frac{46-53,367}{9,550} = -0,771$$

f. 
$$Z_{i=}\frac{48-53,367}{9,550}=0,562$$

g. 
$$Z_{i} = \frac{50-53,367}{9,550} = -0,353$$

h. 
$$Z_{i=} = \frac{53-53,367}{9,550} = -0,038$$

i. 
$$Z_{i=} = \frac{55-53,367}{9,550} = 0,171$$

j. 
$$Z_{i=\frac{58-53,367}{9,550}} = 0,485$$

k. 
$$Z_{i=} = \frac{60-53,367}{9,550} = 0,695$$

1. 
$$Z_{i=} = \frac{62-53,367}{9,550} = 0,904$$

m. 
$$Z_{i=\frac{65-53,367}{9,550}} = 1,218$$

n. 
$$Z_{i=\frac{67-53,367}{9.550}} = 1,428$$

Find out S(Zi) I used the formula : S(Zi) =  $\frac{Fcum}{n}$ 

a. 
$$S(Z_i) = \frac{1}{30} = 0.033$$

b. 
$$S(Z_i) = \frac{2}{30} = 0.067$$

c. 
$$S(Z_i) = \frac{4}{30} = 0.133$$

d. 
$$S(Z_i) = \frac{6}{30} = 0.200$$

e. 
$$S(Z_i) = \frac{8}{30} = 0.267$$

f. 
$$S(Z_i) = \frac{10}{30} = 0.333$$

g. 
$$S(Z_i) = \frac{12}{30} = 0.400$$

h. 
$$S(Z_i) = \frac{17}{30} = 0.567$$

i. 
$$S(Z_i) = \frac{19}{30} = 0.633$$

j. 
$$S(Z_i) = \frac{20}{30} = 0,667$$

k. 
$$S(Z_i) = \frac{21}{30} = 0.700$$

1. 
$$S(Z_i) = \frac{24}{30} = 0.800$$

m. 
$$S(Z_i) = \frac{27}{30} = 0,900$$

n. 
$$S(Z_i) = \frac{30}{30} = 1,000$$

## **Normality Testing of Post Test at Control Class**

No	Score	F	Fcum	Zi	Fzi	Szi	Fzi-Szi
1	34	1	1	-2,028	0,021	0,033	0,012
2	36	1	2	-1,818	0,034	0,067	0,032
3	41	2	4	-1,295	0,098	0,133	0,036
4	43	2	6	-1,085	0,139	0,200	0,061
5	46	2	8	-0,771	0,220	0,267	0,046
6	48	2	10	-0,562	0,287	0,333	0,046
7	50	2	12	-0,353	0,362	0,400	0,038
8	53	5	17	-0,038	0,485	0,567	0,082
9	55	2	19	0,171	0,568	0,633	0,065
10	58	1	20	0,485	0,686	0,667	0,020
11	60	1	21	0,695	0,756	0,700	0,056
12	62	3	24	0,904	0,817	0,800	0,017
13	65	3	27	1,218	0,888	0,900	0,012
14	67	3	30	1,428	0,923	1,000	0,077

From the table above, it can be seen that the Liliefors Observation or  $L_0=0.082$  with n=30 and at real level  $\alpha=0,05$  from the list critical value of Liliefors table,  $L_t=0.161$ . It can be concluded that the data distribution was normal, because  $L_0(0.082) < L_t(0.161)$ .

## **APPENDIX H**

#### THE CALCULATION OF HOMOGENEITY TESTING

## A. Homogeneity Testing of Post Test

$$F_h = \frac{S_1^2}{S_2^2}$$

Where

:  $S_1^2$  = the biggest variant

 $S_2^2$  = the smallest variant

Based on the variants of both samples of post-test found that:

$$S_{eks}^2 = 101,687$$
 n

$$n = 30$$

$$S_{cont}^2 = 91,203$$
 n = 30

$$n = 30$$

So:

$$F_{h} = \frac{S_{eks}^{2}}{S_{cont}^{2}}$$

$$F_h = \frac{101,687}{91,203} = 1,11$$

Then the coefficient of  $F_{observed} = 1,11$  is compared with  $F_{table}$ , where  $F_{table}$ is determined at real level  $\alpha = 0.05$  and the same numerator dk = n - 1 = 30 - 1 = 29 that was exist dk numerator 29, the denominator dk = n - 1 (30 - 1 = 29). Then  $F_{table}$ can becalculated  $F_{0,05(29,29)} = 1,85$ 

So  $F_{observed} < F_{table}$  atau (1,11< 1,85) so it can be concluded that the variant is homogenous.

## APPENDIC I

#### THE CALCULATION OF HYPOTHESIS TEST

## A. T-test of Post Test

Experiment class :  $\overline{X}_1 = 70,333$  ;  $S_1^2 = 101,687$ ;  $n_1 = 30$ 

Control class :  $\overline{X}_2 = 53,367$  ;  $S_2^2 = 91,203$ ;  $n_2 = 30$ 

With:

$$S^{2} = \frac{(n_{1} - 1)S_{1}^{2} + (n_{2} - 1)S_{2}^{2}}{n_{1} + n_{2} - 2}$$

$$S^{2} = \frac{(30-1)(01,687 + (30-1))91,203}{30+30-2}$$

$$S^{2} = \frac{(29)101,687 + (29)91,203}{58}$$

$$S^2 = \frac{2948,923 + 2644,887}{58}$$

$$S^2 = \frac{5593,81}{58}$$

$$S^2 = 96,445$$

$$S = \sqrt{96,445}$$

$$S = 9.821$$

So:

$$T_{\text{observed}} = \frac{\overline{X}_1 - \overline{X}_2}{S\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$T_{observed} = \frac{70,333 - 53,367}{9,821\sqrt{\frac{1}{30} + \frac{1}{30}}}$$

$$T_{observed} = \frac{16,966}{2,534}$$

$$T_{observed} = 6,70$$

From the computation above, it can be seen the coefficient of  $t_{observed} = 6,70$ with the level  $\alpha = 0,05$ ,  $dk = n_1 + n_2 - 2$  and chance  $(1 - \frac{1}{2}\alpha)$ . So,  $t_{(1-\frac{1}{2}\alpha)} = t_{0,975}$  and dk = 30 + 30 - 2 = 58, was between dk = 40 dan dk = 60 or  $t_{(0,975)(58)}$  because  $t_{(0,975)(58)}$  there was not in t distribution, so the writer used interpolation.

- $t_{(0,975)(40)} = 2,02$
- $t_{(0,975)(60)} = 2,00$

So:

$$t_{(0.975)(58)} = 2.02 + \frac{58 - 30}{60 - 40} (2.00 - 2.02)$$

$$t_{(0,975)(58)} = 2,02 + \frac{28}{20}(-0,02)$$

$$t_{(0.975)(58)} = 2.02 + 1.4(-0.02)$$

$$t_{(0.975)(58)} = 2,02 - 0,03$$

$$t_{(0,975)(58)} = 1,99$$

The hypothesis was:

 $H_a$ :There was significant effect of quantum learning on the students' mastery in English articles.

 $H_0$ : There was no significant effect of quantum learning on the students' mastery in English articles.

Based on the computation above, it can be seen the coefficient of  $t_{observed}$ = 6,70with the level  $\alpha$  = 0,05, dk =  $n_1$  +  $n_2$  - 2 and chance  $(1 - \frac{1}{2}\alpha)$ . So,  $t_{(1 - \frac{1}{2}\alpha)}$  =  $t_{0,975}$ and dk = 30 + 30 - 2 = 58, which the real level of  $t_{table}$ = 1,99. It was found that the value of  $t_{count}$ (6,70) is higher than the value of  $t_{table}$ (1,99). It can be seen as follows:

This result showed that null hypothesis was rejected, the hypothesis formulated as "there was a significant effect of quantum learning on the students' mastery in English articles".

APPENDIC J

THE CRITICAL VALUE LILIEFORS TEST

Ukuran	Taraf Nyata (α)							
Sampel	0,01	0,05	0,10	0,15	0,20			
n = 4	0,417	0,381	0,352	0,319	0,300			
5	0,405	0,337	0,315	0,299	0,285			
6	0,364	0,319	0,294	0,277	0,265			
7	0,348	0,300	0,276	0,258	0,247			
8	0,331	0,285	0,261	0,244	0,233			
9.	0,311	0,271	0,249	0,233	0,223			
10	0,294	0,258	0,239	0,022	0,215			
11	0,284	0,249	0,230	0,217	0,206			
12	0,275	0,242	0,223	0,212	0,199			
13	0,268	0,234	0,214	0,202	0,190			
14	0,261	0,227	0,207	0,194	0,183			
15	0,257	0,220	0,201	0,187	0,177			
16	0,250	0,213	0,195	0,182	0,173			
17	0,245	0,206	0,189	0,177	0,169			
18	0,239	0,200	0,184	<b>0,</b> 173	0,166			
19	0,235	0,195	0,179	0,169	0,163			
20	0,231	0,190	0,174	0,166	0,160			
25	0,200	0,173	0,158	0,147	0,142			
30	0,187	0,161	0,144	0,136	0,131			
n > 30	$\frac{1.031}{\sqrt{n}}$	$\frac{0.886}{\sqrt{n}}$	$\frac{0.805}{\sqrt{n}}$	$\frac{0.768}{\sqrt{n}}$	$\frac{0.736}{\sqrt{n}}$			
	√n	√n	√n	√n	√n			

Source: Sudjana. *Metoda Statistika*. Bandung: Tarsito, 2002

## APPENDIC K

# TABEL WILAYAH LUAS DI BAWAH KURVA NORMAL 0

KEZ

-3.4	2	0,00	0.01	0,02	0,03	0,04	0,05	0,06	0,07	0,08	0,09
-3,3   0,0005   0,0005   0,0005   0,0004   0,0004   0,0004   0,0004   0,0005   0,000											0.0002
-3.1 0,0007 0,0007 0,0006 0,0006 0,0006 0,0006 0,0006 0,0006 0,0007 0 -3.0 0,0010 0,0009 0,0009 0,0009 0,0009 0,0008 0,0008 0,0008 0,0007 0 -3.0 0,0013 0,0013 0,0013 0,0013 0,0012 0,0012 0,0011 0,0011 0,0011 0,0011 0,0011 -2.8 0,0026 0,0025 0,0024 0,0023 0,0023 0,0022 0,0021 0,0021 0,0021 -2.7 0,0025 0,0034 0,0033 0,0032 0,0023 0,0022 0,0021 0,0021 0,0021 -2.5 0,0017 0,0040 0,0044 0,0043 0,0041 0,0040 0,0039 0,0038 0,0037 -2.5 0,0017 0,0040 0,0044 0,0043 0,0041 0,0040 0,0039 0,0038 0,0037 -2.4 0,0026 0,0029 0,0039 0,0039 0,0055 0,0055 0,0035 0,0035 0,0031 0,0034 0,0033 0,0031 -2.4 0,0026 0,0009 0,0039 0,0039 0,0039 0,0038 0,0038 0,0037 -2.4 0,0027 0,0040 0,0012 0,0039 0,0055 0,0044 0,0039 0,0038 0,0037 -2.4 0,0019 0,0140 0,0102 0,0059 0,0059 0,0044 0,0039 0,0068 0,0064 0,0039 0,0038 0,0037 0,0038 0,0037 0,0038 0,0037 0,0038 0,0038 0,0037 0,0038 0,0038 0,0037 0,0038 0,0038 0,0038 0,0037 0,0038											0,0003
-3,1 0,0010 0,0009 0,0009 0,0009 0,0008 0,0008 0,0008 0,0008 0,0001 -3,0011 0,0012 0,0025 0,0025 0,0025 0,0025 0,0025 0,0023 0,0023 0,0023 0,0022 0,0022 0,0021 0,0											0,0005
-3.0 0.0013 0.0013 0.0013 0.0012 0.0012 0.0011 0.0011 0.0011 0.0011 0.0010 0 -2.8 0.0019 0.0018 0.0017 0.0016 0.0016 0.0016 0.0015 0.0017 0.0016 -2.8 0.0026 0.0025 0.0024 0.0023 0.0023 0.0022 0.0021 0.0021 0.0020 0 -2.6 0.0035 0.0034 0.0033 0.0033 0.0031 0.0030 0.0029 0.0028 0.0027 -2.6 0.0047 0.0045 0.0044 0.0043 0.0041 0.0040 0.0039 0.0038 0.0027 -2.5 0.0062 0.0060 0.0078 0.0075 0.0055 0.0054 0.0052 0.0013 0.0041 -2.4 0.0082 0.0080 0.0078 0.0075 0.0057 0.0057 -2.2 0.0082 0.0080 0.0078 0.0075 0.0055 0.0051 0.0069 0.0068 0.0066 0 -2.3 0.0107 0.0144 0.0122 0.0099 0.0096 0.0096 0.0096 0.0096 0.0068 0.0066 0 -2.3 0.0107 0.0154 0.0132 0.0129 0.0122 0.0122 0.0119 0.0116											0,0007
-2.9 0.0019 0.0018 0.0018 0.0017 0.0016 0.0016 0.0015 0.0015 0.0014 0.2.9 0.2.8 0.0026 0.0025 0.0025 0.0024 0.0023 0.0027 0.2.5 0.0006 0.0029 0.00028 0.0027 0.0052 0.0006 0.0009 0.0006 0.0009 0.0006 0.0009 0.0006 0.0009 0.0006 0.0009 0.0006 0.0009 0.0006 0.0009 0.0006 0.0009 0.0006 0.0009 0.0006 0.0009 0.0006 0.0009 0.0006 0.0009 0.00009 0.00009 0.00009 0.00009 0.00009 0.00009 0.00009 0.00000000											0,0010
-2.8 0,0026 0,0025 0,0024 0,0023 0,0023 0,0022 0,0021 0,0021 0,0020 0,0020 -2.6 0,0034 0,0034 0,0033 0,0033 0,0031 0,0034 0,0031 0,0034 0,0031 0,0036 0,0027 0,0025 0,0037 0,0025 0,0037 0,0025 0,0037 0,0025 0,0037 0,0025 0,0037 0,0025 0,0037 0,0025 0,0037 0,0025 0,0031 0,0049 0,0039 0,0037 0,0025 0,0031 0,0049 0,0039 0,0037 0,0025 0,0031 0,0049 0,0039 0,0037 0,0025 0,0031 0,0049 0,0039 0,0037 0,0025 0,0031 0,0049 0,0039 0,0036 0,0039 0,0037 0,0031 0,0031 0,0049 0,0039 0,0037 0,0025 0,0031 0,0039			-			-	-		-	-	
-2,7											0,0014
-2.6 0.0047 0.0045 0.0044 0.0043 0.0041 0.0040 0.0039 0.0038 0.0037 1 -2.5 0.0062 0.0060 0.0078 0.0057 0.0055 0.0054 0.0052 0.0051 0.0049 -2.4 0.0062 0.0080 0.0078 0.0075 0.0057 0.0051 0.0069 0.0068 0.0066 0 -2.3 0.0107 0.0104 0.0102 0.0099 0.0066 0.0094 0.0068 0.0066 0 -2.2 0.0139 0.0136 0.0132 0.0129 0.0056 0.0094 0.0068 0.0068 0.0066 0 -2.1 0.0179 0.0174 0.0170 0.0166 0.0162 0.0152 0.0122 0.0119 0.0116 0.0113 0 -2.0 0.0228 0.0222 0.0217 0.0212 0.0207 0.0502 0.0154 0.0150 0.0146 0 -2.1 0.0287 0.0281 0.0274 0.0268 0.0262 0.0256 0.0256 0.0256 0.0264 0.0250 0.0146 0.0162 0.0169 0.0166 0.0162 0.0069 0.0056 0.0068 0.0068 0.0068 0.0067 0.0064 0.0062 0.0262 0.0256 0.0256 0.0256 0.0256 0.0264 0.0259 0.0068											0,0019
-2.5 0,0062 0,0060 0,0059 0,0057 0,0073 0,0073 0,0071 0,0068 0,0066 -2.3 0,0107 0,0104 0,0102 0,0099 0,0096 0,0094 0,0091 0,0066 0,0096 -2.3 0,0107 0,0136 0,0132 0,0129 0,0125 0,0122 0,0125 0,0122 0,0119 0,0116 0,0113 -2.1 0,0179 0,0136 0,0132 0,0129 0,0125 0,0122 0,0129 0,0125 0,0122 0,0197 0,0116 0,0113 -2.1 0,0179 0,0174 0,0170 0,0166 0,0162 0,0158 0,0154 0,0150 0,0146 -2.0 0,0228 0,0222 0,0217 0,0212 0,0007 0,0002 0,0197 0,0192 0,0188 -1.8 0,0359 0,0351 0,0351 0,0344 0,0336 0,0329 0,0322 0,0314 0,0337 0,0351 -1.8 0,0359 0,0351 0,0344 0,0336 0,0329 0,0329 0,0324 0,0337 0,0361 -1.8 0,0469 0,0461 0,0392 0,0351 0,0344 0,0336 0,0329 0,0329 0,0324 0,0375 0,0465 -1.5 0,0466 0,0485 0,0495 0											0,0026
-2.4 0,0082 0,0080 0,0078 0,0075 0,0073 0,0071 0,0099 0,0068 0,0068 -2.2 0,0107 0,0104 0,0102 0,0099 0,00068 0,0004 0,0091 0,00089 0,00087 -2.2 0,01139 0,0136 0,0132 0,0129 0,0125 0,0122 0,0119 0,0116 0,0113 -2.0 0,0139 0,0174 0,070 0,0166 0,0162 0,0152 0,0119 0,0115 0,0116 -2.0 0,0228 0,0222 0,0217 0,0212 0,0207 0,0202 0,0197 0,0192 0,0188 -1.9 0,0228 0,0222 0,0217 0,0212 0,0207 0,0202 0,0197 0,0192 0,0188 -1.9 0,0287 0,0351 0,0344 0,0336 0,0329 0,0351 0,0344 0,0336 0,0329 0,0351 0,0344 0,0336 0,0329 0,0351 0,0344 0,0337 0,0361 0,0364 0,0365 0,0465 0,0668 0,0655 0,0643 0,0630 0,0618 0,0606 0,0594 0,0485 0,0475 0,0446 -1.6 0,0448 0,0357 0,0526 0,0516 0,0305 0,0495 0,0485 0,0475 0,0445 0,0436 0,0658 0,0655 0,0643 0,0630 0,0618 0,0606 0,0594 0,0985 0,0465 0,0658 0,0654 0,0608 0,0793 0,0778 0,0764 0,0749 0,0735 0,0703 0,0768 0,0694 -1.2 0,1151 0,1131 0,1112 0,1093 0,0708 0,0068 0,0951 0,0934 0,0918 0,0901 0,0885 0,0809 0,0833 0,0833 -1.1 0,1358 0,1335 0,1314 0,1292 0,1271 0,1251 0,1250 0,1210 0,1100 0,1587 0,1562 0,1539 0,1515 0,1402 0,14049 0,1446 0,1423 0,1401 -1.0 0,1587 0,1562 0,1539 0,1515 0,1402 0,1409 0,1446 0,1423 0,1401 -0.9 0,1841 0,1134 0,1788 0,1762 0,1762 0,1767 0,1066 0,1038 0,1020 0,1003 -1.0 0,000 0,1841 0,1814 0,1788 0,1762 0,1763 0,1777 0,1949 0,1922 0,1884 0,077 0,068 0,068 0,0694 0,000 0,											0,0036
-2,3 0,0107 0,0104 0,0102 0,0099 0,0094 0,0091 0,0089 0,0087   -2,1 0,0139 0,0136 0,0132 0,0129 0,0125 0,0125 0,0122 0,0119 0,0116 0,0113   -2,1 0,0179 0,0174 0,0170 0,0166 0,0162 0,0158 0,0154 0,0150 0,0146   -2,0 0,0228 0,0222 0,0217 0,0212 0,0207 0,0202 0,0197 0,0192 0,0188   -1,1 0,0287 0,0281 0,0274 0,0268 0,0262 0,0256 0,0250 0,0244 0,0339   -1,1,8 0,0359 0,0351 0,0354 0,0336 0,0329 0,0322 0,0314 0,0307 0,0307   -1,6 0,0446 0,0436 0,0427 0,0418 0,0409 0,0401 0,0392 0,0384 0,0375   -1,5 0,0468 0,0553 0,0643 0,0630 0,0618 0,0696 0,0495 0,0485   -1,6 0,0568 0,0553 0,0643 0,0630 0,0618 0,0696 0,0594 0,0582   -1,1 0,0668 0,0553 0,0643 0,0630 0,0618 0,0696 0,0594 0,0582   -1,1 0,0668 0,0951 0,0934 0,0918 0,0901 0,0885 0,0809 0,0833   -1,2 0,1151 0,1112 0,11093 0,1073 0,1056 0,1038 0,0838   -1,1 0,0568 0,0951 0,0934 0,0918 0,0901 0,0885 0,0809 0,0833   -1,1 0,1353 0,1353 0,1354 0,1293 0,1210 0,1200 0,1401   -1,1 0,1358 0,1353 0,1354 0,1293 0,1210 0,1201 0,1401   -1,2 0,1387 0,1352 0,1354 0,1293 0,1293 0,1401 0,1293 0,1401   -1,2 0,1387 0,1352 0,1354 0,1293 0,1293 0,1401 0,1803 0,1600 0,1618   -1,2 0,1394 0,1394 0,1395 0,1395 0,1395 0,1495 0,1496 0,1494 0,1401   -1,2 0,1394 0,1394 0,1394 0,1395 0,1395 0,1395 0,1495 0,1496 0,1495 0	-2,5	0,0062	0,0060	0,0059	0,0057	0,0055	0,0054	0,0052	0,0051	0,0049	0,0048
-2.2.	-2,4	0,0082	0,0080	0,0078	0,0075	0,0073	0,0071	0,0069	0,0068	0,0066	0,0064
-2.2.	-2,3	0,0107	0,0104	0,0102	0,0099	0,0096	0,0094	0,0091	0,0089	0,0087	0,0084
-2,0	-2,2	0,0139	0,0136	0,0132	0,0129	0,0125			0,0116	0,0113	0,0110
-1.9 0.0287 0.0281 0.0274 0.0268 0.0262 0.0256 0.0250 0.0244 0.0239 -1.8 0.0359 0.0351 0.0344 0.0336 0.0352 0.0351 0.0307 0.0307 0.0307 -1.7 0.0446 0.0436 0.0427 0.0418 0.0409 0.0401 0.0392 0.0384 0.0375 -1.5 0.0548 0.0557 0.0526 0.0516 0.0505 0.04081 0.0497 0.0485 0.0475 0.0465 -1.5 0.0548 0.0557 0.0643 0.0630 0.0618 0.0666 0.0594 0.0582 0.0475 0.0465 -1.4 0.0808 0.0553 0.0643 0.0630 0.0618 0.0666 0.0594 0.0582 0.0475 -1.3 0.0968 0.0553 0.0643 0.0630 0.0618 0.0666 0.0594 0.0582 0.0651 -1.4 0.0808 0.0951 0.0934 0.0918 0.0901 0.0885 0.0869 0.0853 0.08818 -1.2 0.1151 0.1131 0.1112 0.1099 0.1075 0.1095 0.0485 0.0869 0.0853 0.08818 -1.2 0.1151 0.1131 0.1112 0.1099 0.1075 0.1056 0.1038 0.1020 0.1003 -1.4 0.1587 0.1562 0.1599 0.1515 0.1492 0.1271 0.1221 0.1230 0.1210 0.1190 -0.9 0.1841 0.1814 0.1788 0.1762 0.1736 0.1711 0.1683 0.1020 0.1660 0.1635 -0.8 0.2119 0.2090 0.2061 0.2033 0.2004 0.1977 0.1949 0.1922 0.1894 -0.8 0.2119 0.2090 0.2061 0.2033 0.2004 0.1977 0.1949 0.1922 0.1277 -0.6 0.2742 0.2709 0.2676 0.2643 0.2611 0.2578 0.2246 0.2236 0.2236 0.2236 0.2236 0.2304 0.2314 0.2482 -0.4 0.3446 0.3469 0.3372 0.3336 0.3000 0.3264 0.3228 0.3192 0.3156 -0.3 0.3821 0.3783 0.3745 0.3707 0.3669 0.3622 0.3594 0.3912 0.3594 0.3897 -0.4 0.4602 0.4562 0.4522 0.4483 0.4443 0.4404 0.4364 0.4721 0.4662 0.4562 0.4522 0.4833 0.4843 0.4840 0.4801 0.4761 0.4721 0.46681 0.4569 0.4522 0.4483 0.4443 0.4804 0.4364 0.4721 0.4662 0.4562 0.4522 0.4833 0.4843 0.4840 0.4801 0.4761 0.4721 0.46681 0.4569 0.4562 0.4522 0.4883 0.4843 0.4840 0.4801 0.4761 0.4721 0.46681 0.4569 0.4562 0.4522 0.4883 0.4843 0.4840 0.4801 0.4761 0.4721 0.46681 0.6554 0.6590 0.6668 0.6868 0.8779 0.7098 0.7098 0.7099 0.7	-2,1	0,0179	0,0174	0,0170	0,0166	0,0162	0,0158	0,0154	0,0150	0,0146	0,0143
-1,8	-2,0	0,0228	0,0222	0,0217	0,0212	0,0207	0,0202	0,0197	0,0192	0,0188	0,0183
-1,8	-10	0.0287	0.0281	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0220	0,0233
-1.7											0,0294
-1,6											0,0367
-1.5											0,0455
-1.4 0.8808 0.0793 0.0778 0.0778 0.0764 0.0749 0.0735 0.0703 0.0708 0.0694 1.13 0.0968 0.0951 0.0934 0.0918 0.0901 0.0885 0.0869 0.0853 0.0838 0.0951 0.0951 0.0934 0.0901 0.0885 0.0869 0.0853 0.0838 0.0951 0.1111 0.1131 0.1113 0.1113 0.1112 0.1093 0.1075 0.1056 0.1038 0.1020 0.1003 0.1515 0.1515 0.1515 0.1492 0.1271 0.1251 0.1230 0.1210 0.1210 0.1210 0.1518 0.1518 0.1518 0.1518 0.1518 0.1518 0.1515 0.1492 0.1699 0.1646 0.1423 0.1401 0.1518 0.1518 0.1518 0.1518 0.1518 0.1518 0.1518 0.1518 0.1518 0.1518 0.1518 0.1518 0.1519											0,0433
-1.3 0,0968 0,0951 0,0934 0,0918 0,0901 0,0885 0,0869 0,0833 0,0838 -1-12 0,1151 0,1131 0,1132 0,1103 0,1075 0,1056 0,1038 0,1020 0,1003 -1-1,0 0,1358 0,1335 0,1314 0,1292 0,1271 0,1251 0,1230 0,1210 0,1210 0,1190 0,1587 0,1562 0,1539 0,1515 0,1492 0,1469 0,1446 0,1423 0,1401 -1-10 0,1358 0,1335 0,1314 0,1292 0,1515 0,1492 0,1469 0,1446 0,1423 0,1401 -1-10 0,1814 0,1814 0,1788 0,1762 0,1736 0,1717 0,1685 0,1660 0,1635 0,2019 0,2061 0,2033 0,2004 0,1977 0,1949 0,1922 0,1894 0,2019 0,2060 0,2388 0,2358 0,2256 0,2266 0,2276 0,2236 0,2206 0,2177 -0,6 0,2742 0,2709 0,2676 0,2643 0,2611 0,2578 0,2546 0,2236 0,2206 0,2177 0,049 0,3085 0,3085 0,3050 0,3015 0,2981 0,2946 0,2912 0,2877 0,2843 0,2810 0,0446 0,3409 0,3372 0,3336 0,3300 0,3264 0,3228 0,3192 0,3156 0,03 0,3821 0,3783 0,3745 0,3707 0,3669 0,3632 0,3594 0,3557 0,3520 0,02 0,4207 0,4168 0,4129 0,4090 0,4052 0,4033 0,3974 0,3936 0,3897 0,0450 0,4562 0,4522 0,4483 0,4443 0,4404 0,4801 0,4761 0,4721 0,4681 0,0 0,5000 0,4960 0,4920 0,4880 0,4840 0,4801 0,4761 0,4721 0,4681 0,0 0,5000 0,5040 0,4920 0,4880 0,4840 0,4801 0,4761 0,4721 0,4681 0,2 0,5793 0,5838 0,5478 0,5817 0,5596 0,5636 0,5675 0,5714 0,2 0,5793 0,5838 0,5438 0,5478 0,5817 0,5859 0,5636 0,6664 0,6603 0,6443 0,6450 0,6595 0,6595 0,6595 0,6595 0,6595 0,6595 0,6595 0,6595 0,6595 0,6595 0,6595 0,6595 0,6595 0,6595 0,6595 0,6664 0,6702 0,6808 0,6844 0,6595 0,6664 0,6603 0,6443 0,6450 0,6595 0,7588 0,7595 0,7596 0,8686 0,6644 0,6702 0,8869 0,8888 0,8007 0,9008 0,8008 0,8888 0,8007 0,9009 0,9115 0,911											
-1.2 0,1151 0,1131 0,1112 0,1093 0,1075 0,1056 0,1038 0,1020 0,1003 1-1,0 0,1587 0,1586 0,1335 0,1314 0,1792 0,1271 0,1251 0,1230 0,1210 0,1190 0,1587 0,1562 0,1539 0,1515 0,1492 0,1449 0,1446 0,1423 0,1401 0,9 0,1481 0,1814 0,1788 0,1762 0,1736 0,1711 0,1685 0,1660 0,1635 0,2119 0,2090 0,2061 0,2033 0,2004 0,1977 0,1949 0,1922 0,1884 0,2119 0,2090 0,2061 0,2033 0,2004 0,1977 0,1949 0,1922 0,1884 0,210 0,2420 0,2388 0,2358 0,23527 0,2256 0,2266 0,2236 0,2266 0,2216 0,2746 0,2117 0,1685 0,1000 0,2177 0,1949 0,1922 0,1884 0,040 0,050 0,2742 0,2799 0,2676 0,2643 0,2611 0,2578 0,2546 0,2514 0,2482 0,0514 0,0514 0,0											0,0681
-1.1											0,0823
-1,0 0,1587 0,1562 0,1539 0,1515 0,1492 0,1466 0,1446 0,1423 0,1401 -0.9 0,1841 0,1814 0,1814 0,1788 0,1762 0,1736 0,1711 0,1685 0,1660 0,1635 0,2119 0,2090 0,2061 0,2033 0,2004 0,1977 0,1949 0,1922 0,1894 0,7 0,2420 0,2388 0,2358 0,2327 0,2296 0,2266 0,2236 0,2206 0,2714 0,2482 0,2709 0,2676 0,2645 0,2611 0,2578 0,2546 0,2514 0,2482 0,260 0,2742 0,2709 0,2676 0,2645 0,2611 0,2578 0,2546 0,2514 0,2482 0,2482 0,3085 0,3050 0,3015 0,2981 0,2946 0,2912 0,2877 0,2843 0,2810 0,4 0,3446 0,3409 0,3372 0,3336 0,3300 0,3015 0,2981 0,2946 0,2912 0,2877 0,2843 0,2810 0,4 0,3446 0,3449 0,3374 0,3707 0,3669 0,3632 0,3594 0,3557 0,3520 0,4207 0,4168 0,4129 0,4090 0,4052 0,4033 0,3744 0,3936 0,3897 0,4 0,4 0,4 0,4 0,4 0,4 0,4 0,4 0,4 0,4		0,1151									0,0985
-0.9 0,1841 0,1814 0,1788 0,1762 0,1736 0,1711 0,1685 0,1660 0,1635 0,2119 0,2090 0,2061 0,2033 0,2004 0,1977 0,1949 0,1922 0,1894 0,797 0,2420 0,2388 0,2358 0,2358 0,2358 0,2266 0,2266 0,2236 0,2266 0,2217 0,2420 0,2789 0,2676 0,2643 0,2611 0,2578 0,2546 0,2314 0,2482 0,50 0,3085 0,3050 0,3015 0,2981 0,2946 0,2912 0,2877 0,2843 0,2810 0,40 0,40 0,40 0,40 0,40 0,40 0,40 0,								0,1230			0,1170
-0.8	-1,0	0,1587	0,1562	0,1539	0,1515	0,1492	0,1469	0,1446	0,1423	0,1401	0,1379
-0.8		0,1841		0,1788		0,1736		0,1685	0,1660	0,1635	0,1611
-0,7	-0,8	0,2119	0,2090	0,2061	0,2033	0,2004	0,1977	0,1949	0,1922	0,1894	0,1867
-0.6 0,2742 0,2709 0,2676 0,2643 0,2611 0,2578 0,2546 0,2514 0,2482 0,05 0,3005 0,3015 0,2981 0,2946 0,2912 0,2877 0,2843 0,2810 0,2482 0,3192 0,3156 0,3446 0,3409 0,3372 0,3336 0,3300 0,3264 0,3228 0,3192 0,3156 0,3632 0,3504 0,3557 0,3520 0,4207 0,4168 0,4129 0,4090 0,4052 0,4033 0,3974 0,3936 0,3897 0,15 0,00 0,4002 0,4462 0,4562 0,4483 0,4484 0,4801 0,4761 0,4721 0,4681 0,0 0,5000 0,4960 0,4920 0,4880 0,4840 0,4801 0,4761 0,4721 0,4681 0,0 0,5000 0,5040 0,5080 0,5120 0,5160 0,5199 0,5239 0,5279 0,5319 0,1 0,5398 0,5438 0,5478 0,5517 0,5557 0,5596 0,6026 0,6064 0,6103 0,3 0,6179 0,6217 0,6255 0,6293 0,6331 0,6368 0,6406 0,6443 0,6480 0,4801 0,4761 0,6554 0,6591 0,6628 0,6664 0,6700 0,6736 0,6772 0,6808 0,6844 0,7588 0,7612 0,7642 0,7633 0,7612 0,7642 0,7633 0,7612 0,7642 0,7633 0,7612 0,7642 0,7633 0,7704 0,7734 0,7764 0,7758 0,7612 0,7642 0,7633 0,7934 0,7352 0,8816 0,8212 0,8238 0,8264 0,8381 0,8315 0,8316 0,8316 0,8418 0,8315 0,8418 0,8315 0,8340 0,8385 1,0 0,8413 0,8486 0,8212 0,8238 0,8264 0,8289 0,8315 0,8340 0,8385 1,0 0,8413 0,8486 0,8212 0,8238 0,8264 0,8289 0,8315 0,8340 0,8385 1,0 0,8413 0,8486 0,8212 0,8238 0,8264 0,8289 0,8315 0,8340 0,8397 0,9967 0,9022 0,9039 0,8889 0,8888 0,8097 0,9925 0,9931 0,9940 0,9941 0,9940 0,9941 0,9940 0,9940 0,9940 0,9941 0,9940 0,9941 0,9940 0,9941 0,9940 0,9940 0,9941 0,9940 0,9941 0,9941 0,9940 0,9941 0,9940 0,9941 0,9941 0,9940 0,9941 0,9940 0,9941 0,9940 0,9941 0,9940 0,9941 0,9941 0,9940 0,9941 0,9940 0,9941 0,9	-0,7	0,2420	0,2388	0,2358	0,2327		0,2266	0,2236			0,2118
-0,4	-0,6	0,2742	0,2709	0,2676	0,2643	0,2611	0,2578	0,2546	0,2514	0,2482	0,2451
-0.3	-0,5	0,3085	0,3050	0,3015	0,2981	0,2946	0,2912	0,2877	0,2843	0,2810	0,2776
-0.3	ایما	0.3446	0.3409	0.3372	0.3336	0.3300	0.3264	0.3228	0.3192	0.3156	0,3121
-0.2 0,4207 0,4168 0,4129 0,4090 0,4052 0,4033 0,3974 0,3936 0,3897   -0.1 0,4602 0,4562 0,4522 0,4483 0,4443 0,4404 0,4364 0,4325 0,4286   -0.0 0,5000 0,4960 0,4920 0,4880 0,4840 0,4801 0,4761 0,4721 0,4681   0.0 0,5000 0,5040 0,5080 0,5120 0,5160 0,5199 0,5239 0,5279 0,5319   0.1 0,5398 0,5438 0,5478 0,5517 0,5557 0,5556 0,5636 0,5675 0,5714   0.2 0,5793 0,5832 0,5871 0,5910 0,5948 0,5967 0,6026 0,6064 0,6103   0.3 0,6179 0,6217 0,6255 0,6293 0,6331 0,6368 0,4060 0,6443 0,6480   0.4 0,6554 0,6591 0,6628 0,6664 0,6700 0,6736 0,6772 0,6808 0,6844   0.5 0,6915 0,6950 0,6985 0,7019 0,7054 0,7088 0,7123 0,7157 0,7190   0.6 0,7258 0,7291 0,7324 0,7357 0,7389 0,7422 0,7454 0,7486 0,7518   0.7 0,7580 0,7612 0,7642 0,7673 0,7704 0,7734 0,7764 0,7794 0,7823   0.9 0,8159 0,8186 0,8212 0,8238 0,8264 0,8289 0,8315 0,8340 0,8365   1,0 0,8413 0,8438 0,8461 0,8485 0,8368 0,8531 0,8554 0,8577 0,8599   1,1 0,8642 0,8665 0,8686 0,8708 0,8729 0,8749 0,8770 0,8790 0,8899 1 1,2 0,8642 0,8665 0,8686 0,8708 0,8729 0,8749 0,8770 0,8790 0,8810 1 1,0 0,8413 0,8438 0,8461 0,8485 0,8508 0,8531 0,8554 0,8577 0,8599   1,1 0,8642 0,8665 0,8686 0,8708 0,8729 0,8749 0,8770 0,8790 0,8810 1 1,2 0,8849 0,8869 0,8888 0,8907 0,8925 0,8944 0,8962 0,8980 0,8997 1 1,3 0,9032 0,9049 0,9066 0,9082 0,9099 0,9115 0,9131 0,9147 0,9162 1 1,4 0,9192 0,9207 0,9222 0,9236 0,9251 0,9265 0,9297 0,9292 0,9306 1 1,5 0,9332 0,9345 0,9337 0,9370 0,9382 0,9394 0,9406 0,9418 0,9429 1 1,6 0,9452 0,9463 0,9474 0,9484 0,9495 0,9505 0,9515 0,9525 0,9535 1 1,8 0,9641 0,9649 0,9656 0,9664 0,9671 0,9678 0,9686 0,9693 0,9889 1 1,9 0,913 0,9718 0,9788 0,9819 0,9990 0,9915 0,9909 0,911 0,9913 0,9914 0,9965 0,9965 0,9965 0,9966 0,9977 0,9929 0,9913 0,9999 0,9915 0,9909 0,9915 0,9910											0,3483
-0.1 0,4602 0,4562 0,4522 0,4483 0,4443 0,4404 0,4364 0,4325 0,4226 -0.0 0,5000 0,4960 0,4920 0,4880 0,4840 0,4801 0,4761 0,4721 0,4681 0,0 0,5000 0,5000 0,5040 0,5080 0,5120 0,5160 0,5199 0,5239 0,5279 0,5319 0,1 0,5398 0,5438 0,5438 0,5478 0,5517 0,5557 0,5596 0,5636 0,5675 0,5714 0,2 0,5793 0,5832 0,5871 0,5910 0,5948 0,5967 0,6026 0,6064 0,6103 0,3 0,6179 0,6217 0,6255 0,6293 0,6331 0,5368 0,6406 0,6443 0,6450 0,4 0,6554 0,6591 0,6628 0,6664 0,6700 0,5736 0,6772 0,6808 0,6844 0,5 0,5 0,6915 0,6950 0,6985 0,7019 0,7054 0,7088 0,7123 0,7157 0,7190 0,6 0,7228 0,7291 0,7324 0,7357 0,7389 0,7422 0,7454 0,7486 0,7518 0,7 0,7580 0,7612 0,7642 0,7673 0,7704 0,7734 0,7764 0,7794 0,7823 0,8 0,7881 0,7910 0,7939 0,7967 0,7996 0,8023 0,8051 0,8078 0,8166 0,8212 0,8238 0,8264 0,8289 0,8315 0,8340 0,8365 1,0 0,8413 0,8438 0,8461 0,8485 0,8508 0,8531 0,8554 0,8577 0,8599 1,1 0,8642 0,8665 0,8686 0,8686 0,8070 0,8729 0,9049 0,9065 0,9082 0,9049 0,9062 0,9099 0,9115 0,9131 0,9147 0,9162 1,4 0,9192 0,9207 0,9222 0,9236 0,9099 0,9115 0,9131 0,9147 0,9162 1,6 0,9452 0,9463 0,9474 0,9454 0,9455 0,9515 0,9515 0,9525 0,9535 1,8 0,944 0,9665 0,9664 0,9673 0,9712 0,9795 0,9668 0,9699 1,9 0,9066 0,9418 0,9455 0,9515 0,9515 0,9515 0,9525 0,9535 1,8 0,941 0,9649 0,9656 0,9664 0,9671 0,9678 0,9686 0,9699 1,9 0,9712 0,9778 0,9782 0,9788 0,9999 1,9 0,9712 0,9778 0,9782 0,9788 0,9999 1,9 0,9713 0,9719 0,9726 0,9732 0,9738 0,9744 0,9750 0,9756 0,9761 1,9 0,9472 0,9778 0,9783 0,9788 0,9991 0,9066 0,9608 0,9616 0,9625 0,9515 0,9515 0,9525 0,9535 1,8 0,9641 0,9649 0,9656 0,9664 0,9671 0,9678 0,9686 0,9699 0,9911 0,9911 0,9912 0,9077 0,9722 0,9788 0,9788 0,9999 0,9911 0,9913 0,9915 0,9916 0,9909 0,9916 0,9909 0,9911 0,9913 0,9919 0,9066 0,9810 0,9810 0,9814 0,9918 0,9906 0,9909 0,9911 0,9907 0,9909 0,9911 0,9913 0,9915 0,9915 0,9915 0,9915 0,9915 0,9915 0,9915 0,9915 0,9915 0,99											0,3859
-0.0											0,4246
0,0 0,5000 0,5040 0,5080 0,5120 0,5160 0,5199 0,5239 0,5279 0,5319 0,1 0,5398 0,5438 0,5478 0,5517 0,5596 0,5636 0,5675 0,5714 0,2 0,5793 0,5832 0,5871 0,5910 0,5948 0,5967 0,6026 0,6064 0,6103 0,3 0,6179 0,6217 0,6255 0,6293 0,6331 0,6368 0,6406 0,6443 0,6480 0,4 0,6554 0,6551 0,6628 0,6664 0,6700 0,6736 0,6772 0,6808 0,6844 0,5515 0,6591 0,6628 0,6664 0,6700 0,6736 0,6772 0,6808 0,6844 0,5515 0,6591 0,6628 0,7019 0,7054 0,7088 0,7123 0,7157 0,7190 0,6 0,7258 0,7291 0,7324 0,7357 0,7389 0,7422 0,7454 0,7486 0,7518 0,7 0,7580 0,7612 0,7642 0,7673 0,7704 0,7734 0,7764 0,7794 0,7823 0,8 0,7612 0,7642 0,7673 0,7704 0,7734 0,7764 0,7794 0,7823 0,8 0,7612 0,7672 0,8186 0,8212 0,8238 0,8264 0,8289 0,8315 0,8340 0,8365 1,0 0,8413 0,8438 0,8461 0,8485 0,8508 0,8531 0,8554 0,8577 0,8599 1,1 0,8642 0,8665 0,8686 0,8708 0,8729 0,8749 0,8770 0,8790 0,8810 1,2 0,8849 0,8869 0,8888 0,8907 0,8925 0,8944 0,8962 0,8980 0,8997 1,3 0,9032 0,9049 0,5066 0,9082 0,9099 0,9115 0,9131 0,9147 0,9162 1,4 0,9192 0,9207 0,9222 0,9236 0,9251 0,9366 1,6 0,9452 0,9464 0,9455 0,9505 1,8 0,9452 0,9466 0,9654 0,9573 0,9582 0,9999 0,9115 0,9131 0,9147 0,9162 1,6 0,9452 0,9463 0,9474 0,9484 0,9495 0,9505 0,9515 0,9525 0,9535 1,8 0,9412 0,9464 0,9564 0,9573 0,9582 0,9591 0,9505 0,9515 0,9525 0,9535 1,9 0,9712 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9772 0,9778 0,9783 0,9783 0,9784 0,9764 0,9764 0,9771 0,9772 0,9778 0,9772 0,9772 0,9778 0,9783 0,9784 0,9754 0,9666 0,9664 0,9671 0,9678 0,9608 0,9616 0,9625 1,8 0,9616 0,9626 0,9686 0,9664 0,9671 0,9678 0,9686 0,9693 0,9699 1,9 0,9713 0,9719 0,9772 0,9778 0,9783 0,9783 0,9784 0,9750 0,9756 0,9761 2,0 0,9772 0,9778 0,9898 0,9910 0,9913 0,9913 0,9913 0,9913 0,9913 0,9913 0,9914 0,9965 0,9966 0,9664 0,9661 0,9664 0,9661 0,9664 0,9667 0,9666 0,9677 0,9752 0,9973 0,9991 0,9913 0,9913 0,9913 0,9915 0,9955 0,9955 0,9951 0,9952 0,9908 0,9909 0,9913 0,9991 0,9909 0,9909 0,9909 0,9909 0,9909 0,9909 0,9909 0,9909 0,9909 0,9909 0,9909 0,9909 0,990											0,4641
0,1 0,5398 0,5438 0,5438 0,5478 0,5517 0,5556 0,5636 0,5675 0,5714 0,2 0,5793 0,5832 0,5871 0,5910 0,5948 0,5967 0,6026 0,6064 0,6103 0,6179 0,5217 0,6255 0,6293 0,6331 0,6368 0,6406 0,6443 0,6440 0,4 0,6554 0,6591 0,6628 0,6664 0,6700 0,6736 0,6772 0,6808 0,6844 0,5 0,6915 0,6950 0,6985 0,7019 0,7054 0,7088 0,7123 0,7157 0,7190 0,6 0,7258 0,7291 0,7324 0,7357 0,7389 0,7422 0,7454 0,7486 0,7518 0,7 0,7580 0,7612 0,7642 0,7673 0,7704 0,7734 0,7764 0,7794 0,7823 0,8 0,7681 0,7910 0,7939 0,7967 0,7996 0,8023 0,8051 0,8078 0,8166 0,9 0,8159 0,8186 0,8212 0,8238 0,8264 0,8289 0,8315 0,8340 0,8365 1,0 0,8413 0,8438 0,8461 0,8485 0,8508 0,8331 0,8554 0,8577 0,8599 1,1 0,8484 0,8665 0,8686 0,8708 0,8729 0,8749 0,8770 0,8790 0,8810 1,2 0,8849 0,8869 0,8888 0,8907 0,8925 0,8944 0,8962 0,8980 0,8997 1,3 0,9032 0,9049 0,9066 0,9082 0,9099 0,9115 0,9131 0,9147 0,9162 1,4 0,9192 0,9207 0,9222 0,9236 0,9251 0,9366 0,9267 0,9463 0,9474 0,9484 0,9495 0,9505 0,9515 0,9525 0,9535 1,7 0,9554 0,9564 0,9573 0,9582 0,9591 0,9608 0,9616 0,9625 1,8 0,9641 0,9649 0,9656 0,9664 0,9671 0,9678 0,9686 0,9616 0,9625 1,9 0,9712 0,9718 0,9818 0,9814 0,9816 0,9812 0,9918 0,9920 0,9922 0,9925 0,9927 0,9929 0,9911 0,9913 0,9919 0,9918 0,9918 0,9920 0,9921 0,9931 0,9931 0,9931 0,9931 0,9931 0,9931 0,9940 0,9864 0,9868 0,9871 0,9875 0,9878 0,9881 0,9881 0,9887 0,9887 0,9988 0,9911 0,9913 0,9918 0,9920 0,9921 0,9921 0,9931 0	1 }									-	
0,2         0,5793         0,5832         0,5871         0,5910         0,5948         0,5967         0,6026         0,6044         0,6103           0,3         0,6179         0,6217         0,6255         0,6293         0,6331         0,6368         0,6406         0,6443         0,6480           0,4         0,6554         0,6591         0,6628         0,6664         0,6706         0,6772         0,6808         0,6844           0,5         0,6915         0,6950         0,6985         0,7019         0,7054         0,7088         0,7123         0,7157         0,7190           0,6         0,7258         0,7261         0,7642         0,7637         0,7389         0,7422         0,7454         0,7486         0,7518           0,7         0,7580         0,7612         0,7642         0,7673         0,7996         0,8023         0,8051         0,8078         0,8169           0,8         0,7881         0,7910         0,7939         0,7967         0,7996         0,8023         0,8051         0,8078         0,8169           0,9         0,8159         0,8186         0,8212         0,8238         0,8508         0,8513         0,8554         0,8577         0,8599 <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>0,5359</th></td<>											0,5359
0,3											0,5754
0,4         0,6554         0,6591         0,6628         0,6664         0,6700         0,6736         0,6772         0,6808         0,6844           0,5         0,6915         0,6985         0,7019         0,7054         0,7088         0,7123         0,7157         0,7190           0,6         0,7258         0,7291         0,7324         0,7357         0,7389         0,7422         0,7454         0,7794         0,7886         0,7580         0,7612         0,7642         0,7673         0,7704         0,7734         0,7764         0,7794         0,7784         0,7794         0,7782         0,802         0,8023         0,8011         0,802         0,8023         0,8051         0,8078         0,8165         0,8023         0,8011         0,87											0,6141
0,5         0,6915         0,6950         0,6985         0,7019         0,7054         0,7088         0,7123         0,7157         0,7190           0,6         0,7258         0,7291         0,7324         0,7357         0,7389         0,7422         0,7454         0,7486         0,7518           0,7         0,7580         0,7612         0,7642         0,7673         0,7704         0,7764         0,7673         0,7734         0,7764         0,7764         0,7673         0,7794         0,7764         0,7794         0,7234         0,7764         0,7784         0,7784         0,7784         0,7784         0,7764         0,7794         0,7794         0,7764         0,7794         0,7794         0,7764         0,7794         0,7881         0,7910         0,7939         0,7667         0,7996         0,8023         0,8051         0,8078         0,8106         0,9106         0,9223         0,8315         0,8078         0,8106         0,8166         0,8168         0,8212         0,8288         0,8501         0,8285         0,8315         0,8377         0,8599         1,1         0,8429         0,8315         0,8577         0,8599         1,1         0,8429         0,8816         0,8877         0,8591         0,8781         0,8787 </th <th></th> <th>0,6517 0,6879</th>											0,6517 0,6879
0.6         0,7258         0,7291         0,7324         0,7357         0,7389         0,7422         0,7454         0,7486         0,7518           0.7         0,7580         0,7612         0,7642         0,7673         0,7704         0,7734         0,7764         0,7794         0,7784         0,7764         0,7794         0,7764         0,7794         0,7764         0,7794         0,7764         0,7794         0,7764         0,7794         0,7764         0,7823         0,804         0,8203         0,8315         0,8316         0,8315         0,8345         0,8565         0,8686         0,8708         0,8729         0,8779         0,8770         0,8790         0,8710         0,8770         0,8790         0,8710         0,8710         0,8710         0,9821         0,9844         0,8962			-	-		-			0,6808	-	-
0,7         0,7580         0,7612         0,7642         0,7633         0,7704         0,7734         0,7764         0,7794         0,7823           0,8         0,7881         0,7910         0,7939         0,7967         0,7996         0,8023         0,8051         0,8078         0,8106           0,9         0,8159         0,8186         0,8212         0,8238         0,8264         0,8289         0,8315         0,8370         0,8106           1,0         0,8413         0,8438         0,8461         0,8485         0,8508         0,8531         0,8577         0,8599           1,1         0,8642         0,8665         0,8686         0,8708         0,8729         0,8749         0,8770         0,8790         0,8810           1,2         0,8849         0,8886         0,8888         0,8907         0,8925         0,9099         0,9115         0,9131         0,9147         0,9162           1,4         0,9192         0,9207         0,9222         0,9236         0,9251         0,9267         0,9297         0,9292         0,9366           1,5         0,9332         0,9445         0,9357         0,9370         0,9382         0,9344         0,9464         0,9418         0,9429 </th <th></th> <th>0,7224</th>											0,7224
0,8         0,7881         0,7910         0,7939         0,7967         0,7966         0,8023         0,8051         0,8078         0,8166           0,9         0,8159         0,8186         0,8212         0,8238         0,8264         0,8289         0,8315         0,8340         0,8365           1,0         0,8413         0,8438         0,8461         0,8485         0,8508         0,8571         0,8579         0,8799         0,8779         0,8790         0,8790         0,8810           1,2         0,8849         0,8869         0,8888         0,8907         0,8255         0,8944         0,8962         0,8980         0,8997           1,3         0,9032         0,9049         0,9066         0,9082         0,9999         0,9115         0,9131         0,9147         0,9162           1,4         0,9192         0,9207         0,9222         0,9236         0,9251         0,9265         0,9297         0,9292         0,9306           1,5         0,9332         0,9345         0,9357         0,9370         0,9382         0,9394         0,9406         0,9418         0,9421           1,6         0,9452         0,9463         0,9477         0,9484         0,94934         0,9406											0,7549
0,9         0,8159         0,8186         0,8212         0,8238         0,8264         0,8289         0,8315         0,8340         0,8365           1,0         0,8413         0,8461         0,8485         0,8308         0,8331         0,8554         0,8577         0,8599           1,1         0,8642         0,8665         0,8686         0,8708         0,8729         0,8749         0,8770         0,8790         0,8710         0,8790         0,8790         0,8810         0,8907         0,8925         0,8944         0,8962         0,8980         0,8997         1,3         0,9032         0,9049         0,9082         0,9099         0,9115         0,9131         0,9147         0,9162           1,4         0,9192         0,9207         0,9222         0,9236         0,9295         0,9344         0,9406         0,9418         0,9429         1,9131         0,9147         0,9162         1,9999         0,9115         0,9131         0,9147         0,9162         0,9252         0,9394         0,9406         0,9418         0,9429         1,6         0,9452         0,9441         0,9484         0,9495         0,9505         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515											0,7882
1,0         0,8413         0,8438         0,8461         0,8485         0,8508         0,8531         0,8554         0,8577         0,8599           1,1         0,8642         0,8665         0,8686         0,8708         0,8729         0,8749         0,8770         0,8790         0,8810           1,2         0,8849         0,8869         0,8888         0,8907         0,8925         0,8944         0,8962         0,8980         0,8997           1,3         0,9032         0,9049         0,9066         0,9082         0,9099         0,9115         0,9131         0,9147         0,9162           1,4         0,9192         0,9207         0,9222         0,9236         0,9251         0,9265         0,9297         0,92292         0,9366           1,5         0,9332         0,9463         0,9474         0,9484         0,9450         0,9463         0,9474         0,9484         0,9450         0,9464         0,9573         0,9582         0,9591         0,9525         0,9535           1,7         0,9554         0,9564         0,9573         0,9582         0,9591         0,9686         0,9693         0,9699           1,9         0,9713         0,9719         0,9726         0,9732											0,8133
1,1         0,8642         0,8665         0,8686         0,8708         0,8729         0,8749         0,8770         0,8790         0,8810           1,2         0,8849         0,8869         0,8888         0,8907         0,8925         0,8944         0,8962         0,8980         0,8997           1,3         0,9032         0,9049         0,9066         0,9082         0,9099         0,9115         0,9131         0,9147         0,9162           1,4         0,9192         0,9207         0,9222         0,9236         0,9251         0,9265         0,9297         0,9292         0,9306           1,5         0,9332         0,9345         0,9357         0,9370         0,9382         0,9394         0,9406         0,9418         0,9429           1,6         0,9452         0,9463         0,9474         0,9484         0,9495         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,	0,9	0,8159	0,8186	0,8212	0,8238	0,8264	0,8289	0,8315	0,8340	0,8365	0,8389
1,1         0,8642         0,8665         0,8686         0,8708         0,8729         0,8749         0,8770         0,8790         0,8810           1,2         0,8849         0,8869         0,8888         0,8907         0,8925         0,8944         0,8962         0,8980         0,8997           1,3         0,9032         0,9049         0,9066         0,9082         0,9099         0,9115         0,9131         0,9147         0,9162           1,4         0,9192         0,9207         0,9222         0,9236         0,9251         0,9265         0,9297         0,9292         0,9306           1,5         0,9332         0,9345         0,9357         0,9370         0,9382         0,9394         0,9406         0,9418         0,9429           1,6         0,9452         0,9463         0,9474         0,9484         0,9495         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,9525         0,9515         0,	1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0,8621
1.2         0,8849         0,8869         0,8888         0,8907         0,8925         0,8944         0,8962         0,8980         0,8997           1,3         0,9032         0,9049         0,9066         0,9082         0,9099         0,9115         0,9131         0,9147         0,9162           1,4         0,9192         0,9207         0,9222         0,9236         0,9251         0,9265         0,9297         0,9222         0,9306           1,5         0,9332         0,9345         0,9357         0,9370         0,9382         0,9394         0,9406         0,9418         0,9429           1,6         0,9452         0,9463         0,9474         0,9484         0,9495         0,9505         0,9515         0,9525         0,9515           1,7         0,9554         0,9564         0,9573         0,9582         0,9591         0,9568         0,9669         0,9668         0,9661         0,9625         1,9609         0,9713         0,9713         0,9713         0,9714         0,9761         0,9732         0,9738         0,9794         0,9750         0,9761         0,9761         2,0         0,9772         0,9778         0,9783         0,9783         0,9793         0,9793         0,9793         0,980											0,8830
1,3         0,9032         0,9049         0,9066         0,9082         0,9099         0,9115         0,9131         0,9147         0,9162           1,4         0,9192         0,9207         0,9222         0,9236         0,9251         0,9265         0,9297         0,9292         0,9306           1,5         0,9332         0,9345         0,9357         0,9370         0,9382         0,9394         0,9406         0,9418         0,9429           1,6         0,9452         0,9463         0,9474         0,9484         0,9495         0,9505         0,9515         0,9525         0,9535           1,7         0,9554         0,9564         0,9573         0,9582         0,9591         0,9599         0,9608         0,9616         0,9625           1,8         0,9641         0,9654         0,9656         0,9664         0,9678         0,9678         0,9686         0,9699           1,9         0,9713         0,9719         0,9726         0,9732         0,9738         0,9744         0,9750         0,9756         0,9761           2,0         0,9772         0,9778         0,9783         0,9783         0,9784         0,9803         0,9808         0,9812           2,1         0,											0,9015
1,4         0,9192         0,9207         0,9222         0,9236         0,9251         0,9265         0,9297         0,9292         0,9306           1,5         0,9332         0,9345         0,9357         0,9370         0,9382         0,9394         0,9406         0,9418         0,9429           1,6         0,9452         0,9463         0,9474         0,9484         0,9495         0,9505         0,9515         0,9525         0,9535           1,7         0,9554         0,9564         0,9573         0,9582         0,9591         0,9599         0,9608         0,9616         0,9625           1,8         0,9641         0,9649         0,9656         0,9664         0,9671         0,9678         0,9686         0,9693         0,9699           1,9         0,9713         0,9719         0,9726         0,9732         0,9738         0,9784         0,9750         0,9761           2,0         0,9772         0,9778         0,9783         0,9783         0,9793         0,9793         0,9803         0,9808         0,9812           2,1         0,9821         0,9826         0,9830         0,9843         0,9842         0,9846         0,9868         0,9871         0,9878         0,9818			0,9049							0,9162	0,9177
1,5         0,9332         0,9345         0,9357         0,9370         0,9382         0,9394         0,9406         0,9418         0,9429           1,6         0,9452         0,9463         0,9474         0,9484         0,9495         0,9505         0,9515         0,9525         0,9535           1,7         0,9554         0,9564         0,9573         0,9582         0,9591         0,9599         0,9608         0,9616         0,9625           1,8         0,9641         0,9649         0,9656         0,9664         0,9571         0,9578         0,9686         0,9639         0,9599           1,9         0,9713         0,9719         0,9726         0,9732         0,9738         0,9744         0,9750         0,9756         0,9761           2,0         0,9772         0,9778         0,9788         0,9793         0,9798         0,9803         0,9808         0,9812           2,1         0,9821         0,9826         0,9830         0,9814         0,9842         0,9846         0,9856         0,9871         0,9878         0,9881         0,9887           2,2         0,9861         0,9868         0,9871         0,9975         0,9878         0,9881         0,9884         0,9887 </th <th></th> <th>0,9319</th>											0,9319
1,6         0,9452         0,9463         0,9474         0,9484         0,9495         0,9505         0,9515         0,9525         0,9535           1,7         0,9554         0,9564         0,9573         0,9582         0,9591         0,9599         0,9608         0,9616         0,9625           1,8         0,9641         0,9649         0,9656         0,9664         0,9671         0,9678         0,9686         0,9693         0,9699           1,9         0,9713         0,9719         0,9726         0,9732         0,9738         0,9744         0,9750         0,9756         0,9761           2,0         0,9772         0,9778         0,9783         0,9783         0,9798         0,9803         0,9808         0,9812           2,1         0,9821         0,9826         0,9830         0,9834         0,9838         0,9842         0,9846         0,9854           2,2         0,9861         0,9864         0,9868         0,9871         0,9878         0,9881         0,9884         0,9887           2,3         0,9893         0,9896         0,9898         0,9901         0,9904         0,9906         0,9909         0,9911         0,9913           2,4         0,9918         0,											0,9441
1,7         0,9554         0,9564         0,9573         0,9582         0,9571         0,9599         0,9608         0,9616         0,9625           1,8         0,9641         0,9649         0,9656         0,9664         0,9671         0,9678         0,9686         0,9693         0,9699           1,9         0,9713         0,9719         0,9726         0,9732         0,9738         0,9784         0,9750         0,9750         0,9761           2,0         0,9772         0,9783         0,9788         0,9793         0,9788         0,9803         0,9808         0,9812           2,1         0,9821         0,9826         0,9830         0,9834         0,9838         0,9842         0,9846         0,9850         0,9854           2,2         0,9861         0,9866         0,9868         0,9871         0,9878         0,9811         0,9887         0,981         0,9887         0,981         0,9909         0,9911         0,9913         0,9918         0,9918         0,9918         0,9918         0,9911         0,9914         0,9918         0,9911         0,9914         0,9918         0,9918         0,9945         0,9931         0,9932         0,9934         0,9945         0,9934         0,9945         0,99						0.9495					0,9545
1,8         0,9641         0,9649         0,9656         0,9664         0,9671         0,9678         0,9686         0,9693         0,9699           1,9         0,9713         0,9719         0,9726         0,9732         0,9738         0,9744         0,9750         0,9756         0,9761           2,0         0,9772         0,9778         0,9783         0,9788         0,9793         0,9798         0,9803         0,9808         0,9812           2,1         0,9821         0,9826         0,9830         0,9834         0,9834         0,9842         0,9846         0,9850         0,9883           2,2         0,9861         0,9864         0,9868         0,9871         0,9875         0,9878         0,9881         0,9884         0,9887           2,3         0,9893         0,9898         0,9901         0,9904         0,9906         0,9911         0,9913         0,9929         0,9911         0,9913         0,9931         0,9932         0,9934         0,9929         0,9911         0,9933         0,9946         0,9948         0,9949         0,9951         0,9963         0,9945         0,9946         0,9948         0,9949         0,9951         0,963         0,9962         0,9963         0,9962         0,9	1.7					0.9591			0.9616		0.9633
1,9         0,9713         0,9719         0,9726         0,9732         0,9738         0,9744         0,9750         0,9756         0,9761           2,0         0,9772         0,9778         0,9783         0,9788         0,9793         0,9798         0,9803         0,9808         0,9812           2,1         0,9821         0,9826         0,9830         0,9834         0,9832         0,9846         0,9856         0,9858         0,9811         0,9878         0,9881         0,9884         0,9887         0,9881         0,9884         0,9887         0,9881         0,9884         0,9887         0,9911         0,9906         0,9909         0,9911         0,9913         0,9918         0,9920         0,9922         0,9925         0,9927         0,9929         0,9931         0,9932         0,9934           2,5         0,9938         0,9940         0,9941         0,9943         0,9945         0,9946         0,9962         0,9963         0,9963         0,9963         0,9962         0,9963         0,9963         0,9965         0,9967         0,9969         0,9971         0,9972         0,9972         0,9971         0,9972         0,9963         0,9962         0,9963         0,9963         0,9963         0,9964         0,9961 <th></th> <th>0,9706</th>											0,9706
2,0         0,9772         0,9778         0,9783         0,9788         0,9793         0,9798         0,9803         0,9808         0,9812           2,1         0,9821         0,9826         0,9830         0,9834         0,9838         0,9842         0,9846         0,9850         0,9854           2,2         0,9861         0,9864         0,9868         0,9871         0,9873         0,9873         0,9881         0,9884         0,9884         0,9901         0,9904         0,9906         0,9909         0,9911         0,9913         0,9913         0,9912         0,9927         0,9929         0,9931         0,9932         0,9934           2,5         0,9938         0,9940         0,9941         0,9943         0,9945         0,9948         0,9949         0,9951         0,9953         0,9955         0,9956         0,9957         0,9959         0,9960         0,9961         0,9962         0,9963         2,7         0,9965         0,9966         0,9966         0,9967         0,9969         0,9971         0,9972         0,9973         0,9972         0,9973         0,9974         0,9975         0,9975         0,9976         0,9976         0,9978         0,9978         0,9984         0,9985         0,9985         0,9986											0,9767
2,1         0,9821         0,9826         0,9830         0,9834         0,9838         0,9842         0,9846         0,9850         0,9854           2,2         0,9861         0,9864         0,9871         0,9875         0,9878         0,9881         0,9884         0,9884         0,9884         0,9887           2,3         0,9893         0,9896         0,9898         0,9901         0,9906         0,9909         0,9911         0,9913         0,9929         0,9931         0,9932         0,9934           2,4         0,9918         0,9920         0,9922         0,9925         0,9927         0,9929         0,9931         0,9932         0,9934           2,5         0,9938         0,9940         0,9941         0,9943         0,9945         0,9946         0,9948         0,9949         0,9951         2,6         0,9953         0,9955         0,9956         0,9957         0,9959         0,9960         0,9961         0,9962         0,9963           2,7         0,9965         0,9966         0,9967         0,9968         0,9969         0,9970         0,9971         0,9972         0,9973         0,9973         0,9974         0,9975         0,9976         0,9977         0,9978         0,9978         0,998			-	,		-	-		-	-	-
2.2         0,9861         0,9864         0,9868         0,9871         0,9875         0,9878         0,9881         0,9884         0,9887           2,3         0,9893         0,9898         0,9901         0,9904         0,9906         0,9909         0,9911         0,9913           2,4         0,9918         0,9920         0,9922         0,9925         0,9927         0,9929         0,9931         0,9932         0,9931           2,5         0,9938         0,9940         0,9941         0,9943         0,9945         0,9946         0,9948         0,9949         0,9951           2,6         0,9953         0,9955         0,9956         0,9957         0,9959         0,9961         0,9962         0,9963           2,7         0,9965         0,9966         0,9967         0,9968         0,9999         0,9970         0,9971         0,9972         0,9973           2,8         0,9974         0,9975         0,9976         0,9977         0,9977         0,9978         0,9984         0,9985         0,9985         0,9986           2,9         0,9981         0,9982         0,9983         0,9984         0,9984         0,9985         0,9985         0,9986											0,9817
2,3 0,9893 0,9896 0,9898 0,9901 0,9904 0,9906 0,9909 0,9911 0,9913 2,4 0,9918 0,9920 0,9922 0,9925 0,9927 0,9929 0,9931 0,9932 0,9934 2,5 0,9938 0,9940 0,9941 0,9943 0,9945 0,9946 0,9948 0,9949 0,9951 2,6 0,9953 0,9956 0,9956 0,9957 0,9959 0,9960 0,9961 0,9962 0,9963 2,7 0,9965 0,9966 0,9967 0,9968 0,9969 0,9970 0,9971 0,9972 0,9973 2,8 0,9974 0,9975 0,9976 0,9977 0,9978 0,9978 0,9960 0,9961 0,9969 0,9979 0,9986 0,9969 0,9979 0,9986 0,9969 0,9979 0,9986 0,9968 0,9968 0,9968 0,9968 0,9968 0,9968 0,9968 0,9968 0,9968 0,9968 0,9968 0,9968 0,9968 0,9986											0,9857
2,4         0,9918         0,9920         0,9922         0,9925         0,9927         0,9929         0,9931         0,9932         0,9934           2,5         0,9938         0,9940         0,9941         0,9943         0,9945         0,9946         0,9948         0,9949         0,9951           2,6         0,9953         0,9955         0,9956         0,9957         0,9959         0,9960         0,9962         0,9963           2,7         0,9965         0,9966         0,9967         0,9968         0,9979         0,9970         0,9971         0,9972         0,9980           2,8         0,9974         0,9975         0,9976         0,9973         0,9974         0,9979         0,9980           2,9         0,9981         0,9982         0,9983         0,9984         0,9984         0,9985         0,9985         0,9986											0,9890
2,5         0,9938         0,9940         0,9941         0,9943         0,9945         0,9946         0,9948         0,9949         0,9951           2,6         0,9953         0,9955         0,9956         0,9957         0,9959         0,9960         0,9961         0,9962         0,9963           2,7         0,9965         0,9966         0,9967         0,9968         0,9990         0,9971         0,9972         0,9973           2,8         0,9974         0,9975         0,9976         0,9977         0,9978         0,9979         0,9980           2,9         0,9981         0,9982         0,9983         0,9984         0,9984         0,9985         0,9985         0,9986											0,9916
2,6         0,9953         0,9955         0,9956         0,9957         0,9959         0,9960         0,9961         0,9962         0,9963           2,7         0,9965         0,9967         0,9968         0,9970         0,9971         0,9972         0,9973           2,8         0,9974         0,9975         0,9976         0,9977         0,9977         0,9978         0,9979         0,9980           2,9         0,9981         0,9982         0,9983         0,9984         0,9984         0,9985         0,9985         0,9986				-	-	-	-	-		-	0,9936
2,7     0,9965     0,9966     0,9967     0,9968     0,9969     0,9970     0,9971     0,9972     0,9973       2,8     0,9974     0,9975     0,9976     0,9977     0,9977     0,9978     0,9979     0,9979     0,9980       2,9     0,9981     0,9982     0,9983     0,9984     0,9984     0,9985     0,9985     0,9986							0,9946				0,9952
2,8 0,9974 0,9975 0,9976 0,9977 0,9977 0,9978 0,9979 0,9980 2,9 0,9981 0,9982 0,9982 0,9983 0,9984 0,9984 0,9985 0,9985 0,9986											0,9964
2,9 0,9981 0,9982 0,9982 0,9983 0,9984 0,9984 0,9985 0,9985 0,9986		0,9965		0,9967	0,9968		0,9970	0,9971	0,9972		0,9974
							0,9978	0,9979			0,9981
3.0 0.0027 0.0027 0.0027 0.0028 0.0020 0.0020 0.0020 0.0020	2,9	0,9981	0,9982	0,9982	0,9983	0,9984	0,9984	0,9985	0,9985	0,9986	0,9986
	3,0	0,9987	0,9987	0,9987	0,9988	0,9988	0,9989	0,9989	0,9989	0,9990	0,9990
3,1 0,9990 0,9991 0,9991 0,9991 0,9992 0,9992 0,9992 0,9993											0,9993
3,2 0,9993 0,9993 0,9994 0,9994 0,9994 0,9994 0,9995 0,9995											0,9995
3,3 0,9995 0,9995 0,9995 0,9996 0,9996 0,9996 0,9996 0,9996 0,9996											0,9997
3,4 0,9997 0,9997 0,9997 0,9997 0,9997 0,9997 0,9997 0,9997 0,9997											0,9998

Source: Tavi Supriana & Riantri. Statistik Nonparametrik.

Medan: USU Press, 2013

## APPENDIC L

# TABLE OF F DISTRIBUTION

(Bilangan Dalam Badan Daftar Menyatakaan:

 $Fp: Baris\ Atas\ untuk\ p=0,05\ dan\ Baris\ Bawah\ untuk\ p=0,01)$ 

v 2 = dk												ν, = dk pe	mbilang											
penyebut	1	2	3	4	5_	- 6	7	8	9	10	11	12	14	16	:20	24	30	40	50	75	100	200	500	∞
1	161 4062	200 4999	216 5403	225 5625	230 5764	234 5859	237 5928	239 5981	241 6022	242 6056	243 6082	244 6106	245 6142	246 6169	248 6208	249 6234	250 6258	251 6286	252 6302	253 6323	253 6334	254 6352	254 6361	254 6366
2	18,51 98,49	19,00	19,16 99,17	19,25 99,25	19,30	19,33 99,33	19,36 99,34	19,37 99,36	19,38 99,38	19,39 99,40	19,40	19,41 99,42	19,42 99,43	19,43 99,44	19,44 99,45	19,45	19,46	19,47	19,47 99,48	19,48	19,49	19,49 99,49	19,50	19,50 99,50
3	10.13	9.55	9.28	9,12	9.01	8,94	8,88	8,84	8,81	8,78	8,76	8,74	8,71	8,69	8,66	8,64	8,62	8,60	8,58	8,57	8,56	8,54	8,54	8,52
	34,12	30,81	29,46	28,71	28,24	27,91	27,67	27,49	27,34	27,23	27,13	27,05	26,92	26,83	26,69	26,69	26,50	26,41	26,30	26,27	26,23	26,18	26,14	26,12
4	7,17	6,94	:6,59	6,39	6,26	6,16	6,09	6,04	6,00	5,96	5,93	5,91	5,87	5,84	5;80	5,77	5,74	5,71	5,70	5,68	5,66	5,65	5,64	5,63
5	21,20	18,00 5,79	16,69	15,98	15,52 5,05	15,21 4,95	14,98 4,88	14,80 4,82	14,66 4,78	14,54 4,74	14,45 4,70	14,37 4,68	14,24 4,64	14,15 4,60	14,02 4,56	13,93 4,53	13,83 4,50	13,74 4,46	13,69 4,44	13,61 4,42	13,57 4,40	13,52 4,38	13,48 4,37	13,46 4,36
1 1	6,61 16,26	13,27	:5,41 12,06	5,19 11,39	10,97	10,67	10,45	10,27	10,15	10,05	9,96	9,89	9,77	9,86	9;55	9,47	9,38	9,29	9,24	9,17	9,13	9,07	9,04	9,02
6	5,99	5,14	4,76	4,53	4,39	4,28	4,21	4,15	4,10	4,06	4,03	4,00	3,96	3,92	3,87	3,84	3,81	3,77	3,75	3,72	3,71	3,69	3,68	3,67
}	13,74	10,92	9,78	9,15	8,75	8,47	8,26	8,10	7,98	7,87	7,79	7,72	7,60	7,52	7,39	7,31	7,23	7,14	7,09	7,02	6,99	6,94	6,90	6,88
7	5,59 12,25	4,74 9,55	4,35 8,45	4,12 7,86	3,97 7,46	3,87 7,19	3,79 7,00	3,73 6,84	3,68 6,71	3,63 6,62	3,60 6,54	3,57 6,47	3,52 6,35	3,49 6,27	3,44 6,15	3,41 6,07	3,38 5,98	3,34 5,90	3,32 5,85	3,29 5,78	3,28 5,75	3,25 5,70	3,24 5,67	3,23 5,65
] ,	5,32	4,46	4,07	3,84	3,69	3,58	3,50	3,44	3,39	3,34	3,31	3,28	3,23	3,20	3,15	3,12	3,08	3,05	3,03	3,00	2,98	2,96	2,94	2,93
"	11,26	8,65	7.59	7,01	6,63	6,37	6,19	6,03	5,91	5,82	5,74	5,67	5,56	5,48	5,36	5,28	5,20	5,11	5,06	5,00	4,96	4,91	4,88	4,86
9	5,12	4,26	3,86	3,63	3,48	3,37	3,29	3,23	3,18	3,13	3,10	3,07	3,02	2,98	2,93	2,90	2,86	2,82	2,80	2,77	2,76	2,73	2,72	2,71
	10,56	8,02	6,99	6,42	6,06	5,80	5,62	5,47	5,35	5,26	5,18	5,11	5,00	4,92	4,80	4,73	4,64	4,56	4,51	4,45	4,41	4,36	4,33	4,31
10	4,96 10,04	4,80 7,56	.3,71 :6,55	3,48 5,99	3,33 5,64	3,22 5,39	3,14 5,21	3,07 5,06	3,02 4,95	2,97 4,85	2,94 4,78	2,91 4,71	2,86 4,60	2,82 4,52	2,77 4,41	2,74 4,33	2,70 4,25	2,67 4,17	2,64 4,12	2,61 4,05	2,59 4,01	2,56 3,96	2,55 3,93	2,54 3,91
1 11	4.84	3,98	3,59	3,36	3,20	3,09	3,01	2,95	2,90	2,86	2,82	2,79	2,74	2,70	2,65	2,61	2,57	2,53	2,50	2,47	2,45	2,42	2,41	2,40
1	9,65	7,20	16,22	5,67	5,32	5,07	4,88	4.74	4,63	4,54	4,46	4,40	4,29	4,21	4,10	4,02	3,94	3,86	3,80	3,74	3,70	3,86	3,62	3,50
12	4,75	3,88	3,49	3,26	3,11	3,00	2,92	2,85	2,80	2,76	2,72	2,69	2,64	2,60	2,54	2,50	2,46	2,42	2,40	2,36	2,35	2,32	2,31	2,30
1 1	9,38	6,93	:5,95	5,41	5,06	4,82	4,65	4,50	4,39	4,30	4,22	4,16	4,05	3,98	3,86	3,78	3,70	3,61	3,56	3,49	3,46	3,41	3,38	3,36
13	4,67 9,07	3,80 6,70	3,41	3,18 5,20	3,02 4,86	2,92 4,62	2,84 4,44	2,77 4,30	2,72 4,19	2,67 4,10	2,63 4,02	2,60 3,96	2,55 3,85	2,51 3,78	2,46 3,57	2,42 3,60	2,38 3,51	2,34 3,42	2,32 3,37	2,28	2,26 3,27	2,24 3,21	2,22 3,18	2,21 3,15
14	4,60	3,74	3,34	3.11	2,96	2,85	2,77	2,70	2,65	2,60	2,56	2,53	2,48	2,44	2,39	2,35	2,31	2,27	2,24	2,21	2,19	2,16	2,14	2,13
"	8,86	6,51	5,56	5,03	4,89	4,46	4,28	4,14	4,03	3,94	3,86	3,80	3,70	3,62	3,51	3,43	3,34	3,26	3,21	3,14	3,11	3,06	3,02	3,00
15	4,54	3,68	.3,29	3,06	2,90	2,79	2,70	2,64	2,59	2,55	2,51	2,48	2,43	2,39	2,33	2,29	2,25	2,21	2,18	2,15	2,12	2,10	2,06	2,07
1 1	8,68	6.36	5,42	4,89	4,56	4,32	4,14	4,00	3,89	3,80	3,73	3,67	3,56	3,48	3,36 2,28	3,29	3,20	3,12 2,16	3,07 2,13	2,00	2,97	2,92 2,04	2,89	2,87
16	4,49 8,53	3,63 6,23	3,24	3,01 4,77	2,85 4,44	2,74 4,20	2,66 4,03	2,59 3,89	2,54 3,78	2,49 3,69	2,45 3,61	2,42 3,55	2,37 3,45	2,33 3,37	3,25	2,24 3,18	2,20 3,10	3,01	2,13	2,89	2,86	2,80	2,02	2,75
17	4,45	3,59	3,20	2,96	2,81	2,70	2,62	2,55	2,50	2,45	2,41	2,38	2,33	2,29	2,23	2,19	2,15	2,11	2,08	2,04	2,02	1,99	1,97	1,96
	8,40	6,11	:5,18	4,67	4,34	4,10	3,93	3,79	3,68	3,59	3,52	3,45	3,35	3,27	3,16	3,08	3,00	2,92	2,86	2,79	2,76	2,70	2,67	2,65
18	4,41	3,55	3,16	2,93	2,77	2,66	2,58	2,51	2,46	2,41	2,37	2,34	2,29	2,25	2,19	2,15	2,11	2,07	2,04	2,00	1,98	1,96	1,93	1,92 2,57
1	8,28	6,01	5,09	4,58	4,25	4,01	3,85	3,71	3,60	3,51	3,44	3,37	3,27	3,19	3,07 2,15	3,00 2,11	2,91 2,07	2,88	2,78	2,71 1,96	2,68 1,94	2,62 1,91	2,59 1,90	1,88
19	4,38 8,18	3,52 5,93	3,13	2,90 4,50	2,74 4,17	2,63 3,94	2,55 3,77	2,48 3,63	2,43 3,52	2,38 3,43	2,34 3,36	2,31 3,30	2,26 3,19	2,21 3,12	3,00	2,92	2,84	2,76	2,70	2,63	2,60	2,54	2,51	2,49
20	4,35	3,49	3,10	2.87	2,71	2,60	2,52	2,45	2,40	2,35	2,31	2,26	2,23	2,18	2,12	2,08	2,04	1,99	1,96	1,92	1,90	1,87	1,85	1.84
	8,10	5,85	4,94	4,48	4,10	3,87	3,71	3,56	3,45	3,37	3,30	3,23	3,13	3,05	2,94	2,86	2,77	2,69	2,63	2,56	2,53	2,47	2,44	2,42
21	4,32	3.47	3,07	2,84	2,68	2,57	2,49	2,42	2,37	2,32	2,28 3,24	2,25 3,17	2,20 3,07	2,15	2,09	2,05 2,80	2,00	1,96 2,63	1,93	1,89 2,51	1,87 2,47	1,84 2,42	1,82	1,81 2,36
1 1	8,02	5,78	4,87	4,37	4,04	3,81	3,65	3,51	3,40 2,35	3,31 2,30	2,26	2,23	2,18	2,13	2,07	2,03	1,98	1,93	1,91	1,87	1,84	1,81	1,80	1,78
22	4,30 7,94	3,44 5,72	4,82	2,82 4,31	2,66 3,99	2,55 3,76	2,47 3,59	2,40 3,45	3,35	3,26	3,18	3,12	3,02	2,94	2,83	2,75	2,67	2,58	2,53	2,46	2,42	2,37	2,33	2,34
23	4,28	3,42	3,03	2,80	2,64	2,53	2,45	2,38	2,32	2,28	2,24	2,20	2,14	2,10	2,04	2,00	1,96	1,91	1,88	1,84	1,82	1,79	1,77	1,76
1	7,88	5,66	4,76	4,26	3,94	3,71	3,54	3,41	3,30	3,21	3,14	3,07	2,97	2,89	2,78	2,70	2,62	2,53	2,48	2,41	2,37	2,32	2,28	1,73
24	4,26	3,40	4,72	2,78 4,22	2,62 3,90	2,51 3,67	2,43 3,50	2,36 3,36	2,30 3,25	2,26 3,17	2,22 3,09	2,18	2,13	2,09	2,02	1,98 2,66	1,94 2,58	1,89 2,49	1,86 2,44	1,82 2,36	1,80 2,33	1,76 2,27	1,74 2,23	2,21
25	7,82 4,24	5,61 3,38	2,99	2,76	2,60	2,49	2,41	2,34	2,28	2,24	2,20	2,16	2,11	2,06	2,00	1,96	1,92	1,87	1,84	1,80	1,77	1,74	1,72	1,71
1 - 1	7,77	5,57	4,68	4,18	3,86	B,63	3,46	3,32	3,21	3,13	3.05	2,99	2,89	2,81	2,70	2,62	2,54	2,45	2,40	2,32	2,29	2,23	2,19	2,17

26	4,22 7,72	3,37 5,53	2,89 4,64	2,74 4,14	2,59 3,82	2,47 3,59	2,39 3,42	2,32 3,29	2,27 3,17	2,22 3,09	2,18 3,02	2,15 2,96	2,10 2,86	2,05 2,77	1,99 2,66	1,95 2,58	1,90 2,50	1,85 2,41	1,82 2,36	1,78	1,76	1,72	1,70	1,69
27	4,21	3,35	2,96	2,73	2,57	2,46	2,37	2,30	2,25	2,20	2,16	2,13	2,08	2,03	1,97	1,93	1,88	1,84	1,80	2,28 1,76	2,25 1,74	2,19 1,71	2,15 1,68	2,13 1,67
28	7,68	5,49	4,60	4,11	3,79	3,56	3,39	3,26	3,14	3,06	2,98	2,93	2,83	2,74	2,63	2,55	2,47	2,38	2,33	2,25	2,21	2,16	2,12	2,10
28	4,20 7,64	3,34 5,45	4,57	2,71 4,07	2,56 3,76	2,44 3,53	2,36 3,36	2,29 3,23	2,24 3,11	2,19 3,03	2,15 2,95	2,12 2,90	2,06 2,80	2,02 2,71	1,96 2,60	1,91 2,52	1,87 2,44	1,81 2,35	1,78 2,30	1,75 2,22	1,72 2,18	1,69 2,13	1,67 2,09	1,65 2,06
29	4,18	3,33	2,93	2,70	2,54	2,43	2,35	2,28	2,22	2,18	2,14	2,10	2,05	2,00	1,94	1,90	1,85	1,80	1,77	1,73	1,71	1,68	1,65	1,64
30	7,60 4,17	5,52 3,32	4,54 2,92	4,04 2,69	3,73 2,53	3,50 2,42	3,33 2,34	3,20 2,27	3,08 2,21	3,00 2,16	2,92 2,12	2,87 2,09	2,77 2,04	2,68 1,99	2,57 1,93	2,49 1,89	2,41	2,32	2,27	2,19	2,15	2,10	2,06	2,03
	7,56	5,39	4,51	4,02	3,70	3,47	3,30	3,17	3,06	2,98	2,90	2,84	2,74	2,66	2,55	2,47	1,84 2,38	1,79 2,29	1,76 2,24	1,72 2,16	1,69 2,13	1,66 2,07	1,64 2,03	1,62 2,01
32	4,15 7,50	3,30 5,34	29,00 4,46	2,67 3,97	2,51 3,66	2,40 3,42	2,32 3,25	2,25 3,12	2,19 3,01	2,14 2,94	2,10	2,07 2,80	2,02	1,97	1,91	1,86	1,82	1,76	1,74	1,69	1,67	1,64	1,61	1,59
34	4,13	3,28	2,88	2,65	2,49	2,38	2,30	2,23	2,17	2,12	2,08	2,05	2,70	2,62 1,95	2,51 1,89	2,42 1,84	2,34 1,80	2,25 1,74	2,20 1,71	2,12 1,67	2,08 1,64	2,02 1,61	1,59	1,96
1	7,44	5,29	4,42	3,93	3,61	3,38	3,21	3,08	2,97	2,89	2,82	2,76	2,66	2,58	2,47	2,38	2,30	2,21	2,15	2,08	2,04	1,98	1,94	1,91
36	4,11 7,39	3,26 5,25	2,86 4,38	2,63 3,89	2,48 3,58	2,36 3,35	2,28 3,18	2,21 3,04	2,15 2,94	2,10 2,86	2,06 2,78	2,03 2,72	1,89 2,62	1,93 2,54	1,87 2,43	1,82 2,35	1,78 2,26	1,72 2,17	1,69 2,12	1,65 2,04	1,62 2,00	1,59 1,94	1,56 1,90	1,55 1,87
38	4,10	3,25	2,85	2,62	2,46	2,35	2,26	2,19	2,14	2,09	2,05	2,02	1,96	1,92	1,85	1,80	1,76	1.71	1,67	1,63	1,60	1,57	1,54	1,53
40	7,35 4,08	5,21 3,23	4,34 2,84	3,86 2,61	3,84 2,45	9,32 2,34	3,15 2,25	3,02 2,18	2,91 2,12	2,82 2,07	2,75 2,04	2,69	2,59 1,95	2,51 1,90	2,40 1,84	2,32 1,79	2,22 1,74	2,14 1,69	2,08 1,66	2,00 1,61	1,97	1,90	1,86	1,84
	7,31	5,18	4,31	3,83	3,51	3,29	3,12	2,99	2,88	2,80	2,73	2,66	2,56	2,49	2,37	2,29	2,20	2,11	2,05	1,97	1,94	1,88	1,84	1,81
42	4,07 7,27	3,22 5,15	4,29	2,59 3,80	2,44 3,49	2,32 3,26	2,24 3,10	2,17 2,96	2,11 2,86	2,06 2,77	2,02	1,99 2,64	1,94 2,54	1,89 2,46	1,82	1,78 2,26	1,73 2,17	1,68	1,64 2,02	1,60 1,94	1,57 1,91	1,54 1,85	1,51 1,80	1,49 1,78
44	4,06	3,21	2,82	2,58	2,43	2,31	2,23	2,16	2,10	2,05	2,01	1,98	1,92	1,88	1,81	1,76	2,17	1,66	1,63	1,58	1,56	1,52	1,50	1,48
46	7,24 4,05	5,12 3,20	2,81	3,78 2,57	3,46 2,42	3,24 2,30	3,07 2,22	2,94 2,14	2,84	2,75	2,68	2,62 1,97	2,52 1,91	2,44 1,87	2,32 1,80	2,24 1,75	1,72	2,06	2,00 1,62	1,92	1,88 1,54	1,82	1,78	1,75
1	7,21	5,10	4,24	3,76	3,44	3,22	3,05	2,92	2,82	2,73	2,66	2,60	2,50	2,42	2,32	2,22	2,15 1,71	1,65 2,04	1,98	1,57 1,90	1,86	1,51 1,80	1,48	1,46
48	4,04 7,19	3,19 5,08	4,22	2,56 3,74	2,41 3,42	2,30 3,20	2,21 3,04	2,14 2,90	2,08 2,80	2,03 2,71	1,99 2,64	1,96 2,58	1,90 2,48	1,86	1,79	1,74 2,20	2,13 1,70	1,64 2,02	1,61 1,96	1,56 1,88	1,53 1,84	1,50 1,78	1,47	1,45 1,70
50	4,03	3,18	2,79	2,56	2,40	2,29	2,20	2,13	2,07	2,02	1,98	1,95	1,90	1,85	1,78	1,74	1,70	1,63	1,60	1,55	1,52	1,78	1,73 1,46	1,44
1	7,17	5,06	4,20	3,72	3,44	3,18	3,02	2,88	2,78	2,70	2,62	2,56	2,46	2,39	2,26	2,13	2,10	2,00	1,94	1,86	1,82	1,76	1,71	1,68
55	4,02 7,12	3,17 5,01	4,16	2,54 3,65	2,38 3,37	2,27 3,15	2,18 2,98	2,11	2,05 2,75	2,00 2,66	1,97 2,59	1,93 2,53	1,88 2,43	1,83	1,76	1,72 2,15	1,67 2,00	1,61 1,96	1,58	1,52 1,82	1,50 1,78	1,46 1,71	1,43 1,66	1,41
60	4,00	3,15	:2,76	2,52	2,37	2,25	2,17	2,10	2,04	1,99	1,95	1,92	1,86	1,81	1,75	1,70	1,65	1,59	1,56	1,50	1,48	1,44	1,41	1,39
65	7,08 3,99	4,98 3,14	4,13 2,75	3,65 2,51	3,34 2,36	5,12 2,21	2,95 2,15	2,82	2,72	2,03 1,98	2,56 1,94	2,50 1,90	2,40 1,85	1,80	2,20 1,73	2,12 1,68	2,03 1,63	1,93 1,57	1,87 1,54	1,79 1,49	1,74 1,46	1,68	1,63	1,60
1	7,01	4,95	-4,10	3,62	3,31	3,09	2,93	2,79	2,70	2,61	2,54	2,47	2,37	2,30	2,18	2,09	2,00	1,90	1,84	1,76	1,71	1,64	1,60	1,37 1,56
70	3,98 7,01	3,13 4,92	4,08	2,50 3,60	2,35 3,29	2,32 3,07	2,14 2,91	2,07	2,01	1,97 2,59	1,93 2,51	1,89 2,45	1,84 2,35	1,79	1,72 2,15	1,67 2,07	1,62 1,98	1,56 1, <b>8</b> 8	1,53 1,82	1,47	1,45	1,40 1,63	1,37 1,56	1,35
80	3,96	3,11	2,72	2,48	2,33	2,21	2,12	2,05	1,99	1,95	1,91	1,88	1,82	1,77	1,70	1,65	1,60	1,54	1,51	1,45	1,42	1,38	1,35	1,32
100	6,96 3,94	4.88 3,09	2,70	3,58	3,25	3,04 2,19	2,87 2,10	2,74	2,64 1,97	2,55	2,48 1,88	2,44 1,85	2,32 1,79	2,24 1,75	2,11 1,68	2,03	1,94	1,84	1,78 1,48	1,70	1,65	1,57	1,52	1,49
100	6,90	4,82	3,98	2,46 3,51	2,30 3,20	2,19	2,10	2,69	2,59	1,92 2,51	2,43	2,36	2,26	2,19	2,06	1,63	1,57 1,89	1,51 1,79	1,73	1,42	1,39 1,59	1,34 1,51	1,30 1,46	1,43
125	3,92	3,07	2,68	2,44	2,29	2,17	2,08	2,01	1,95	1,90	1,86	1,83	1,77	1,72	1,65	1,60	1,55	1,49	1,45	1,39	1,36	1,31	1,27	1,25
150	6,84 3,91	4,78 3,06	3,94	3,47 2,43	3,17 2,27	2,95 2,16	2,79 2,07	2,65	2,56 1,94	2,17 1,89	2,40 1,85	2,33 1,82	2,23 1,76	2,15 1,71	2,03 1,64	1,94	1,85 1,54	1,75 1,47	1,68 1,44	1,59	1,54	1,46 1,29	1,40 1,25	1,37
	6,81	4,75	3,91	3,44	3,13	2,92	2,76	2,62	2,53	2,44	2,37	2,30	2,20	2,12	2,00	1,91	1,82	1,72	1,66	1,56	1,51	1,43	1,37	1,22
200	3,89 6,76	3,01 4,71	3,88	2,41 3,41	2,26 3,11	2,14	2,05 2,73	1,98 2,60	1,92 2,50	1,87 2,41	1,83 2,34	1,80 2,28	1,74 1,17	1,69 2,09	1,62	1,57	1,52 1,79	1,45 1,69	1,42 1,62	1,35	1,32 1,48	1,26 1,39	1,22	1,19
400	3,86	3,02	2,62	2,39	2,23	2,12	2,03	1,96	1,90	1,85	1,81	1,78	1,72	1,67	1,60	1,54	1.49	1,42	1,38	1,32	1,28	1,22	1,16	1,13
1000	6,70 3,85	4,66 3,00	3,83	3,36 2,38	3,06 2,22	2,85	2,69	2,55 1,95	2,16 1,89	2,37 1,81	2,29 1,80	2,23 1,76	2,12 1,70	2,04 1,65	1,92	1,84 1,53	1,74	1,64 1,41	1,57 1,36	1,47 1,30	1,42	1,32 1,19	1,24	1,19
1000	6,68	4,62	3,80	3,34	3,04	2,82	2,66	2,53	2,43	2,34	2,26	2,20	2,09	2,01	1,89	1,81	1,71	1,61	1,54	1,44	1,38	1,19	1,19	1,11
œ	3,84 6,64	2,99 4,60	2,60 3,78	2,37 3,32	2,21 3,02	2,09 2,80	2,01 2,64	1,94 2,51	1,88	1,83	1,79 2,24	1,75 2,18	1,69 2,07	1,64 1,99	1,57	1,52	1,46	1,40 1,59	1,35 1,52	1,28	1,24 1,36	1,17 1,25	1,11 1,12	1,00
	0,04	4,00	.3,70	3,34	3,02	2,00	2,04	4,31	2,71	4,34	4,27	4,19	2,07	1,77	1,07	1,79	1,09	1,39	1,32	1,41	1,30	1,23	1,12	1,00

Source: Sudjana. *Metoda Statistika*. Bandung: Tarsito, 2002

## APPENDIC K

# TABLE OF T DISTRIBUTION

v = dk (Bilangan Dalam Badan Daftar Menyatakan tp)

v	t <sub>0.995</sub>	t <sub>0.99</sub>	t <sub>0.975</sub>	t <sub>0.95</sub>	t <sub>0.90</sub>	t <sub>0.80</sub>	t <sub>075</sub>	t <sub>070</sub>	t <sub>0.60</sub>	t <sub>0.55</sub>
1	63,66	31,82	12,71	6,31	3,08	1,376	1,000	0,727	0,325	0,158
2	9,92	6,96	4,30	2,92	1,89	1,061	0,816	0,617	0,289	0,142
3	5,84	4,54	3,18	2,35	1,64	0,978	0,765	0,584	0,277	0,137
4	4,60	3,75	2,78	2,13	1,53	0,941	0,741	0,569	0,271	0,134
5	4,03	3,36	2,75	2,02	1,48	0,920	0,727	0,559	0,267	0,132
6	3,71	3,14	2,45	1,94	1,44	0,906	0,718	0,553	0,265	0,131
7	3,50	3,00	2,36	1,90	1,42	0,896	0,711	0,549	0,263	0,130
8	3,36	2,90	2,31	1,86	1,40	0,889	0,706	0,546	0,262	0,130
9	3,25	2,82	2,26	1,83	1,38	0,883	0,703	0,543	0,261	0,129
10	3,17	2,76	2,23	1,81	1,37	0,879	0,700	0,542	0,260	0,129
11	3,11	2,72	2,20	1,80	1,36	0,876	0,697	0,540	0,260	0,129
12	3,06	2,68	2,18	1,78	1,36	0,873	0,695	0,539	0,259	0,128
13	3,01	2,65	2,16	1,77	1,35	0,870	0,694	0,538	0,259	0,128
14	2,98	2,62	2,14	1,76	1,34	0,868	0,692	0,537	0,258	0,128
15	2,95	2,60	2,13	1,75	1,34	0,866	0,691	0,536	0,258	0,128
16	2,92	2,58	2,12	1,75	1,34	0,865	0,690	0,535	0,258	0,128
17	2,90	2,57	2,11	1,74	1,33	0,863	0,689	0,534	0,257	0,128
18	2,88	2,55	2,10	1,73	1,33	0,862	0,688	0,534	0,257	0,127
19	2,86	2,54	2,09	1,73	1,33	0,861	0,688	0,533	0,257	0,127
20	2,84	2,53	2,09	1,72	1,32	0,860	0,687	0,533	0,257	0,127
21	2,83	2,52	2,08	1,72	1,32	0,859	0,686	0,532	0,257	0,127
22	2,82	2,51	2,07	1,72	1,32	0,858	0,686	0,532	0,256	0,127
23	2,81	2,50	2,07	1,71	1,32	0,858	0,685	0,532	0,256	0,127
24	2,80	2,49	2,06	1,71	1,32	0,857	0,685	0,531	0,256	0,127
25	2,79	2,48	2,06	1,71	1,32	0,856	0,684	0,531	0,256	0,127
26	2,78	2,48	2,06	1,71	1,32	0,856	0,684	0,531	0,256	0,127
27	2,77	2,47	2,05	1,70	1,31	0,855	0,684	0,531	0,256	0,127
28	2,76	2,47	2,05	1,70	1,31	0,855	0,683	0,530	0,256	0,127
29	2,76	2,46	2,04	1,70	1,31	0,854	0,683	0,530	0,256	0,127
30	2,75	2,46	2,04	1,70	1,31	0,854	0,683	0,530	0,256	0,127
40	2,70	2,42	2,02	1,68	1,30	0,851	0,681	0,529	0,255	0,126
60	2,66	2,39	2,00	1,67	1,30	0,848	0,679	0,527	0,254	0,126
120	2,62	2,36	1,98	1,66	1,29	0,845	0,677	0,526	0,254	0,126
oo l	2,58	2,33	1,96	1.645		0,842	0,674	0,524	0,253	0,126

Source: Sudjana. Metoda Statistika. Bandung: Tarsito, 2002

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