THE DIFFRENCE OF LEVEL OF MATHEMATICAL REASONING OF STUDENTS BASED ON THEIR FORMER EDUCATIONAL BACKGROUND
(Research at MAN Cirebon 1)

THESIS

Submitted to the Mathematics Education of tarbiyah Faculty of Syekh Nurjati State Institute for Islamic Studies (IAIN) Cirebon in Partial Fulfillment of the Requirement for Islamic Scholars in Mathematics Education

SYAEFUL ANWAR
Reg. Number. 59451000

MATHEMATICS DEPARTMENT OF TARBIYAH FACULTY
THE STATE INSTITUTE FOR ISLAMIC STUDIES
SYEKH NURJATI CIREBON
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ABSTRACT

SYAEFUL ANWAR. Reg.Number.59451000. **THE LEVEL OF MATHEMATICAL REASONING OF STUDENTS BASED ON THEIR FORMER EDUCATIONAL BACKGROUND.** Thesis. Cirebon: Tarbiyah Faculty, Mathematics Tadris, The State Institute for Islamic Studies Syekh Nurjati Cirebon, July 2013.

Educational institutions in Indonesia is divided into two kinds namely the institution that is in the shade of the religious affairs ministry ministry and the culture and education ministry. With this difference, it impacts on curriculum and educators. In MAN Cirebon 1 researcher founded that there are student with educational background in MTs, have higher mathematical reasoning than student from SMP.

This study aims at describing the students 'mathematical reasoning level educational background in junior high school, and the level of students' mathematical reasoning of MTs educational background. In other words, this study aims at test the hypothesis that there is a difference between the level of students 'mathematical reasoning background of SMP and students' educational background of MTs.

The reasoning is a thinking process or activity to draw a conclusion or thought processes in order to make a new statement that was based on a statement whose truth has been proven or assumed previously. Two kinds of educational institusion in Indonesia is impacts on curriculum and educators, also in facilities. So, educational background quite an impact in mathematical reasoning

This research is a case study with quantitative approach. Population in this research that students of class X in Cirebon MAN 1 in the academic year 2012/2013. With total amount 469 students. Samples were taken by using cluster random sampling technique and taken 30 students educational background from MTs and 30 from SMP.

And the result is, the average of mathematical reasoning students with Educational background from SMP is 64.73 and for students from MTs is 63.53. With each variance is 89.016 and 108.271. so, H_0 accepted and H_a is rejected.
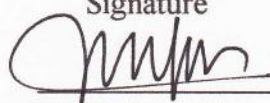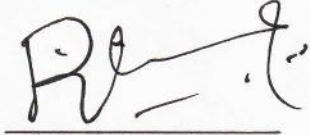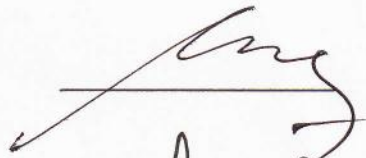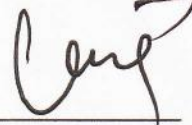
Key words: mathematical reasoning, bacground of student's educational, the level of mathematical reasoning, students' educational background.

RATIFICATION

The thesis entitled **The Difference of Level of Mathematical Reasoning of Students based on Their Former Educational Background** by Syaeful Anwar, Register Number 59451000 has been examined in the viva voce held by the Tarbiyah Faculty of The State Institute for Islamic Studies (IAIN) Syekh Nurjati Cirebon on Wednesday, August 21, 2013. The thesis was submitted to fulfill the Partial of Requirement for Islamic Scholar in Mathematics Education.

Cirebon, August 2013

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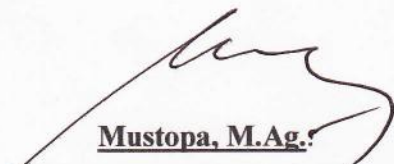
THE DIFFERENCE OF LEVEL OF MATHEMATICAL REASONING OF STUDENTS BASED ON THEIR FORMER EDUCATIONAL BACKGROUND

SYAEFUL ANWAR
Reg. Number. 59451000

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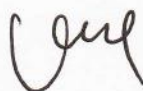
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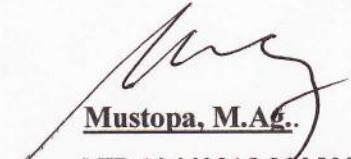
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in

Cirebon

Assalamu'alaikum wr., wb.

After guiding, analyzing, briefing, and correcting the writing of Syaeful Anwar's thesis with the student's registration number is 59451000 entitled "**The Difference of Level of Mathematical Reasoning of Students based on Their Former Educational Background**" we are of the same opinion that his thesis can be offered to be presented and examined to the Tarbiyah Faculty of IAIN Syekh Nurjati Cirebon.
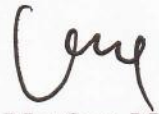
Wassalamu'alaikum wr. wb.

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LETTER OF AUTHENTICITY

Bismillaahirrahmaanirrahiim

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states that:

1. this thesis is truly work of the writer that proposed to fulfill one of requirement to get Bachelor's Degree in Education (S-1) in The State Institute for Islamic Studies Syekh Nurjati Cirebon;

2. all of sources are used in writing this thesis have been inserted by using scientific methods of writing; and

3. if oneday is proven that this thesis either part or all of the contents are plagiarism work, the writer is ready of getting sanction that be valid in The State Institute for Islamic Studies Syekh Nurjati Cirebon.

Cirebon, August 2013

METERAI
TEMPEL
08A98ABF793782841
ENAM RIBU RUPIAH
6000 DJP

Syaeful Anwar

MOTO

" Where I am Fall in, In that Place I'll Raise Up"

DEDICATION

بِـــسْـمِ الله الـرَّحْـمَـنِ الـرَّحِـيْم

Alhamdulillahi Rabbil 'Alamiin

In the name of Allah, the Most Gracious and Merciful. All
praises and thanks be to Allah because of His blessing to me
until this time

I can keep istiqomah in my adventure in Your way ya Allah.

Finally my time to share my passion to my qoum insya Allah
was arrive, qoum of Rosulullah Muhammad SAW.

Then Always keep my faith, Islam, and Ihsan ya Allah.

This thesis is dedicated to all of my lovely peoples.

Especially for my parents (Abdul Kholik and Sri Atun)
Who Always support my way.

And to my brothers and my sisters, i hope you can prepare
because it is just begin. Be better than me.

To All of my big family who always in my side.

Then to my lovely all of my friends, especially for
Mathematics-A'09

Ganbatte

Thanks

BIOGRAPHY

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PREFACE

In the name of Allah, the Most Gracious and Merciful. All praises and thanks be to Allah because of His blessing the writer was able to finish this thesis. May invocation and peace always be with Prophet Muhammad Peace be Upon Him, his family, colleageus, and followers up to the end of the world. Making of the thesis entitledis **The Difference of Level of Mathematical Reasoning of Students based on Their Former Educational Background** was companied by challenges that gave satisfaction for the writer.

The writer says thanks to:

1. Prof. Dr. H. Maksum Mukhtar, M.A., Rektor of The State Institute for Islamic Studies Syekh Nurjati Cirebon
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4. Reza Oktiana Akbar, M.Pd., Secretary of Mathematics Department of The State Institute for Islamic Studies Syekh Nurjati Cirebon.
5. Mustopa, M.Ag., as the Supervisor I
6. Budi Manfaat, M.Si., Supervisor II
7. Students of mathematics department of The State Institute for Islamic Studies Syekh Nurjati Cirebon,
8. Kumaedi M,Pd. as Chief of MAN Cirebon 1
9. Drs. Rojin Muna.M,Pd. as chief curicullum department of MAN Cirebon 1
10. Tuyono S,pd. as mathematical teacher of MAN Cirebon 1.
11. All teachers in MAN Cirebon 1
12. All Staff in MAN Cirebon 1
13. All students at MAN Cirebon 1, especially for class X_5 and X_6.
14. Special thanks to my parents and family for support and pray.
15. All of my friend who support me.

I think my thesis isn't perfect, there are alot of weakness in my thesis. I hope your critics and sugestions to improve my thesis. Finally, May this thesis is useful for Stakeholder of education, especially for the writer and mathematics education.

Cirebon, August 2013

The Writer,

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CHAPTER I
INTRODUCTION

A. Background of Problem

Education is a crucial thing which can not be separated from the human as social beings, this is make a differences between human and other creatures. Human has a reasoning and mind to be used for the benefit of a lot of human in the world and in order that people has been choosen as leader in the world. To increase more degree of human, people have to learn. Then all of people especially for muslim people have to take a education start from he was born, until he died.

The definition of education according to the Law of the Republic of Indonesia No.20 of 2003 is:

> ... *Educationis a conscious and deliberate effort to create an atmosphere of learning and the learning process so that students can be actively and develop his potential with religious spiritual strength, self-control, personality, intelligence, noble character, and skills which needed by him, society, nation and religion*[1].

In other side, according to Indonesian dictionary a good education is a process to educate students so that it can be useful to the nation. Education is also a process of changing attitudes and code of conduct a person / group of people in a mature business people through teaching and training efforts [2]. So, education is the most important thing that should not be separated from the list of human needs.

How important education is to make us as acandidate of teacher in the future have to improve our skill and to enrich the quality of the strategies, models, innovations and methods to resolve the issue that exists in the world of education, especially in this case researchers focusing in

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[1] Departemen Pendidikan Nasional. 2003. *Undang-Undang Republik Didonesia Nomor 20 Tahun 2003*. Jakarta: Balai Pustaka, p. 6

[2] Arranged dictionary team. 1996. *Kamus Besar Bahasa Didonesia*. Jakarta: Balai Pustaka, part of pieces "P" that educational

mathematics studies. We know that mathematics is what a scary subject according by most students, is the highest difficulty level compared with other lesson in classes[3].

Mathematics with all of his problem, have a huge of benefit. Even what a huge of the influence of mathematics on other subjects in school, make math is very important to be learned and understood at every level of education either elementary, middle or high school. And basically mathematics is also included in the national exams (UN), which makes one of the graduation requirements for students[4], therefore learning of mathematics material should be completely mastered by the students. In other side, mathematics also has relations with other subjects in the school, certaintly also Indonesian language's subjects which discuss about the logic and make a good conclussions, and indirectly also in our life math is always used for example in determining the broad, high and length of a building, counting and so on. It is why we have to learn mathematics.

According to Sumarmo[5], There are two visions of learning mathematics, namely: (1) directing the learning of mathematics for understanding concepts are then required to resolve the problem and the other sciences, and (2) to direct into a future that is wider mathematical provide problem-solving abilities, systematic, critical, meticulous, are objective and open. The capability is needed in the face of an ever-changing future.

Seeing the reality of education in Indonesia according to the researcher's own view, the indonesian's world education is very alarming. There are still a lot of number which do not fit the standards set by the government, even the unconscious figure of education was relatively large number, because of these become common if there are Indonesian

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[3] Result of interview with student class X MAN Cirebon 1 at MAN Cirebon 1 on 09.45 WIB
[4] http://id.wikipedia.org/wiki/Ujian_Nasional downloaded at 20 juni 2013 on 13:46 WIB
[5] Asmar Bani. 2011. *Mendigkatkan kemampuan penalaran matematika siswa sekolah menengah pertama melalui pembelajaran pertemuan terbimbdig.* Bandung: SPS UPI. at http://10310242.blogspot.com/2011/10/menigkatkan-kemampuan-pemahaman-dan.html# downloaded at 23 june 2013 on 17:54 WIB

population is illiterate and weak in math. A lot of problems of education include curriculum issues, and basiccally Indonesia is still developing countries will continue to look for the most suitable curriculum implemented in Indonesia. This of course affects the state of education in Indonesia.

Reinforcing problem when there are discrimination between educational scholars of the religious affairs ministry and Educational scholars from the Ministry of Culture and education. We can not pretend to turn a blind eye to this phenomenon. Often we are shocked by the news of rejection PTAIN graduates to participate in the test of CPNS[6]. Of course this is very troubling, especially for graduates PTAIN. As if the letter 'I' in the title graduate PTAIN S.Pd.I a curse for this PTAIN graduates, whereas the letter 'I' which means that Islam should be the pride of the Muslims in the world.

The same thing also happened in the world of education curriculum in Indonesia, differences of substance between schools under the auspices of the Ministry of Religious Affairs under the auspices of the Ministry of culture and education. This is evident from the study by Izna Maratus Sholikhah[7] tell that KTSP's curriculum that is in SMP and MTS which he compared that no significant differences in the respective syllabus. That is because the syllabus has the same reference MTS also the status of State so he took the subtle differences in practice by a material emphasis each English teacher and student guide books used at each school.

In the reality of education in Indonesia between the school who sheltered in the school Ministry's Religion and auspices of the Ministry of Culture and Education is have difference. If the note curriculum applied in

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[6] Result of interview with mr. Kumaedi M.Pd. Chief Madrasah Aliyah Cirebon (MAN Cirebon)1 at MAN Cirebon 1 at 2 may 2013 on 11:45 WIB

[7] Izna. M. S.Studi Komparasi Kurikulum Smp Dan MTs. Ponorogo : STADI Ponorogo. At http://iznanew.blogspot.com/2009/03/studi-komparasi-kurikulum-smp-dan-mts.html downloadeds at 04-11-12 on19:45 WIB

different junior secondary schools, seen from the preparation of each school syllabus as an example syllabus attached.

Of the curriculum syllabus appears that for MTs provide loads more lessons because faith-based, compared to SMP curriculum that gives a little more about the science of religion. Then came new problems, whether these differences affect curriculum mathematics achievement of students. While the achievement is not only supported from the IQ of the students but also EQ and owned ESQ students determine the success of a student, certainly in this case MTs is undoubtedly more superior than SMP[8]. And because it is rooted in the mathematics achievement of students reasoning, the writer is interested to analyze the level of students' mathematical reasoning based on educational background. Other fields of other locusts, another down another fish, another another school curriculum as well, due to differences in curriculum and whether this impacts on different levels of' mathematical reasoning"s student.

In MAN Cirebon 1, based on observation in PPL II, there are student with has background of education from MTs have higher mathematical reasoning than student with backgroun of educational in SMP. So, there are a contradiction wich a goverment stats that education based on culture and education ministry is better than education based on religious ministry.

In addition educators in MTs are not only recruited from graduates PTAIN but also of PTN, whereas only a junior educators recruited from graduates of state universities[9]. It is like a double-edged sword, ie, MTs have the advantage of having a more diverse teacher because of the ability of the teachers could come from all universities, on the other hand is a graduate of the Ministry of Religious Affairs who should have more power even underestimated by the government as if there is a gap between the

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[8] Aldi Mustaqim. 2012. PENERAPAN *METODE GALLERY WALK* DAN *SMALL GROUP DISCUSSION DALAM MATA PELAJARAN AL-QUR'AN HADITS DI MADRASAH ALIYAH NEGERI (MAN/MA)*. Batu Sangkar : STADI Batu Sangkar. di http://syafrisalmi.wordpress.com/ downloaded on 31 june 2013 on 12:34 WIB

[9] Op. Cit. Kumaedi.

Departmen of Religion and the Ministry of Education, which graduates can enter the Departmen PTN whereas religion is not to the contrary.

Based on the above, the authors wanted to examine further the extent to which differences in educational background affects the level of students' mathematical reasoning. Therefore the authors are interested to research the level of mathematical reasoning of student based on their former educational background.

B. Identification of Problems

Based on the problems mentioned above, we can identify the problem as follows:

1. Figures aware that education is still low in Indonesia
2. Math is scarry subject for most students
3. The average mathematical ability in Indonesia is still weak
4. Indonesia is likely to change curriculum-fox.
5. Curriculum between MTs and SMPis different
6. In MTs load more lessons than SMP
7. Educators between SMP and MTs has different educational background
8. Number of hours of religious instruction in MTs far more than the SMP
9. There is a gap between the Ministry of Religious Affairs and the Ministry of Education in Indonesia
10. Graduates from PTN acceptable not only in the Ministry of Education but also the Ministry of Religious Affairs, while for graduates of the Ministry PTAIN only accepted religion.

C. Limitations of problems

Due to lack of expertise, time and effort, the authors provide limitations in this study. To avoid misunderstanding fahaman breadth and the problem to be studied, the authors provide restrictions on the problem include:

1. Educational background of students referred to in this study were grouped into two, namely of MTs and SMP. Mathematical reasoning here is the ability to think deductively and inductively

2. The material tested was a matter of MTs and junior class 1 (one) to Class 3 (two) taken at random as needed. Research conducted on the class X MAN Cirebon 1 Academic Year 2012/2013.

D. Problem Formulation

From the descriptions above can be formulated several problems to be studied, among others:

1. How is Mathematical Reasoning level students?
2. Is there the differencce of level of student's mathematical reasoning between student who have educational background in SMP and MTs?

E. Research Objectives

In general, this research aims to determine the extent to which factors affect the educational background of students' mathematical reasoning level. While this research specifically conducted to determine:

1. To measure the level of students' Mathematical reasoning that MTs educational background;
2. To measure the level of reasoning that students Mathematics background junior high school education;
3. To measure the diferences between Mathematical reasoning for student educational which have bacgroun of educational SMP and MTs.

F. Use of Research

In this study there are several uses / benefits include:

1. For Students

    a. Provide information regarding the extent to which the educational background influence the level Reasoning Math students.

    b. Raise awareness of the importance of reasoning in learning mathematics.

    c. Provide new experiences on mathematical reasoning. Improve Math students through reasoning and discussion about the test.

2. For Teachers

    a. Provide information regarding the extent to which the educational background affect Mathematical Reasoning level students

    b. in order to be used as guidelines in the face of different students educational background.

    c. Provide an alternative way of teachers in identifying students' level of reasoning.

    d. Can be used as a reference material for consideration to undertake class action effort. For the world of education in Indonesia

    e. Provide information regarding the extent to which the educational background influence the level Reasoning Math students.

    f. Can be used as a reference material for consideration in developing the curriculum in Indonesia.

3. For Researchers

    a. Can increase knowledge and can find out information about the extent to which the educational background affect students' level Mathematics Reasoning.

b. Get a figure of the reality of education in Indonesia. As research material to be submitted as a thesis assignment.

CHAPTER II
THEORETICAL FRAMEWORK

A. Theoretical Description

1. Mathematical Reasoning

Reasoning by Cleanth and Robert Penn Warren in his work entitled Modem Rhetoric as cited by Effendi OU in Maemunah thesis[10], that reasoning is Process by roomates the mind moves from certain the data (evidence) to a conclusion. In other words, the reasoning is essentially the process of nets mind of a data or facts to conclusion.

While the reasoning according to Copi[11] "Reasoning is a special kind of thinking in roomates inference take place, in roomates ar Conclusions drawn from premises". In other words, reasoning is an activity, process, or activity thought to draw a conclusion or make a new statement is true based on statements that were correct have been proven or assumed previously.

According Keraft[12] reasoning is a process of thinking that seeks connection between the facts or evidences are known towards a conclusion. Reasoning requires logic foundation that is not a process of remembering, memorizing, or delusional but is a series of processes before looking for other information.

Reasoning ability make students able to solve problems in their life, inside and outside of school. Whenever we use reasoning to evaluate our thinking, then we increase the confidence with mathematics and thinking mathematically.

So it can be concluded that the reasoning is one of the basic mathematical competencies in addition to understanding, communication,

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[10]Maemunah. 2012. *Pengaruh kemampuan penalaran matematika terhadap kemampuan komunikasi matematika siswa.* Thesis is not published. Cirebon : IAIN Syekh Nurjati Cirebon.
[11]F shadiq. 2007.*Penalaran atau reasondig : Mengapa perlu dipelajari siswa di sekolah.* at http://fadjarp3g.files.wordpress.com/2007/09/ok-penalaran_gerbang_pdf. downloaded at 02 february 2013 on 13:43 WIB
[12] ibid

connections, and problem solving. Reasoning is also a mental process in developing the minds of some of the facts and principles. Reasoning is also a thinking process or activity to draw a conclusion or thought processes in order to make a new statement that was based on a statement whose truth has been proven or assumed previously.

Mostly there are two types of reasoning, divide as[13]:
a. Deductive Reasoning

A thinking process to draw conclusions about specific things that rests on the general or it has previously been shown were correct. Deductive argument can be used to obtain a valid conclusion. On the use of deductive reasoning consistency and consistency logic mind.

b. Inductive reasoning

A thinking process to draw general conclusions about which is based on the particulars. Inductive argument used to derive robust conclusions. On inductive reasoning, of the truth of a particular case can be summed up the truth for all cases.

According Sumarmo in Totoni[14], reasoning can be classified into two types, divide as inductive reasoning and deductive reasoning. Inductive reasoning can be interpreted as the conclusion of a general nature or specifically based on the observed data. Truth value of an inductive argument can be either true or false. Its activities include:

a. Transduktive:

Draw conclusions from a single case or a specific nature that is applied to other special cases.

b. Analogy:

Drawing conclusions based on the similarity of data or processes.

c. Generalization:

Drawing general conclusions based on a number of data observed.

d. Estimating answers, solutions, or the tendency

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[13]Lehmann, S. 2001. A Quick Ditroduction to Logic. At http://www.ucc.ucon.edu/wwwphil /logic.pdf downloaded at 17 juni 2013 on17.32 WIB

[14]Totononi ,Muhammmad. 2012. *Perbandingan Kemampuan Penalaran Matematika pada Penggunaaan Metode Dikuiri dengan Metode Ekspositori dalam pembelajaran Matematika.*thesis not published. Cirebon : IADI Syekh Nurjati Cirebon

e. Give an explanation to the model, the facts, nature, relationships, or patterns that exist

f. Using the pattern of relations to analyze the situation and formulate a conjecture

Then, deductive reasoning is drawing conclusions based on agreed rules. The truth value of deductive reasoning is absolutely true or false and not both together. Some of the activities belonging to the deductive reasoning are:

a. Carry out calculations based on certain rules or formulas.

b. Draw logical conclusions based on inference rules, check the validity of the argument, prove, and make the argument valid.

c. Arrange direct proof, indirect proof and proof by mathematical induction.

About the students' report card indicators outlined in reasoning ability, if students are able to[15]:

a. Have prediction

b. Perform mathematical manipulations

c. Compile evidence, giving reasons or evidence for the truth of the solution

d. Draw conclusions from the statement

e. Check the validity of the statement

f. Discovering patterns or mathematical nature of symptoms to make generalizations.

As mentioned previously, reasoning in mathematics is difficult to separate from the rules of logic that mean inductive thinking[16], abot skill of mathematical reasoning indicator according Sumarmo[17], indicators that include the mathematical reasoning ability, namely:

a. Make analogies and generalizations,

b. Provide explanations using models,

c. Use patterns and relationships to analyze mathematical situations,

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[15] Law of Dirjen Dikdasmen Depdiknas Number 506/C/Kep/PP/2004 on 11 Nopember 2004

[16] http://10310242.blogspot.com/2011/10/mendigkatkan-kemampuan-pemahaman-dan.html downloaded at 01-11-12 on10:37 WIB

[17] ibid

d. Formulate and test conjectures,

e. Check the validity of arguments,

f. Formulate direct evidence,

g. Formulate indirect evidence,

h. Provide examples of denial, and

i. Follow the rules of inference.

Mathematical reasoning is needed to determine whether a mathematical argument is right or wrong and also used to construct a mathematical argument. Mathematical reasoning is not only important to prove (proof) or inspection program (program verification), but also to perform inference in a system of artificial intelligence (artificial intelligence / AI) [18].

There are several terms that will be used in mathematical reasoning is often used and are familiar in mathematical reasoning that evidence, inference, theorem, lemma, corollary and conjecture (conjecture). Mentioned in the previous explanation of the rules of inference.

The inference rules or the rules of inference are:

a. Ponen mode (law of detachment)

Written or denoted as follows:

$q \rightarrow p$

p

$q \therefore$

Symbol "$\therefore$" read "so". Ponents states : if the hypothesis p and implication $p \rightarrow q$ is true, the conclusion q is true, Example:

"if 16 runs in the second, then 16 is an even number"

If the write inference, then:

if 16 runs in the second, then 16 is an even number 16 runs in $\therefore$ the second 16 is an even number

---

b. Tollen mode

Written by:

q→p

~ Q

~ p∴

Tollen mode states: if the hypothesis ~ q and p → q is true, so the conclusion ~ p is true. Example: "if n is an odd number, then the value n^2 odd"

If the write inference, then:

   if n is an odd number, then n^2 odd value

   n^2 is worth even

   ∴n is not an odd number

c. Syllogism Hypothesis

Denoted by:

q→p

r→q

∴ r→ p

This syllogism states : if the hypothesis q → r and p → q is true, then the conclusion p → r is true. For example: "If I study hard, then I will pass the exam" and "If I pass the exam, then I bought a new bag"

If the write inference, then:

   If I study hard, then I will pass the exam

   if I pass the exam, then I bought a new bag

   ∴ if I study hard, then I bought a new bag.

d. Disjunctive syllogism

Denoted by:

q∨p

~ P

∴q

Disjunctive syllogism states: if the hypothesis ~ p and p ô q is true, then the conclusion q is true. For example: "I study hard or I bought a new bag"

If the write inference, then:

I study hard or I get married next year

I did not study hard

∴I'm getting married next year

e. Simplification

Denoted by:

q∧p

∴ p

Simplification mode states: if p and q hypothesis, whereas p is the conclusion. Example: "Agus was IAIN students and students majoring in Mathematics"

If the write inference, then:

Agus is IAIN students and students of Mathematics

∴ Agus is a student of IAIN

f. Addition

Denoted by:

p

q∨ p ∴

Summing example "slamet take discrete mathematics course"

If the write inference, then:

Slamet take discrete mathematics course

Slamet take math courses or repeat courses algorithm diskirt ∴

g. Conjunction

Denoted by:

P

Q

q∧ p ∴

Example: "Dewi take discrete mathematics course" and "Dewi repeat study applied mathematics"

If the write inference, then:

Dewi take discrete mathematics course

repeat courses of applied mathematics

∴Dewi take discrete mathematics course and repeat courses of applied mathematics

2. Educational Background

As mentioned in previous chapters, educational background is in the present study is the Junior Secondary which has a different curriculum can be viewed in terms of the syllabus for each of them.

As according to the results of research that Izna Maratus Sholikhah[19] At SBC curriculum that is in SMP and MTS which he compared that no significant differences in the respective syllabus. That is because the syllabus has the same reference MTS also the status of State so he took the subtle differences in practice by a material emphasis each English teacher and student guide books used at each school.

Althogh in the difference of amount of time in learning mathematics in both of institution is limit to zero, but in other subject there are huge difference. It is caused by in MTs students have to learn about religious aspect, of course it is hard working for student. But in other side, in SMP the amount of time of learning about religious is less than in MTs.

To make it easier in describing, Structure can be seen from the following syllabus:

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[19]Op. Cit . izna p.23

Table 2.1
Syllabus MTs. [20]
Class components and Time Allocation

Komponen	Kelas dan Alokasi Waktu		
	VII	VIII	IX
A. Mata Pelajaran			
1. Al-Qur'an Hadis	2	2	2
1. Aqidah Ahlaq	2	2	2
1. Fiqih	2	2	2
1. Sejarah Kebudayaan Islam	2	2	2
5. Pendidikan Kewarganegaraan	2	2	2
6. Bahasa Indonesia	4	4	4
7. Bahasa Arab	2	2	2
9. Bahasa Inggris	4	4	4
10. Matematika	4	4	4
11. Ilmu Pengetahuan Alam	4	4	4
12. Ilmu Pengetahuan Sosial	4	4	4
13. Seni Budaya	2	2	2
14. Pendidikan Jasmani, Olahraga dan Kesehatan	2	2	2
15. Keterampilan/Teknologi Informasi dan Komunikasi	2	2	2
B. Muatan Lokal	1	1	2
1. Bahasa Daerah	1	2	1
2. Muhadoroh	2	1	1
3. Baca Tulis Qur'an			
4. Bimbingan Sholat			
5. Ta'alimul Muta'alim			

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[20]   http://sabiqal.wordpress.com/2012/03/27/struktur-kurikulum-mts/   downloaded   at   03-11-12 on17:13 WIB

1. Pengembangan Diri	2*)	2*)	2*)
Total	42	42	42

Table 2.2.
SMP syllabus[21].

Komponen	Kelas dan Alokasi Waktu		
	VII	VIII	IX
Mata Pelajaran Pendidikan Agama	2	2	2
Pendidikan Kewarganegaraan	2	2	2
Bahasa Indonesia	4	4	4
Bahasa Inggris	4	4	4
Matematika	4	4	4
Ilmu Pengetahuan Alam	4	4	4
Ilmu Pengetahuan Sosial	4	4	4
Seni Budaya	2	2	2
Pendidikan Jasmani, Olahraga dan Kesehatan	2	2	2
Keterampilan/Teknologi Informasi dan Komunikasi	2	2	2
Muatan Lokal	2	2	2
Pengembangan Diri	2*)	2*)	2*)
Total	32	32	32

From the above two tables it can be seen that the allocation of time to teaching mathematics in junior secondary schools differ, in junior time allotted more than in MTs.

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[21] http://www.sarjanaku.com/2011/01/struktur-kurikulum-smpmts.html Downloaded at 03-11-12 on17:122 WIB

B. Overview of Relevant Research Results

Research relevant to the study conducted by researchers are:

1. Comparison of Mathematical Reasoning Ability in use Ikuiri and Expository Methods in Learning Mathematics, by Shaykh Muhammad Totoni Students IAIN Nurjati Cirebon Ministry of Mathematics force Tadris 2012, prepared for the graduation requirement S1. The results of the use of methods of inquiry stated penelitianya better than using Expository method in developing students' mathematical reasoning[22].

2. The results under the title Mathematics Learning Method Using Improv To Improve Student Mathematical Reasoning Ability SMP. By Darmawan Sutarji academic year 2009 is used for the thesis, Ministry of Mathematics Education FPMIPA Indonesia University of Education (UPI). Hasi study suggested an increase in the students' reasoning Improve methods, mathematical reasoning skills students gain in the index data quality improvement data is categorized as 85% moderate and high 15%[23].

3. Mathematical Reasoning ability eighth grade students of SMP Negeri 3 Banguntapan In Mathematics Learning Through Realistic Mathematics Education Approach Indonesia (PMRI), by Widayanti Nurma on in 2010, which is used for the thesis Ministry of Mathematics Education, Faculty of Mathematics and Natural Sciences, University of Yogyakarta country. Results of his research is applied learning school mathematics using PMRI approach increased students' mathematical reasoning ability class VIII-A SMP Negri 3 Banguntapan[24].

[22] Totoni Muhammad. 2012. *Perbandingan Kemampuan Penalaran Matematika pada Penggunaan Metode Ikuiri dan Ekspositori dalam Pembelajaran Matematika.* Thesis not published Cirebon : IAIN Syekh Nurjati Cirebon .

[23] Darmawan Sutarji . 2009. *Pembelajaran Matematika Dengan Menggunakan Metode Improve Untuk Mendigkatkan Kemampuan Penalaran Matematika Siswa SMP.*thesis not published. Bandung : FPMIPA Universitas pendidikan Didonesia (UPI).

[24] Widayanti Nurma.2010. *Kemampuan Penalaran Matematis Siswa kelas VIII SMP Negeri 3 Banguntapan Dalam Pembelajaran Matematika Melalui Pendekatan Pendidikan Matematika Realistic Didonesia (PMRI).*thesis not published. Yogyakarta: Fakultas matematika dan Ilmu Pengetahuan Alam Universitas Negri Yogyakarta(FMIPA UNY)

By the three studies above have in common with the research examined by the author. But from their full no exact studies examined by the authors examine "Mathematical reasoning" with relation to "the educational background of students in the previous level". Therefore research " The Level of Mathematical Reasoning of Students based on Background of Student's Educational Before " worth doing because it is not a duplication or plagiasi of existing research before.

C. Framework of Thinking

Mathematics is a science that must be possessed by every human being, because in living life on earth can not be separated from the calculations and operations Mathematics. Since it started when we wake up until we go back to sleep is always the name of mathematics stuck in our activities. Even in our relegious activities to God we were not always able to regardless of Mathematical calculations, everything is has a calculation. Math is what makes it very important to learn. However, most students considered mathematics is the most difficult subject matter, so many are reluctant to enter the world of mathematics. Absolute mathematical fact must be mastered by the students, especially math is one of the materials tested on the national exams that determine student graduation.

To master the math necessary to train mathematical reasoning ability, therefore the author will review a little more about this mathematical reasoning ability. As has been reviewed in the previous chapter that the world of education in Indonesia is divided into two camps, the camp of the Ministry of Religion and from the Ministry of Education who gave birth to two different curricula. From two different curricula logic will generate two different beings.

So, the authors wanted to analyze the level of student reasoning based on educational background. Departing from previous studies by measuring Izna that Sholikhah Maratus[25] At SBC curriculum that is in SMP and MTS which he

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[25] Op. Cit. Izna hlm. 23

compared that no significant differences in the respective syllabus. That is because the syllabus has the same reference MTS also the status of State so he took the subtle differences in practice by a material emphasis each English teacher and student guide books used at each school. From here the authors draw a hypothesis that the effect of educational background on students' level of mathematical reasoning. As for the scheme I use is as follows:

```
┌─────────────────────┐          ┌─────────────────────┐
│  Religious affairs   │          │     Culture and      │
│      ministry        │          │  education ministry  │
└─────────┬───────────┘          └──────────┬──────────┘
          ▼                                  ▼
┌─────────────────────┐          ┌─────────────────────┐
│      Madrasah        │          │       School         │
└─────────┬───────────┘          └──────────┬──────────┘
          ▼                                  ▼
┌─────────────────────┐          ┌─────────────────────┐
│     Curicullum       │          │     Curicullum       │
└─────────┬───────────┘          └──────────┬──────────┘
          ▼                                  ▼
┌─────────────────────┐          ┌─────────────────────┐
│     Mathematics      │          │     Mathematics      │
│      Reasoning       │          │      Reasoning       │
└─────────┬───────────┘          └──────────┬──────────┘
          ▼                                  ▼
          ┌──────────────────────────────────────┐
          │                  Test                  │
          └──────────────────────────────────────┘
```
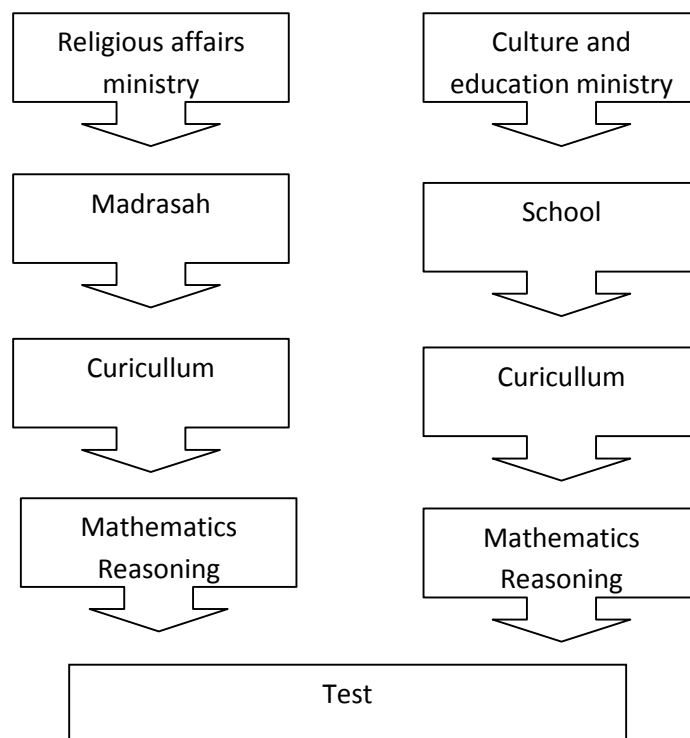
Figure 2.1.

Scheme framework

Referring to the theoretical description, educational background quite an impact in mathematical reasoning. So based on the above descriptions it can be concluded that the level of students' mathematical reasoning close relationship with the educational background of the students themselves. Then the extent to which the educational background of pot affect the ability of students' mathematical reasoning. Therefore researchers wanted to analyze the level of student reasoning based on educational background.

D. Hypothesis

   Based on the theoretical framework and the framework as described above, then the hypothesis proposed in this study are:

"there is an effect by educational background of students' mathematical reasoning."

CHAPTER III
RESEARCH METHODE

A. Place and Time of research

1. Place of Research

This study will be conducted at MAN Cirebon 1 which located in Cirebon city at Crossroad Post Office Weru No. 36, Cirebon district. That will be made to the students of class X

2. Research time

The time required from the preparation stage to the stage of writing that is expected during the three months from March to May 2013.

Table 3.1

Research Schedule

No.	Event	March				April				May			
		1	2	3	4	1	2	3	4	1	2	3	4
1	Peparation	■											
2	Guidance Instruments		■	■									
3	Teaching and Learning Activities			■	■	■							
4	Testing Instruments						■	■					
5	Collecting data								■				
6	Data analysis									■	■		
7	Preparation of Reports											■	■

B. Methods and Desain of Research

1. Research methods

According to Sugiyono[26], basically scientific research methods is a way to get the data with the purpose and usefulness. This type of

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[26]Sugiyono. 2013. *Metode Penelitian Pendidikan.* Bandung: Alfabeta, p. 3

research is a quantitative study that uses the case study method. Because this study was to measure the presence or absence of the influence of a variable to another variable. Case study method is to analyze a case which occurred in nature without the intervention of the researcher.

2. **Research Design**

The study design is a design in a study. It is therefore necessary to design appropriate circumstances. The design used is as follows:
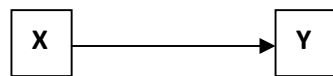
Description:

X: Education

Y: Reasoning math students

The relationship that shows the influence of Stage in this research is divided into four (4) stages: preparation, execution, processing, preparation. Breakdown of these stages are as follows:

a. First is the preparation stage. Performed at the preparation stage include :

    1) choosing the problem and determine the title.
    2) Find materials and information relating to research that will be investigated.
    3) Preparation of the proposal, sign up seminars, seminars and revision of proposals.
    4) Sign up to request the appointment of SK and research mentors.
    5) Process of consultation with the supervisor while asking IPD to be tested.
    6) Go to the location of the study with the intention of: introducing yourself, submit a cover letter and study schedule.
    7) Data processing test results.

b. Implementation stage, the stage to collect the data necessary research through questionnaires and tests.

c. Data processing stage, the stage where the data were analyzed manually or by using the computer program and draw tentative conclusions.

d. The last stage is the stage of writing and compilation of the results of the full study report.

C. Population, Sample and Data Collection Techniques Population

Table 3.2
Class X students MAN Cirebon 1

No.	Class	Gender		SUM
		Male	Female	
1	X_1	10	25	35
2	X_2	11	36	47
3	X_3	15	33	48
4	X_4	13	35	48
5	X_5	12	36	48
6	X_6	13	35	48
7	X_7	13	35	48
8	X_8	13	36	49
9	X_9	12	37	49
10	X_{10}	13	35	48
SUM		125	344	469

Population is a generalization area consisting of: object or subject that has certain qualities and characteristics are determined by investigators to be studied and then drawn conclusions[27]. The population in this study were all students of class X MAN Cirebon 1, amounting to 469 students[28].

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[27]Sugiyono. *Op. Cit,* p. 117
[28]Result of interview with Sri. Staf TU MAN Cirebon 1 on 4 march 2013 on10.00 WIB in MAN Cirebon 1

2. Samples

Sample is a small group that significantly we are careful and we draw conclusions. With all the limitations researchers sampling technique used in this study is a cluster random sampling. Cluster random sampling is used when the population of a group (cluster), instead of the individual subject.

Sampling was done by cluster random sampling from a normal population is assumed to be homogeneous with consideration of the students sitting in the same grade level, students have the same ability, based on the material being taught from the same curriculum. The populations were scattered in 9 classes, randomly selected 30 students with an educational background MTs and 30 students with the educational background of junior high school.

D. Research variables

1. Conceptual definition

   a. Educational background variables (X)

   Background history of education is the education of students before entering the study with higher levels. As in this study pursed into junior and junior.

   b. Variable mathematical reasoning's student(Y)

   Mathematical reasoning skills students are students' skills in mathematics, namely:

   1) Make analogies and generalizations,

   2) Provide explanations using models,

   3) Use patterns and relationships to analyze mathematical situations,

   4) Check the validity of arguments,

   5) Arrange direct proof, indirect proof Develop,

   6) Provide examples of denial, and Follow the rules of inference.

2. Operational Definitions

    a. Student's educational background variables (X)

        Educational background is in the study was the level of junior high school (SMP) and junior secondary madrasah (MTs).

    b. Variable mathematical reasoning skills students (Y)

        Mathematical reasoning ability of students is the total score obtained by students after working on the mathematical reasoning test given researchers.

E. Data Collection's Techniques and Instrumentation

Data Collection Instrument (IPD) is a tool to collect data on some variables that will be used for research needs. On the selection and preparation of IPD should be tailored to the type of research conducted. On this research, type of research is a quantitative approach to research data used instrument is the written test.

Collecting data about students' backgrounds through the documentation of the data that was available. As for the reasoning level of students' data collection is done through tests of mathematical reasoning abilities. The instrument is a description of the test sheet. In the tests the students 'level of mathematical reasoning using multilevel scoring technique (graded) according to the students' responses to the indexs. The criteria category scores were used in the test of mathematical reasoning can be found in appendix.

Then tests performed through the following steps:

1. Latticework construction

The latticework of instrument is describing the correlation between researched variable and data source which will be used, the used method and the arranged instrument. The general latticework of instrument in this research is:

Table 3.3
The General Latticework of Instrument

Research Variable	Technique	Instrument	Data Source
Mathematical reasoning	Testing	Test index	Student as object

Whereas special latticework is latticework which made for describe indexs design which will arranged for enclosed instrument.

2. Content validity by Expert Judgment

Validity is a related concept with how far the test measuring what must measured. This research will use validity content by expert judgment where index of the test which have made proposed to some panelist and the panelist will give their judge to the index of the test about the appropriate between index of the test and indicators which have made by the researcher. In this research index of the test proposed to two panelists, the panelist will give their judgment with give "1" if the index of the test is not appropriate with the indicator, "2" if index of the test is important but still not appropriate with the indicator, and "3" if index of the test is appropriate with the indicator. The result of two panelists judgment will processed used quantitative approach to estimate index of the test validity using Content Validity Ratio (CVR) like written by Lawshe (1975). The formula of CVR is

$$CVR = (ne - \frac{N}{2})/(\frac{N}{2})$$

Or can be written as

$$CVR = \frac{2ne}{N} - 1$$

N is total panelist and ne is total panelist who judge index of the test was appropriate with indicator. The result of CVR calculation for every index of the test served below:

Table 3.4
CVR Calculation Phase 1

Index	Panelist declaration		ne	CVR	Information
	Panelist 1	Panelist 2			
1	3	2	1	0	Bad validity index
2	3	3	2	1	Good validity index
3	3	3	2	1	Good validity index
4	3	3	2	1	Good validity index
5	3	2	1	0	Bad validity index
6	3	2	1	0	Bad validity index
7	3	2	1	0	Bad validity index
8	3	3	2	1	Good validity index
9	3	3	2	1	Good validity index

Information

Judgment codes:

3   : panelist judge that index of the test appropriate with the indicator

2   : panelist judge that index of the test is important but not appropriate with the indicator

1   : panelist judge that index of the test is not important

ne : total of panelists who judge that index of the test appropriate with the indicator

     The result can be used as selection criteria of index of the test where index with the smallest CVR value must be repaired. According to Lawshe (1975), the minimum CVR value in such a way that called good served below.

Table 3.5
Minimum CVR Value According to Lawshe (1975)

Total Panelists	Minimun CVR Value
5	0,99
6	0,99
7	0,99
8	0,75
9	0,78
10	0,62
11	0,59
12	0,56
13	0,54
14	0,51
15	0,49
20	0,42
25	0,37
30	0,33
35	0,31
40	0,29
…	…

Because this research just using two panelists so the minimum CVR value must be 1. CVR calculation phase 1 show that CVR value for index 3 and 4 is 1, means that indexs have good validity. Then CVR value for index 1 and 2 is 0, means that indexs must be repaired or chanced. Because of that index of the test repaired and proposed again to the same two panelists. The result of the second proposed served below.

Table 3.6
CVR Calculation Phase 2

Inde x	Panelist declaration		ne	CVR	Information
	Panelist 1	Panelist 2			
1	3	2	2	1	Bad validity index
2	3	3	2	1	Good validity index
3	3	3	2	1	Good validity index
4	3	3	2	1	Good validity index
5	3	2	2	1	Bad validity index
6	3	2	2	1	Bad validity index
7	3	2	2	1	Bad validity index
8	3	3	2	1	Good validity index
9	3	3	2	1	Good validity index

Information

Judgment codes:

3 : panelist judge that index of the test appropriate with the indicator

2 : panelist judge that index of the test is important but not appropriate with the indicator

1 : panelist judge that index of the test is not important

ne : total of panelists who judge that index of the test appropriate with the indicator

From CVR calculation phase 2 concluded that all index of the test judge as good index. Then committed CVI (Content Validity Ratio) calculation, it is the mean of total CVR calculation, the mean of total CVR calculation is 1. The coefficient of estimations result describe that on the whole indexs of the research instrument have good vaility.

3. **Empiric try-out**

In this study, will be used with the 10 question written test descriptions. These questions more specifically the problems of mathematical reasoning. The questions used in this study are the questions researchers are tailored made to the existing indicators. As a trial, the researchers will share the test that had been developed to grade 1 with X2 MAN Cirebon without attention to the educational background of them.

a. **Reliability estimation**

Reliability is a measure of regularity of an instrument to obtain information. Reliability of the tests used in this research was calculated by using the software AnatestV4. The formula of AnatestV4 which used to estimate reliability is Spearman-Brown's formula to the split second method according to Arikunto (2010).

$$r_{11} = \frac{2r_{1/2\,1/2}}{\left(1 + r_{1/2\,1/2}\right)}$$

With:

r_{11} = Reliability of the test as a whole

$r_{1/2\,1/2}$ = Correlation between test scores of each hemisphere

Table 3.7
Interpretation of Reliability

Correlation Coefficient	Reliability Criteria
0,81 r 1,00	Very High
0,61 r 0,80	High
0,41 r 0,60	Enough
0,21 r 0,40	Low
0,00 r 0,20	Very low

From the result of calculation using AnatesV4 program, the reliability of the test in this study was 0.96 included in the very high category. (The results of the calculations can be seen in Appendix C.3)

b. **Index Discrimination**

Index discrimination is the ability of indexs to discriminate students on the student top group and under group. Figures which show the amount of the difference is called index discrimination (D). Index discrimination of every index of the test in this research was calculated by using the software AnatestV4. The formula which used in AnatestV4 to measure index discrimination is the formula by Arikunto as follows[29]:

$$D = \frac{B_A}{J_A} - \frac{B_B}{J_B} = P_A - P_B$$

With:

J = Total of participants test

J_A = Total of participants on the group

J_B = Total of participants under the group

B_A = Total of the group of participants who answered the question correctly

B_B = Total of participants under the group who answered questions correctly

Arikunto said that to interpret index discrimination of an instrument obtained by looking at the following table 3.4.

Table 3.8
Interpretation of Index Discrimination

Coefficient	Index Discrimination Criteria
0,70 D 1,00	Excellent
0,40 D 0,69	Good
0,20 D 0,39	Enough
0,00 D 0,19	Bad
D < 0,00	Discard

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[29]Suharsimi Arikunto. 2009. *Prosedur Penelitian (Suatu Pendekatan Praktik).* Jakarta: Rdieka Cipta, p. 213

According to the calculation by using Anates V4 program, the result of the index discrimination each index is

Table 3.9

Index Discrimination

No. Item	Indeks
1	0.450
2	0.275
3	0,200
4	0.275
5	0.425
6	0.400
7	0.375
8	0.450
9	0.600

From the result of calculation of index discrimination for mathematical reasoning's intrument is there are 2 grade, such as enough index number 2, 3, 5 and 8. Then good index in number 1, 4, 6, 7, 9 and 10 . (The results of the calculations can be seen in Appendix C.3)

c. **Index difficulty**

Index difficulty is the ability of indexs to discriminate students on the student group under group. Figures show the amount of the difference is called the index of discrimination (D). the difficulty each of the indexs used in this study was calculated by using programAnates V4. At Anates V4 formula used to calculate the distinguishing difference is the formula by Arikunto as follows:

$$P = \frac{B}{JS}$$

With:

P = Index lurch

B = Total of students who answered the questions with correct

JS = Total number of participants of the test

Index difficulty of an index of the test is between 0.00 to 1.00. According to Arikunto (2009) the interpretation of index difficulty served in table below.

Table 3.10
Interpretation Index of Dificulty

The difficulty level	Index Difficulty
0,00 IK 0,29	Difficult
0,30 IK 0,69	Medium
0,70 IK 1,00	Easy

The results of the index difficulty calculations described that index 1 was easy index, index 2 and 3 were difficult index, and index 4 was medium index. The results of the calculations can be seen in Appendix.

Based on calculations using the program Anates V4 distinguishing index obtained by the following indexs:

Table 3.11

Index Difficulty

No. Butir	Indeks
1	0.5500
2	0.6250
3	0.6000
4	0.8375
5	0.7875
6	0,4500
7	0.6375
8	0.6500
9	0.6000

From Table 3.11 breaks we can know the results of the calculation of the level of difficulty for mathematical reasoning abilities instrument acquired several criteria problem, namely about being number 1, 2, 3, 7, 8, 9, and 10. And about the simple matter of numbers 4, 5, and 6. (The results of the calculations can be seen in appendix C.5)

4. Recapitulation Trial Analysis of Mathematical Reasoning Test Level

By using expert judgment and content validity testing result is the overall description of the proposed test questions on expert apparently valid. So that all the questions used in this study has good content validity. As for the empirical test, researchers used the program Anates V4, reliability estimates showed a significantly high ratio of 0.96 is included in the very high category. As for the level of difficulty distinguishing power and use also use Anates V4 following indexs recapitulation analysis obtained Anates V4 program is presented in tabular form.

Table 3.12

Recapitulation Trial Analysis of Mathematical Reasoning Test Level

No.	Validity	Realibility	Index Discrimination	Index difficulty	Description
1			Good	Medium	Used
2			Enough	Medium	Used
3			Enough	Medium	Used
4			Enough	Easy	Used
5	Valid	Very high	Good	Easy	Used
6			Good	Medium	Used
7			Enough	Medium	Used
8			Good	Medium	Used
9			Good	Medium	Used

F. Data Analysis Techniques

1. Prerequisite test

a. Normality Test

Normality test is used to test whether the data were normally distributed or not. If the data are normally distributed, it can be analyzed using parametric statistics. If not then it can be used non-parametric statistics.

Normality test can use kolmogorov-Smirnov formula, with the value of statistics test is D, and the value of D is:

$$D = Sup_x|F_n(x) - F(x)|$$

Description:

D: maximum absolute deviation value

Fn: commutative empirical distribution function

F: theoretical opportunities commutative function and normal distribution

The hypothesis used is:

H_0: The data came from a normally distributed population

H_a: The data come from the population distribution is not normal

Normality testing criteria used are:

if the probability / significance / value of P <0.05 then abnormal data. If the probability / significance / P value> 0.05 then the data is normal.

In the process of this reaserch the normality test examiners using SPSS 19. The steps to test normality using SPSS 19 as follows:

1. Click Analyze - descriptive statistics - Explore, will further explore open dialogue

2. Input data according to the column variable. Click the option and check the normality test.
3. Click the Plot button.
4. Click the normality with plot
5. Click ok

On the Kolmogorov-Smirnov Test output, if the significance value> a normal data means, if the value of significance <a then the data is not normal.

b. Homogeneity test

Homogeneity test used to determine whether some variants of data homogeneous population or not. To test Levene homogeneity can use the formula, namely:

$$L = \frac{(N-K)\sum_{i=1}^{k} Ni(Zi - Z \ldots)^2}{(k-1)\sum_{i=1}^{k}\sum_{j=1}^{Ni} Ni(Zij - Zi)^2}$$

Description:

L: Value Levene count

X: The value of the data residuals

$\bar{X}$: Average residual

N: number of samples

K: number of groups

if the value of Levene count <Levene table or the value of L> 0.05 then the data is homogeneous.

The testers in this study using SPSS 19. The steps to test the homogeneity by using SPSS 19 as follows:

1. Click Analyze - Comphare Means - One-Way ANOVA, and then input the data according to the column variable
2. Click on Options, mark the homogeneity of variance test
3. Click Continue – OK

Testing criteria as follows:

1. On output Test of homogeneity of variance, if the significance value>a that mean data are homogeneous

2. If the significance value <a, the data are not homogeneous

The formulation of the hypothesis is formed:

H_0: The two groups of data populations have the same variance or (homogeneous).

H_a: Two groups of data populations have unequal variances or (heterogeneous).

2. Hypothesis Testing (T test)

T test aims to determine whether the partial effect of independent variables on the dependent variable. For the t test using the formula:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(n-1)s_1^2 + (n-1)s_2^2}{n_1 + n_2 - 2}\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Description:

$\bar{x}_1$: Average mathematical reasoning students an educational background in junior high

$\bar{x}_2$: Average mathematical reasoning students educational background MTs

S: Variance

n_1: number of students with educational backgrounds SMP

n_2: number of students with an educational background MTs

The hypothesis of this test is:

H_0: There are no difference of mathematical reasoning of student between students with a background of educational in SMP and student with a background of educational in MTs.

H_a: There are difference of mathematical reasoning of student between students with a background of educational in SMP and student with a background of educational in MTs.

Or in other words, we can make statistical hypothesis of this study, namely:

H_0: $\mu1 = \mu2$;

H_a: $\mu1 \quad \mu2$;

Description:

$\mu1$: Mathematical Reasoning of students with the educational background of SMP

$\mu2$: Mathematical Reasoning of students with the educational background of MTs

With hypothesis testing criteria:

1. If $-t_{tabel} < t < t_{table}$, then Accept H0, means no difference in the level of students' mathematical reasoning among students with junior high education background and students with educational backgrounds MTs.

2. If $t > t$ table-t>-t table, then reject H0, means that there are differences in the level of students' mathematical reasoning among students with the educational background of junior high schools and students with the educational background of MTs.

The T Test testing in this study using SPSS 19 with the following steps:

1. Click Analyze - Comphare Means - independent-sample T test, then will open the dialog box Independent sample T test.

2. Click the variable mathematical reasoning and then inserted into the test box vaiable. Then the input variables on the educational background grouping variable box. Then select Define Group is 1 to 1 and 2 to 2. Obviously with already pass variable data labeling prior to the student's educational background.

3. Then click Ok

CHAPTER IV
RESULTS AND DISCUSSION

This chapter will discus about the research results obtained from the research conducted. This study will present the results of data analysis the test of the level of mathematical reasoning of students based on background of student's educational before in this case is the MTs and SMP.

A. Data Description

1. Educational Background of Students

Data about the student's educational background obtained from interviews with staff TU in MAN Cirebon 1. Interview conducted on March 26, 2013 at 14:15 pm. This interview was conducted in order to minimize the time and also more practical untunk determine the distribution of educational backgrounds of students MAN Cirebon 1 particular class X of the school year 2012/1013. (For more details see the appendix D.1)

The following table is presented of the results of documentation and interviews with staff TU in MAN Cirebon 1 related to the educational background of students who want to investigate.

Table 4.1
Sample List

No.	Name	Educational background	No.	Name	Educational Background
1	ADE PRASETIO	MTs	1	AISYAH	SMP
2	AFIFATUL MAEMUNAH	MTs	2	AKHMAD MUHADI	SMP
3	ALVITANIA SOLEHA	MTs	3	AL' ARIYANTI	SMP
4	ANNUR DIANA	MTs	4	DEDE YULIANA N	SMP
5	AYU SOBIROH	MTs	5	DESI AJENG SAFITRI	SMP
6	DARA WAKHYUNINGRUM	MTs	6	DYAH NUR'AENI	SMP

7	EKO PUTRA M	MTs	7	FIKRIYAH	SMP
8	FAKIH ANWAR	MTs	8	FRISCA DEWI LESTARI	SMP
9	FATIMAH	MTs	9	HALIMAH SA'DIYAH	SMP
10	FITRIYAH	MTs	10	HANITA	SMP
11	KHUNUL HAJIBAH	MTs	11	IBROHIM BARDAN	SMP
12	LILIS ROLYAH	MTs	12	IQBLA WIDYANTO	SMP
13	LINDA ASHARI	MTs	13	KHUMAEROIH	SMP
14	LU'LUATUL A	MTs	14	KURNIAWATI	SMP
15	M FAHRUL FAOZAN	MTs	15	LENI YULIANTI	SMP
16	MIFTAHUL JANNAH	MTs	16	LUTFI AJI SAPUTRA	SMP
17	MOH UBAEDILLAH	MTs	17	MOH HAFIDZIN S	SMP
18	MUH ABDULANI	MTs	18	NONI	SMP
19	PEGI YULIAWATI	MTs	19	NUR HASANAH	SMP
20	ROIKHATUL JANNAH	MTs	20	OVIE NUR AZIZAHsmp	SMP
21	SITI DEWI KOMALA SARI	MTs	21	PIPIT DAMAYANTI	SMP
22	SITI FACHTIYATUL K	MTs	22	RUMINA	SMP
23	SITI KHUMAEROH	MTs	23	SAPUTRA ANURU	SMP
24	SITI ROFIQOH	MTs	24	SILVIA INTAN	SMP
25	SITI ROMLAH	MTs	25	SITI AZIZAH	SMP
26	SOLIKHIN	MTs	26	SITI JUHAERIYAH	SMP
27	SUNOTO	MTs	27	SITI SOLECHA	SMP
28	ULFA HANIFA ROSIDAH	MTs	28	SOFYAN MAR'I	SMP
29	UMI KULSUM	MTs	29	WIDYANINGSIH	SMP
30	YATI ROHAYATI	MTs	30	ZAKIYATUL FITRI	SMP

2. The level of mathematical reasoning of student

The data about the level of mathematical reasoning of student obtained by testing the students by providing a test questions are made by adjusting the indicator mathematical reasoning of students, in the form of 10 questions description. Test carried out to students MAN Cirebon 1 on 28 April 2013 at 12:45 AM until 13:45 PM. The test is only given to 30 students educational background MTs and 30 junior high school students' educational background. So that the amount of matter that is spread as much as 60 indexs.

a. Ability of drawing conclusions based on similarity of data or processes (Capability analogy).

Data on the ability of drawing conclusions based on similarity of data or process or in other words the ability of students analogy presented in tabular form. For a table of the results of the calculation of the student's ability junior high school students' educational background in performing similarity Drawing conclusions based on the data or the process can be seen in Table 4.2 below.

Table 4.2
Ability of junior high school students a background in conducting inference based on similarity of data or processes.

No. index	Score	Frequency	Total Score	Percentage
1	1	2	2	2,10%
	2	8	16	16,84%
	3	7	21	22,10%
	4	9	36	37,89%
	5	4	20	21,05%
Total		30	95	100%

Based on Table 4.2 it can be seen that the largest percentage gain score of 4 is equal to 37.89%. This shows that in general, students with junior high education background has a good ability to perform inferences based on similarity of data or processes.

To make it easier to read, the following data is presented in chart form:
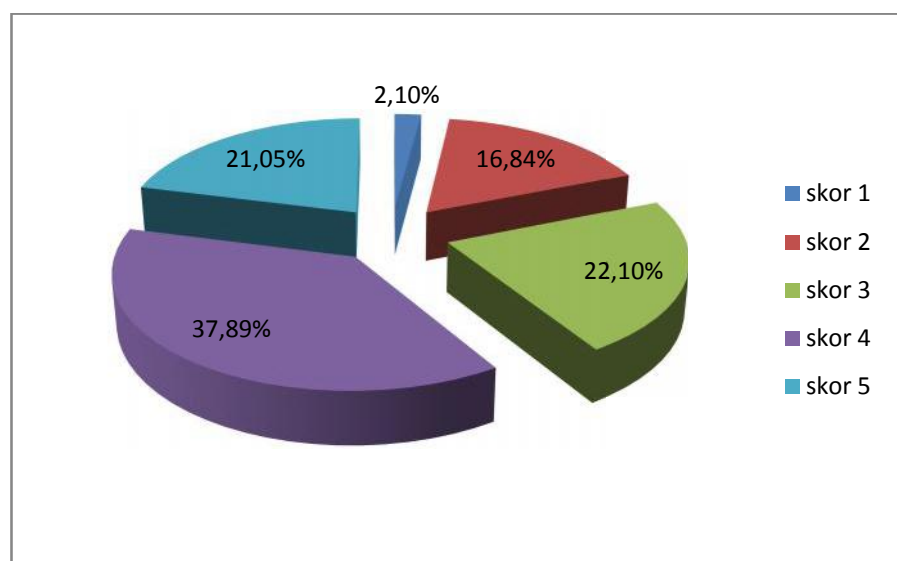
Figure 4.1
Diagram of the student's ability with background in junior high school students in performing similarity Drawing conclusions based on data or process

The following table is presented of the calculation of the student's ability to perform similarity Drawing conclusions based on data or process in this case is the educational background of junior students.

The datas are acumulation from the test with desaigned to measure the student's ability to perform similarity Drawing conclusions.

Table 4.3
Ability students educational background MTs in doing
inference based on similarity of data or processes.

No. Index	Score	Frequency	Total Score	Percentage
1	1	3	3	3,57%
	2	9	18	21,42%
	3	11	33	39,28%
	4	5	20	23,80%
	5	2	10	11,90%
Total		30	84	100%

To make it easier to read, the following data is presented in chart form:
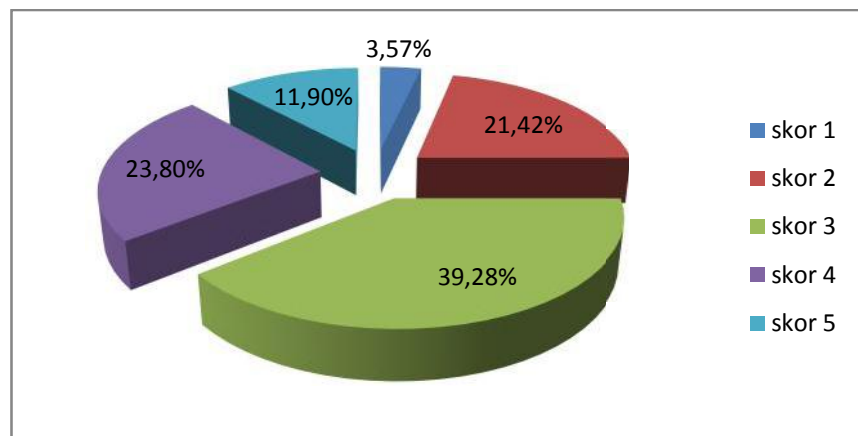
Figure 4.2
Diagram of the student's ability students educational
background MTs in doing Withdrawal conclusions based
on similarity of data or processes

Based on Table 4.3 it can be seen that the largest percentage gain score of 3 is equal to 39.28%. This shows that in general, students with an educational background MTs have a pretty good ability to perform inferences based on similarity of data or processes.

Thus there was no significant difference between students with a background in secondary education students educational background MTs in conducting inference based on similarity of data or processes.

b. Drawing general conclusions based on the ability of a number of observed data.

The following table is presented of the calculation of the student's ability to perform Withdrawal general conclusions based on a number of data teramati.dalam this is the educational background of junior high school students.

Table 4.4
The ability of students with SMP educational background on drawing general conclusion based on a number of observed data.

No. Item	Score	Frequency	Total Score	Percentage
2	1	0	0	0%
	2	7	14	15,38%
	3	16	48	52,74%
	4	6	24	26,37%
	5	1	5	5,49%
Total		30	91	100%

The table describe about the ability of students to drawing general conclusion based on a number of observed data especially for two samples data. Then, for more easily to interpretasion the data, following the data presented in chart form:
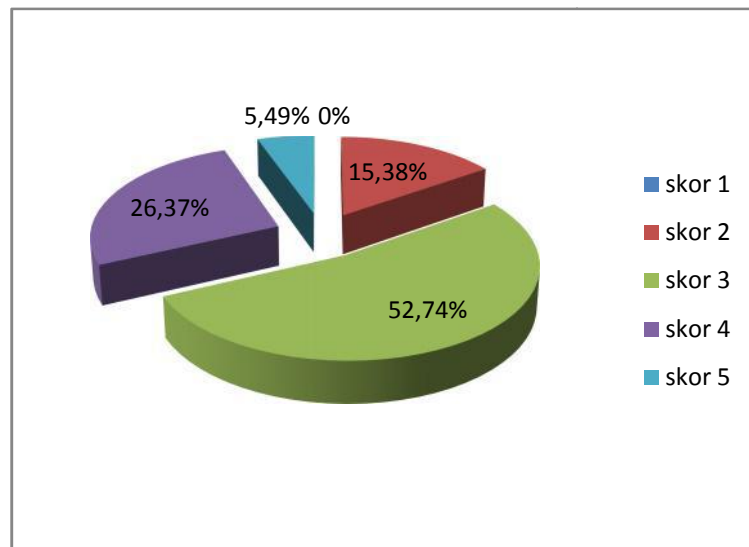
Figure 4.3

**Diagram ability junior high school students a background
in performing drawing general conclusion based on a
number of observed data.**

Based on Table 4.4 and Figure 4.3 it can be seen that the largest percentage gain score of 3 is equal to 52.74%. This shows that in general, students with junior high education background has a pretty good ability in performing drawing general conclusions based on a number of observed data.

The following table is presented of the calculation of the student's ability to perform drawing general conclusions based on a number of observed data in this case is the educational background of junior students.

Also to make it easier to read, the following data is presented in chart form in figure 4.4.

Table 4.5
The ability of students in the educational background MTs do
recall some general conclusions based on the observed data.

No. index	Score	Frequency	Total Score	Percentage
2	1	0	0	0%
	2	3	6	6,31%
	3	19	57	60%
	4	8	32	33,68%
	5	0	0	0%
Total		30	84	100%
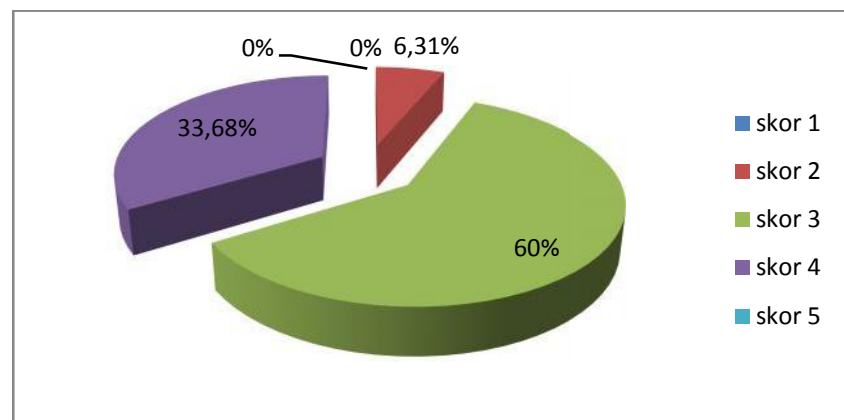
Figure 4.4
The ability of students in the educational background MTs do
recall some general conclusions based on the observed data.

Based on Table 4.5 and Figure 4.4 it can be seen that the largest percentage gain score of 3 is equal to 60%. This shows that in general, students with an educational background MTs have a pretty good ability in performing Withdrawal general conclusions based on a number of observed data.

Thus there was no significant difference between students with a background in secondary education student with a

background in education MTs Withdrawal general conclusion based on a number of observed data.

c. Ability estimate answers, solutions, or tendency.

Table 4.6
Ability of junior high school students a background in
doing Estimating answers, solutions, or the tendency

No. index	Score	Frequency	Total Score	Percentage
3	1	3	3	3,75%
	2	8	16	20%
	3	16	48	60%
	4	2	8	10%
	5	1	5	6,25%
Total		60	80	100%

The above table is presented of the calculation of the student's ability in Estimating answers, solutions, or tendency. In this case is the educational background of junior high school students. And to make it easier to understand the data presented in the following diagram.
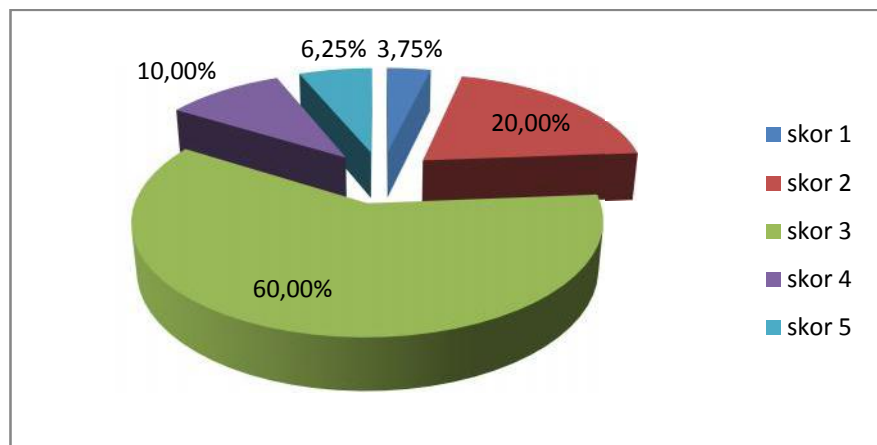
Figure 4.5
**Diagram ability junior high school students a background
in doing Estimating answers, solutions, or the tendency**

Based on Table 4.6 and Figure 4.5, it can be seen that the largest percentage gain score of 3 on Question 3 is equal to 27.90%. And the biggest question number 4 score is a score of 5 is equal to 26.16%. This shows that in general, students with junior high education background have good ability in estimating answers, solutions, or tendency.

The following table is presented of the calculation of the student's ability to estimate the answer, a solution, or a trend in this regard is the educational background of junior students.

Table 4.7
**Ability students educational background MTs in estimating
answers, solutions, or tendency.**

No. item	Score	Frequency	Total Score	Percentage
3	1	1	1	1,16%
	2	5	10	11,63%
	3	21	63	73,25%
	4	3	12	13,95%
	5	0	0	0%

Total	60	86	100%

And the following data is presented in the form of a diagram to make it easier to interpret the data:
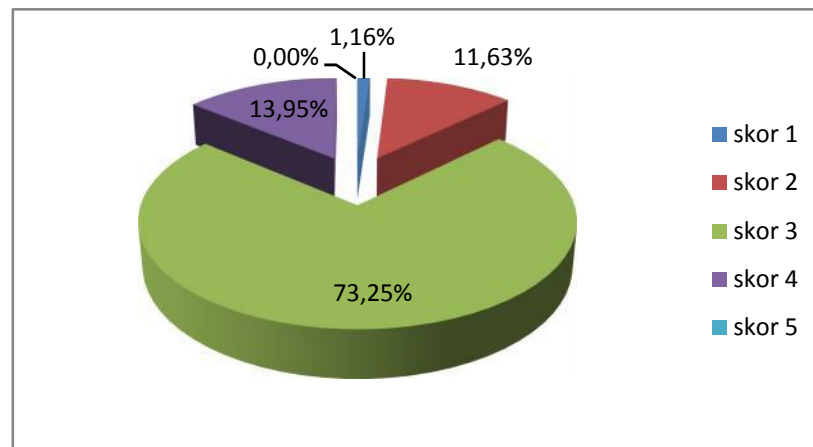
Figure 4.6
Diagram ability students educational background MTs in doing Estimating answers, solutions, or the tendency

Based on Table 4.7 and figure 4.6, it can be seen that the largest percentage gain score of 3 on Question 3 is equal to 31.65%. Then in a matter of 4 scores biggest number is 5 which is as much as 35.17%. This shows that in general, students with an educational background MTs have good ability in performing estimating answers, solutions, or tendency.

Thus there was no significant difference between students with a background in secondary education students educational background MTs in estimating answers, solutions, or tendency.

d. The ability to give explanations to the model, the facts, nature, relationships, or patterns that exist.

The following table is presented of the calculation of the student's ability to give an explanation to the model, the facts,

nature, relationships, or patterns that exist. In this case is the educational background of junior high school students.

Table 4.8
The ability of students in the junior high educational background Explaining the models, facts, nature, relationships, or patterns that exist.

No. Index	Score	Frequecy	Total Score	Percentage
7	1	0	0	0%
	2	4	8	6,55%
	3	6	18	14,75%
	4	4	16	13,11%
	5	16	80	65,57%
Total		30	122	100%

The following data is presented in diagram form in order to make it easier to interpret the data.
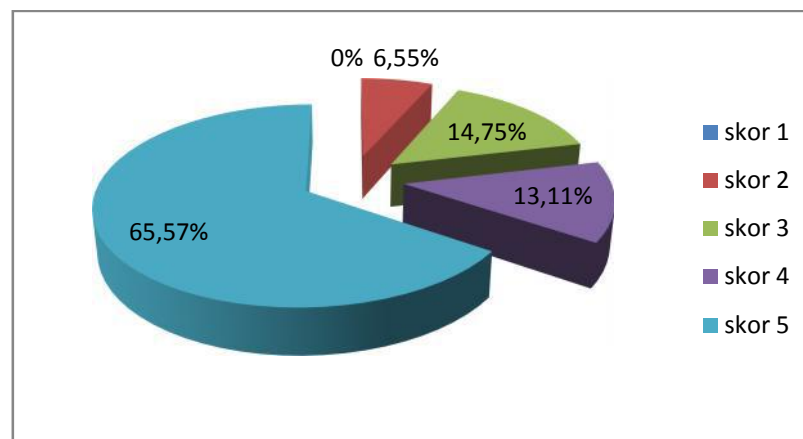
Figure 4.7
Diagram ability junior high school students a background in the Give an explanation of the model, the facts, nature, relationships, or patterns that exist.

Based on Table 4.8 and Figure 4.7, it can be seen that the largest percentage gain score of 5 is equal to 65.57%. This shows that in general, students with junior high education background has

excellent ability in giving explanations to the model, the facts, nature, relationships, or patterns that exist.

As for the students with the educational background of MTs, the following table is presented of the calculation of the student's ability to give an explanation to the model, the facts, nature, relationships, or patterns that exist. As seen in Table 4.9.

And for ease in reading, the data is also presented in the form of a diagram. 4.10 look at the figure below.

Table 4.9
Educational background of the student's ability to explain the MTs in the model, the facts, nature, relationships, or patterns that exist.

No. Index	Score	Frequency	Total Score	Percentage
	1	2	2	1,73%
	2	2	4	3,48%
7	3	9	27	23,47%
	4	3	12	10,43%
	5	14	70	60,86%
Total		30	115	100%
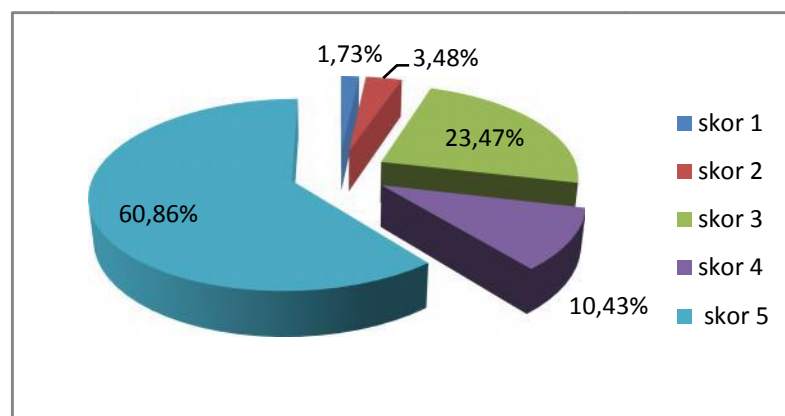
Figure 4.8
The ability of students in MTs educational background to Explaining the models, facts, nature, relationships, or patterns that exist.

Based on Table 4.9 and figure 4.8 it can be seen that the largest percentage gain score of 5 is equal to 60.86%. This shows that in general, students with an educational background MTs have excellent ability in giving explanations to the model, the facts, nature, relationships, or patterns that exist.

Thus there was no significant difference between students with a background in secondary education students educational background MTs in giving explanations to the model, the facts, nature, relationships, or patterns that exist.

e. Ability perform calculations based on certain rules or formulas.

The following table is presented of the calculation of the student's ability to perform calculations based on certain rules or formulas. In this case is the educational background of junior high school students.

Table 4.10
Ability of junior high school students a background in
performing calculations based on certain rules or formulas.

No. item	Score	Frequency	Total Score	Percentage
9	1	4	4	5,63%
	2	7	14	19,71%
	3	4	12	16,90%
	4	8	16	22,53%
	5	5	25	35,21%
Total		30	71	100%
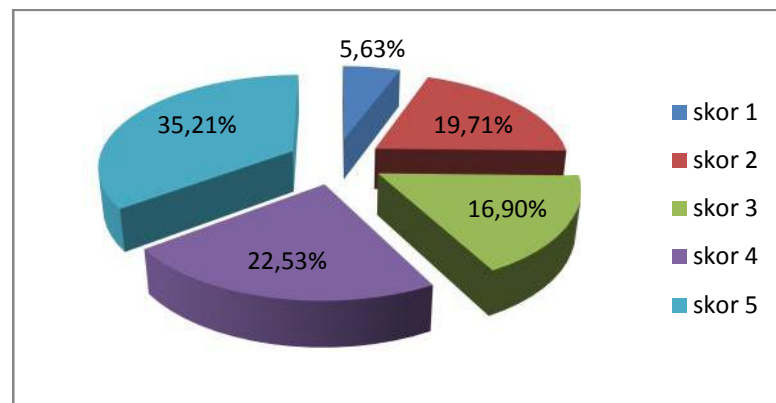
Figure 4.9
Diagram ability junior high school students a background in performing calculations based on certain rules or formulas.

Following diagram is presented to further simplify the interpretation of the data.

Based on Table 4.10 and figure 4.9 it can be seen that the largest percentage gain score of 5 is equal to 35.21%. This shows that in general, students with junior high education background has excellent ability in carrying out calculations based on certain rules or formulas.

The following table is presented of the calculation of the student's ability to perform calculations based on certain rules or formulas. In this case is the educational background of students MTs look at table 4.11.

Table 4.11
Ability students educational background MTs in implementing rules or calculations based on certain formulas.

No. Item	Score	Frequency	Total Score	Percentage
9	1	7	7	7,78%
	2	4	8	8,88%
	3	6	18	20%

	4	8	32	35,55%
	5	5	25	27,77%
Total		30	90	100%
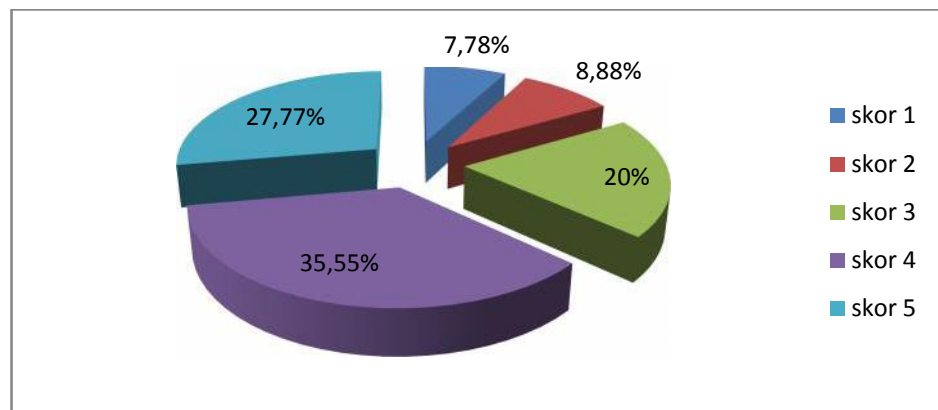
Figure 4.10
Diagram ability students MTs educational background in performing calculations based on certain rules or formulas.

Following figure also presented in the form of diagrams, to make easier in interpret the data and drawings the conclusion 4.10.

Based on Table 4.11 and figure 4.10, it can be seen that the largest percentage gain score of 4 is equal to 35.55%. This shows that in general, students with an educational background MTs have good ability in performing calculations based on certain rules or formulas.

Thus there was no significant difference between students with a background in secondary education students educational background MTs in executing calculations or formulas based on certain rules.

f. The ability of arangges of direct evidence and indirect evidence.

The following table is presented of the calculation of the student's ability in arrange direct evidence and indirect evidence. In

this case is the educational background of junior high school students.

And to simplify the meintepretasikan the data, the data is also presented in the form of a diagram. Note the figure 4.11.

Table 4.12
The ability of students in the junior high educational
background Preparing direct evidence and indirect evidence

No. index	Score	Frequency	Total Score	Percentage
6 dan 8	1	11	11	6,91%
	2	12	24	15,09%
	3	26	78	49,06%
	4	9	36	22,64%
	5	2	10	6,28%
Total		60	159	100%
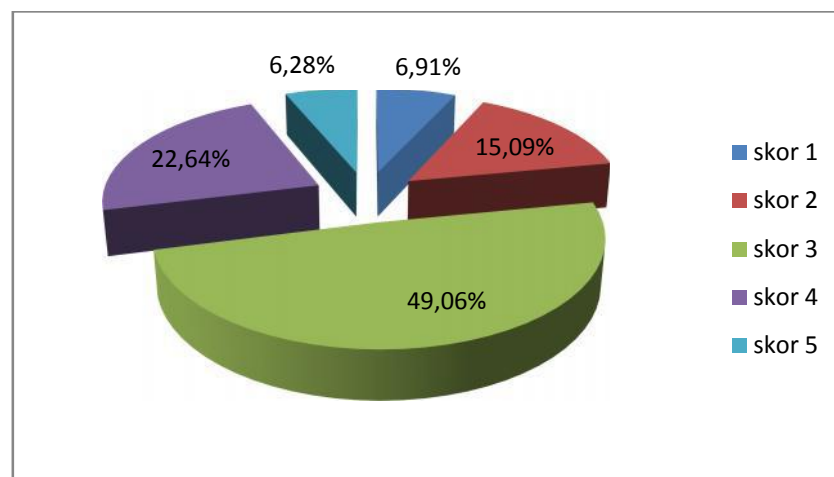
Figure 4.11
Diagram of The ability of students in the junior high
educational background Preparing direct evidence and indirect
evidence

Based on the Table 4.12 it can be seen that the largest percentage gain score of 3 is equal to 49.06%. This shows that in

general, students with junior high education background has a pretty good ability in Developing direct evidence and indirect evidence.

The data on the calculation of the student's ability in Developing direct evidence and indirect evidence. In this case is the educational background of MTs students presented in tables refer to the table below 4.13.

Data are also presented in the form of diagrams for ease in interpreting the data, look at the figure below 4.14.

Based on Table 4.13 and 4:14 images can be seen that the largest percentage gain score of 3 is equal to 35.19%. This shows that in general, students with an educational background MTs have good ability in Developing direct proof, indirect proof.

Table 4.13
Ability students educational background MTs in Developing direct evidence and indirect evidence

No. index	Score	Frequency	Total Score	Precentage
6 dan 8	1	8	8	4,46%
	2	14	28	15,64%
	3	21	63	35,19%
	4	5	20	11,17%
	5	12	60	33,52%
Total		60	179	100%
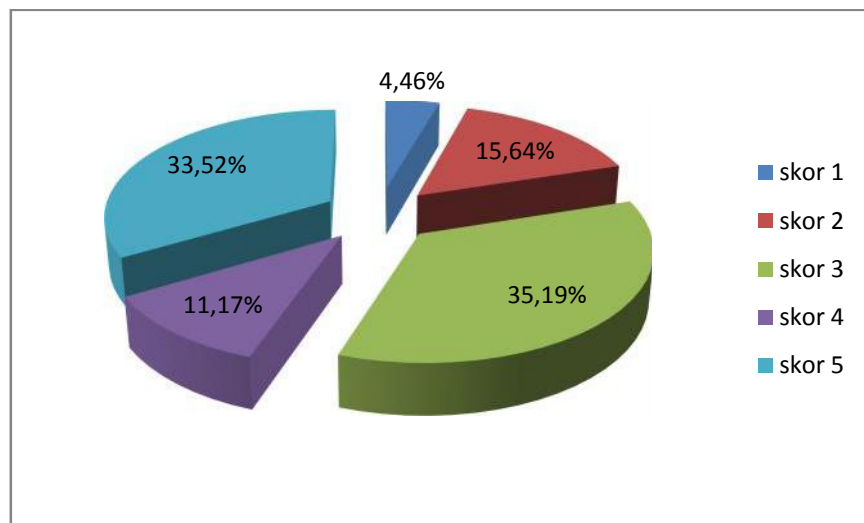
Figure 4.12
Diagram ability students educational background MTs in
Developing direct evidence and indirect evidence

Thus there was no significant difference between students with a background in secondary education students educational background MTs in Developing direct proof, indirect proof.

g. The ability of checking the validity of the argument.

Table 4.14
The ability of students in a junior high school education
background checks the validity of the argument

No. Index	Score	Frequency	Total Score	Percentage
5 dan 6	1	3	3	1,33%
	2	4	8	3,53%
	3	19	57	25,22%
	4	12	48	21,23%
	5	22	110	48,67%
Total		60	226	100%

The table above shows the results of the calculation of the student's ability junior high school students' educational

background in argumen.berikut check the validity of the data is also presented in the form of diagrams to better facilitate the interpreting.
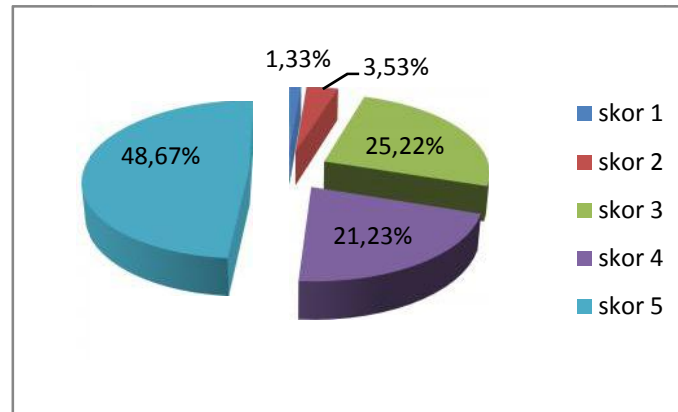
figure 4.13
Diagram ability junior high school students a background in checking the validity of the argument

Based on Table 4.14 and figure 4.13 can be seen that the largest percentage gain score of 5 is equal to 48.67%. This shows that in general, students with junior high education background has excellent ability in checking the validity of the argument.

The following table is presented of the calculation of the student's ability in Developing direct proof, check the validity of the argument. In this case is the educational background of junior students.

And also To further simplify the data mengintepretsikan dala, the data are also presented in the form of diagrams, drawings note 4.16.

Table 4.15
Ability students educational background MTs in checking the
validity of the argument

No. Item	Score	Frequency	Total Score	Percentage
4 dan 5	1	7	7	3,62%
	2	9	28	14,51%
	3	17	63	32,64%
	4	12	20	10,36%
	5	15	75	38,86%
Total		60	193	100%

Based on Table 4.15 and figure 4.14, it can be seen that the largest percentage gain score of 5 is equal to 38.86%. This shows that in general, students with an educational background MTs have excellent ability in checking the validity of the argument.
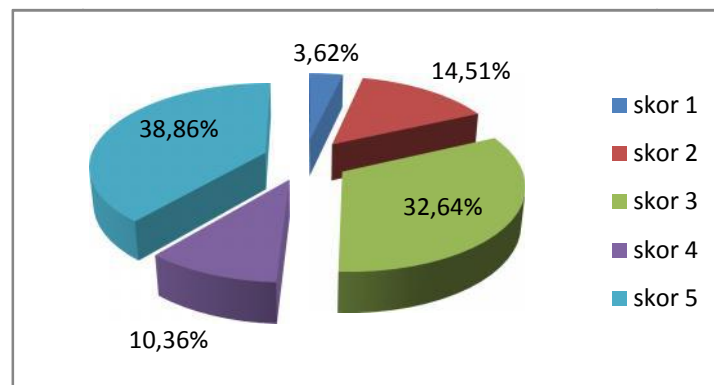
Figure 4.14
Diagram ability students educational background MTs in
checking the validity of the argument

Thus there was no significant difference between students with a background in secondary education students educational background MTs in checking the validity of the argument.

h. Recapitulation the level of mathematical reasoning of students based on the student's educational background.

The following table is presented of the calculation of the level of students' mathematical reasoning in terms of educational backgrounds of students in the previous jenjeng.

Table 4.16
Percentage of students' mathematical reasoning level in terms of educational background SMP

Score	No index								
	1	2	3	4	5	6	7	8	9
1	2,10%	0%	3,75%	1,83%	0,85%	8,10%	0%	5,82%	5,63%
2	16,84%	15,38%	20%	3,67%	3,42%	16,22%	6,55%	14,11%	19,71%
3	22,10%	52,74%	60%	30,27%	20,51%	64,86%	14,75%	35,29%	16,90%
4	37,89%	26,37%	10%	18,34%	23,93%	10,81%	13,11%	32,94%	22,53%
5	21,05%	5,49%	6,25%	45,87%	51,28%	0%	65,57%	11,76%	35,21%

Table 4.17
Percentage of students' mathematical reasoning level in terms of educational background MTs

Score	No index								
	1	2	3	4	5	6	7	8	9
1	3,57%	0%	1,16%	2,94%	4,12%	6,94%	1,73%	2,80%	7,78%
2	21,42%	6,31%	11,63%	11,76%	6,18%	25%	3,48%	9,34%	8,88%
3	39,28%	60%	73,25%	23,52%	27,83%	62,50%	23,47%	16,82%	20%
4	23,80%	33,68%	13,95%	27,45%	20,61%	5,55%	10,43%	14,95%	35,55%
5	11,90%	0%	0%	34,31%	41,23%	0%	60,86%	56,07%	27,77%

To clarify the above table, the following authors presented in graphical form.
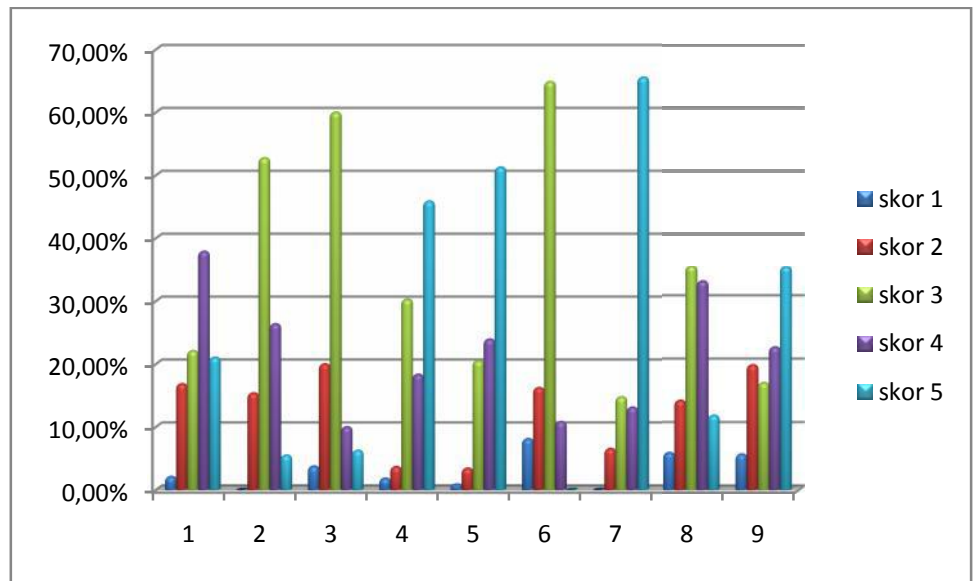
Figure 4.15
Graph the results of tests of mathematical reasoning students
with a background in SMP
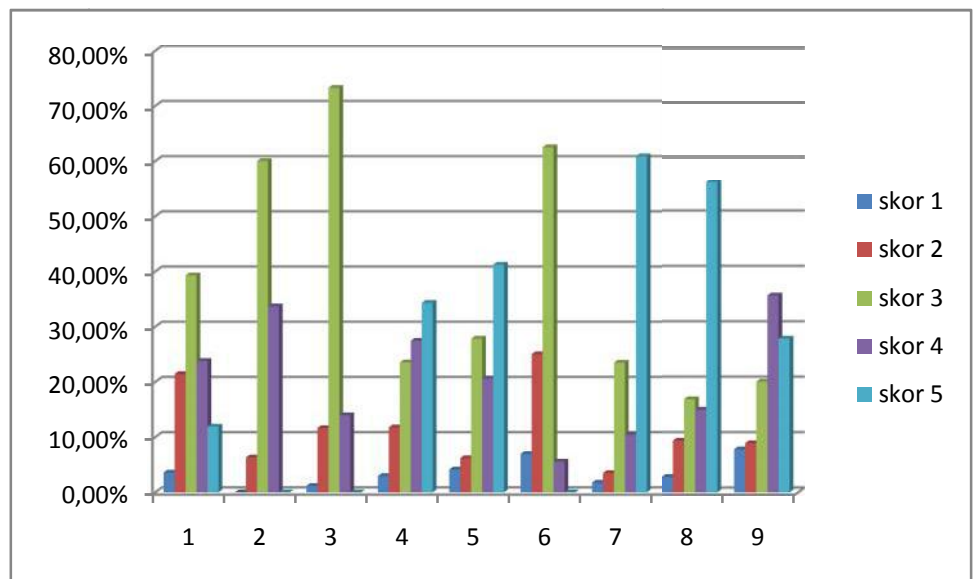
Figure 4.16
Graph the results of tests of mathematical reasoning students
with a background in MTs

Based on the table 4.21, 4.2 and Figure 4.15 and 4.16 on the number and percentage of scores obtained by students from answering each question index, it is known that the No. 1 problem most students with junior high education background earn a score of 4 that each student with as much as 9 percentage 37.89%. On

this matter the students are required to be able to conclude that the broad way of solving irregular hexagon is 6 times by multiplying the area of the triangle. The result most of the students were able to investigate the matter. Stages of completion can be done with good students.

While based on tables and figures regarding the number and percentage score obtained by students for students with an educational background MTs can be seen that the number one problem most students earn a score of 3 that as many as 11 students with a percentage of 39.28%. Most students make mistakes in identification problems. But overall there was no significant difference between students with junior high education background and students with the educational background to the case of MTs at number 1.

To question No. 2 decline, most students earn a score of 3 up to 16 students with a percentage of 52.74%. On this matter the students are required to be able to draw conclusions from the information provided. The result most students are not able to investigate the matter. Stages of completion was only workable plan for students until the completion stage only, whereas most of the process is correct but incomplete.

To question No. 2 decline, most students with an educational background 3 junior scored as many as 16 students with a percentage of 52.74%. On this matter the students are required to be able to draw conclusions from the information provided. The result most students are not able to investigate the matter. Stages of completion was only workable plan for students until the completion stage only, whereas most of the process is correct but incomplete.

While the results obtained by students with an educational background similar dewngan MTs students with junior high

education background. Of the answer to question No. 3 predominates, ie, most of the students obtained a score of 3 were 19 students with a percentage of 60%. On this matter the students are required to analyze a model and then find trends and predict the answer. The result most of the students were able to predict the answers and yet every answers tendency is still largely lacking detail. In general, there was no difference in outcomes between students with junior high education background and students with the educational background to the case as a matter of MTs number 2.

To question No. 4, the majority of students with a background in SMP scored as many as 10 students with a percentage of 45.87%. On this matter the students are required to be able to prove that the diagonal is longer than the diagonal side. The result most of the students were able to show this. Stages of completion can be done with a very good student.

While students with a background in MTs were almost evenly earn a score of 4 by 7 students with a percentage of 34.31%. Also as much as 8 students scored 8 and 7 students scored 7. On this matter the students are required to be able to prove that the diagonal is longer than the diagonal side. The results are not much different from junior high school students' educational background, the majority of students were able to show this. Stages of completion can be done with a very good student.

Similar results with the number 4 on the answer to question No. 5, most of the students with the educational background of SMP scored 5 that as many as 12 students or with the percentage of 51.28%. At about the students demanded double check validation an argument or statement. The result most students managed to do it properly in each stages can be done.

for students with educational background in MTs in on Question 5, the highest number scored 3 ie 9 students but there are 8 students gained 5 Score is the percentage of 41.23%. It could be said that most of the students with the educational background of junior obtain a score of 5 is the percentage of 41.23%. Together with other previously showed no significant perbnedaan between students with junior high education background and students with educational backgrounds MTs.

In question No. 6 most students earn a score of 3 up to 16 students with a percentage of 64.86%. On this matter the students are required to be able to find the error of a process of mathematical operations. The result most of the students were able to determine that there were irregularities in the process, but most have not been able to determine the location of the fault.

Educational background for students MTs on Question 6, the highest number to obtain a score of 3 at 16 students, but the percentage of 64.86%. It could be said that most of the students with the educational background of MTs earn a score of 3 is the percentage of 64.86%. Together with other previously showed none of the significant difference between students with SMP education background and students with educational background MTs.

To question No. 7 students with educational background SMP obtain satisfactory results the score obtained by the students in question No. 7, most of the students obtained a score of 5 up to 16 students with a percentage of 65.57%. On this matter the students are required to be able to find a pattern of a series of numbers and determine the outcome. The result most students can finish the question. Despite various interpretations pattern, but overall the students answered correctly and completely.

Not unlike the students an educational background in junior high school, students with the educational background of MTs

dominated with the highest score is a score of 5 that as many as 14 students with a percentage of 60.86%. Clearly there is no significant difference between students with junior high education background and students with the educational background of MTs.

The results obtained from the students' answers to the Number 8 students with the educational background of junior obtain equitable results that most students earn a score of 3 as many as 10 students with a percentage of 35.29%. On this matter the students are required to be able to prove indirectly. The result most students able to solve this problem of understanding the problem stage to check the answers, but not complete at this stage of implementing the settlement because of time constraints.

Significant differences occurred between the students with the educational background of students and junior high school students with educational backgrounds MTs, ie, students with an educational background MTs at number 8 is dominated by as many as 12 students obtained a score of 5 with a percentage of 56.7%.

In question No. 9, the results obtained by the students again showed an increase. Most students earn a score of 4 by 7 students with percentage 22.53%. On this matter the students are required to be able to determine the area of a triangle using the formula that has been available. The result most of the students were able menyelesaiakanya. but still most of student incomplete in his anwser because time is limit.

Not like the students an educational background in junior high school, students with the educational background of MTs dominated with the highest score is a score of 4 that as many as 8 students with a percentage of 38.55%. Clearly there is no significant difference between students with junior high school education background and students with the educational background of MTs.

Based on the results of tests that students' level of mathematical reasoning has been designed in such a way that each indicator representing mathematical reasoning, the result is there is no difference between the level of students' mathematical reasoning students with a background in secondary education and students' educational background MTs.

After that, the authors analyzed data from tests students' skills in solving mathematical problems using descriptive statistics with the help of SPSS 16 software, the following results: The following table is presented of the calculation of the total score level mathematical reasoning of students in terms of educational backgrounds of students in the previous level.

Table 4.18

The level of students' mathematical reasoning in terms of educational backgrounds of students in the previous level.

Maksimum Value	82,22
Minimum value	46,67
Average Math Reasoning Student (SMP)	63,4
Average Math Reasoning Student (MTs)	62,52
Minimum value (SMP)	46,67
Minimum Value (MTs)	46,67
Maksimum Value (SMP)	82,22
Maksimum Value (MTs)	80

Be more easily understood, the following authors present data in the form of graphs:
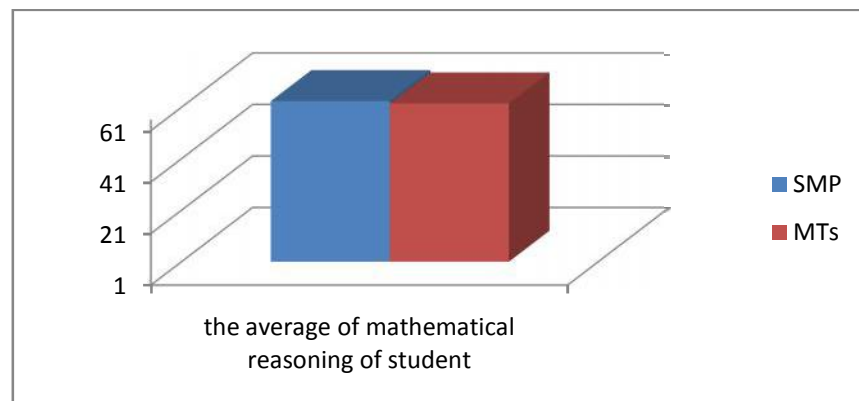
Figure 4.17
Graph the average level of student mathematical reasoning

From the graph it can be seen that the average score of students' mathematical reasoning level there is no significant difference between students with junior high education background and students with the educational background it is just 0,89.

Based on data from the above table total students with educational backgrounds MTs with level reasoning Less amounted to 8 students, and the level enough of reasoning totaled 11 students, and with a good level of reasoning amounted to 9, and the criteria for very good numbered 1 students. While total students with a background in secondary education level reasoning Less numbered 10 students, and the level of reasoning just about 10 students, and with a good level of reasoning amounted to 8 students, and the students' level of mathematical reasoning with excellent criteria amounted to 2 students.

With the highest total score is 82,22 students' mathematical reasoning by the students with the educational background of junior high. While the lowest score level mathematical reasoning by the students is 46,67 with a junior high school education background. The average score of the students with the educational

background of junior high school is 63.4 and the average score of students with the educational background of MTs is 62.5.

Thus it can be prepared a statistical hypothesis: H_0: There are no difference between the level of students' mathematical reasoning students with junior high education background and students with educational backgrounds MTs H_a: There are difference between the level of students' mathematical reasoning students with junior high education background and students with educational backgrounds MTs

3. Hypothesis Testing

Table 4.19

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
mathematical_reasoning	60	35,56	46,67	82,22	3777,78	62,9630	1,20873	9,36276	87,661
Valid N (listwise)	60								

From the table it is known that the total sample of 60 students of class X in MAN Cirebon 1, the value of the average (mean) is equal to 62.96, the variance is equal to 87.661, the standard deviation is equal to 9.36276, the value minimum is equal to 46,67, and the maximum value is equal to 82,22. so it can be interpreted that the average level of mathematical reasoning students in MAN Cirebon 1 is good enough.

B. Data Analysis

1. Normality Test

Normality test is used to test whether the data were normally distributed or not. If the data are normally distributed, it can be

analyzed using parametric statistics. As for the error normality test performed using SPSS 16 software applications Kolmogorov-Smirnov test formula. The data obtained are as follows:

Table 4.20

Tests of Normality

	educational_background	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
mathematical_reasoning	MTs	,129	30	,200[*]	,968	30	,490
	SMP	,115	30	,200[*]	,957	30	,263

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Based on the table above, the test data normality with the Kolmogorov-Smirnov test in SPSS 16. For students with an educational background MTs significance value of 0.200 with a significance level = 0.05. Thus the p-value of the Kolmogorov-Smirnov test (p value)> 0.05, ie 0.200> 0.05 then accept H0 means that the data are normally distributed.

As for the students with the educational background SMP significance value of 0.200 with a significance level = 0.05. Thus the p-value of the Kolmogorov-Smirnov test (p value)> 0.05, ie 0.200> 0.05 then accept H0 means that the data are normally distributed.

2. **Homogeneity test**

After the normality test, then the test of homogeneity. Homogeneity test is used to determine whether the samples used in this study varied or not. Homogeneity test in this study using the Levene test Test. Results obtained from the SPSS 16 using Levene Test, can be seen in the table below:

Table 4.21

Test of Homogeneity of Variances

mathematical_reasoning

Levene Statistic	df1	df2	Sig.
,468	1	58	,497

Based on the table above, the homogeneity test using SPSS 16 Test Levene test significance value 0.539 with significance level = 0.05. Thus the value of Prob. / Sig. / P-Value> then H0 is rejected it means there is no difference in variance (homogeneous). So it can be concluded that the data rate of students' mathematical reasoning in terms of educational backgrounds of students bervarian homogeneous at 95% confidence level.

3. **T test**

Table 4.22

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
mathematical_reasoning	Equal variances assumed	,468	,497	-,365	58	,716	-,88889	2,43541	-5,76389	3,98611
	Equal variances not assumed			-,365	57,409	,716	-,88889	2,43541	-5,76496	3,98718

T test was conducted to determine whether to accept or reject statistical hypotheses that have been made in the previous chapter. As in the case using SPSS 19, the results can be seen in the table 4.22.

Based on the results SPSS 19 on the table 4.22, From the above table for each test found that-ttabel <t <t table so, H0 is accepted and it can be concluded that there is not enough evidence to prove the existence of differences in mathematical reasoning students with the educational background of junior and student the educational background of MTs.

C. Discussion

After obtaining the data results of research in the field and data processing has been done, then the results obtained statistical calculations. Data analysis begins by analyzing whether any samples come from populations with normal distribution or not. Normality test results show that the data are normally distributed because the significance value greater than 0.05 is 0.200. Further testing of homogeneity conducted with the help of software SPSS 16 statistical test using Levene Test with a significance level of 0.05. Homogeneity test results obtained significance value obtained was 0.497. Because the significance is greater than 0.05, it can be concluded that the data has the same variant or homogeneous.

Based on the tests conducted, average levels of mathematical reasoning students with the educational background or are quite MTs which amounted 62,5 and the average value obtained was 63,4 average level of mathematical reasoning of students with educational backgrounds SMP or quite moderate.

The test results showed that there was no statistically significant difference between the level of mathematical reasoning that students with a background in secondary education level mathematical reasoning students educational background MTs. In other words, almost no educational background to bio-level reasoning matematiak student, or the

student's educational background influence on the level of students' mathematical reasoning close to 0 (zero) or almost none at all. More details can be viewed from 4.19.

Based on the above chart shows that the level of mathematical reasoning among students with the educational background of junior high school students with a background in education MTs no significant difference. Both lines showed no significant difference between of them.

CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

A. Conclusion

Based on the results of research conducted, we can conclude several things related to the level of students' mathematical reasoning in terms of educational background of students:

1. The average level of mathematical reasoning of students with a background in secondary education aspect, drawing conclusions based on similarity of data or processes, drawing general conclusions based on a number of observed data, Estimating answers, solutions, or inclination, Giving an explanation to the model, the facts, nature, relationships , or an existing pattern, Implement calculations based on certain rules or formulas, Develop direct proof, indirect proof, and checking the validity of the argument, that is 62,5 .

2. The average level of mathematical reasoning of students with a background in secondary education aspect, drawing conclusions based on similarity of data or processes, drawing general conclusions based on a number of observed data, Estimating answers, solutions, or inclination, Giving an explanation to the model, the facts, nature, relationships , or an existing pattern, Implement calculations based on certain rules or formulas, Develop direct proof, indirect proof, and checking the validity of the argument, that is 63,4.

3. Analyses revealed that there was no significant difference between the level of students' mathematical reasoning with junior high education background and level of mathematical reasoning of students with educational backgrounds MTs. So in general there is no influence of the student's educational background level of students' mathematical reasoning. So, H_0 is accepted and H_a is rejected.

B. Suggestion

Based on the research that has been done, then the advice that can be given is as follows:

1. Still apply curriculum principally to the curriculum in MTs, because the weight of the religious school hours is good enough.

2. The government should not discriminate between the graduate students who graduated from the institution under the auspices of the Ministry of Religious Affairs with the students who graduated from the institution shelter under the Ministry of National Education. Because, basically, the capabilities are not much different.

3. For teachers to be more creative and innovative in doing inovation in the implementation of education inside and outside the classroom in order to improve the quality of the students, especially the level of students' mathematical reasoning.

4. For further research,
   a. need to pay attention to some things that need to pay attention to the development of education in Indonesia, where the curriculum is likely to change.
   b. This research is a case study in which only applies to the sample region at a certain time after the research is completed. It can not be mengasumsiskan for each student on the dimensions of space and a different time dimension. Then to know it needs to be tested again periodically.

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A.1. DATA POPULATION

Urut	NIS	Nama Lengkap	L/P	Desa/Kel.	Kecamatan	Nama SMP/MTs
1	1213.1.036	ADE RIANTI	P	BUNGKOLOR	KAPETAKAN	SMP ABU MANSHUR
2	1213.1.037	AHMAD NUR FAJRI	L	BODE LOR	WERU	MTs AS SHALAFIYAH
3	1213.1.038	AHMAD SOFYAN AMINUDIN	L	KENANGA	SUMBER	SMPN 1 DEPOK
4	1213.1.039	AIZA NUR FITRIYANA	P	KLANNGENAN	KLANGENAN	MTs AL ISHLAH PERSIS 92 MAJALENGKA
5	1213.1.040	AKHMAD SYARIF	L	PERBUTULAN	SUMBER	SMP AL-WASHLIYAH
6	1213.1.041	AYU SHIFA MAYU	P	WARUJAYA	DEPOK	MTs N PALIMANAN
7	1213.1.042	DATI	P	LAJER	TUKDANA	SMPN 1 TUKDANA
8	1213.1.043	FADLUN MAULINA	P	MEGU CILIK	WERU	MTs N CIREBON II
9	1213.1.044	FAJRIAH	P	PERBUTULAN	SUMBER	MTs MANBAUL ULUM
10	1213.1.045	FAUZI IKHSAN MAULANA	L	TUKMUDAL	SUMBER	MTs AL-ISHLAH BOBOS
11	1213.1.046	FIKKY AMELIYAH	P	PANEMBAHAN	PLERED	SMPN 1 SUMBER
12	1213.1.047	FITRIANAH MARGIANI	P	PLUMBON	PLUMBON	SMPN 2 PLUMBON

13	1213.1.048	IBNU UBAIDILLAH	L	TEGALSARI	PLERED	SMPN DARUL MUSYAWIRIN
14	1213.1.049	IKA SOLIKHA	P	PESANGGRAHAN	PLUMBON	SMPN 1 PLUMBON
15	1213.1.050	ILHAM MUNNI'AM	L	TEGAL GUBUG	ARJAWINANGUN	SMPN 1 SUSUKAN
16	1213.1.051	ISMATUL MAULA	P	GEGUNUNG	SUMBER	SMP AL-WASHLIYAH
17	1213.1.052	KHOERIYAH	P	CANGKOAK	DUKUPUNTANG	SMPN 1 DUKUPUNTANG
18	1213.1.053	KHUSNUL KHOTIMAH	P	KALIBARU	TENGAHTANI	SMPN 1 TENGAHTANI
19	1213.1.054	LISNAWATI	P	SETU WETAN	WERU	SMPN 1 WERU
20	1213.1.055	MAR'ATUS SHOLIHAH	P	BODE LOR	PLUMBON	SMPN 1 WERU
21	1213.1.056	MASRUROH	P	JUNG JANG	ARJAWINANGUN	MTs N ARJAWINANGUN
22	1213.1.057	MILA MULYANTI	P	GOMBANG	PLUMBON	SMPN 2 PLUMBON
23	1213.1.058	MOHAMMAD SHIDDIQ GHOZALI	L	WIYONG	SUSUKAN	SMPN 1 SUSUKAN
24	1213.1.059	MOKHAMAD RISYALDI ATRUZA	L	WARUROYOM	DEPOK	SMPN 1 DEPOK
25	1213.1.060	MUCHAMAD SALMAN AL-FARIZI	L	PERBUTULAN	SUMBER	SMP AL-WASHLIYAH
26	1213.1.061	MUJRI'AH	P	TEGAL GUBUG KIDUL	ARJAWINANGUN	MTs N ARJAWINANGUN

27	1213.1.062	MUSTAQIM	L	TEGAL GUBUG	ARJAWINANGUN	MTs N 1 ARJAWINANGUN
28	1213.1.063	NOVA ANGGINI	P	PESANGGRAHAN	PLUMBON	SMPN 1 DEPOK
29	1213.1.064	NURFIKA	P	PALIR	TENGAHTANI	SMPN 3 SUMBER
30	1213.1.065	PUPUT FITRIYANA	P	KALIWULU	PLERED	MTs N CIREBON II
31	1213.1.066	QURROTUL A'NI	P	KALIWULU	PLERED	SMPN 2 PLERED
32	1213.1.067	REZA MAULANA	L	KALIWADAS	SUMBER	SMPN 2 SUMBER
33	1213.1.068	RHISKI FATIMA	P	TEGALWANGI	WERU	SMPN 1 PLUMBON
34	1213.1.069	RISMA AMALIA SAFITRI	P	MEGU CILIK	WERU	SMP ISLAMIYAH WERU
35	1213.1.070	ROSMATUL ALAWIYAH	P	KALIWADAS	SUMBER	MTs ASH-SHALAH
36	1213.1.071	RUKHIYATUL FIKRIYA	P	BOJONG LOR	JAMBLANG	SMPN 1 JAMBLANG
37	1213.1.072	SAEF ANTON	L	PAUR	TENGAHTANI	SMPN 3 SUMBER
38	1213.1.073	SAIF ROMDHONI	L	TUKMUDAL	SUMBER	MTs N CIREBON II
39	1213.1.074	SAINA	P	TUK	KEDAWUNG	SMPN 1 KEDAWUNG
40	1213.1.075	SARIWATI	P	ORIMALANG	JAMBLANG	SMPN 2 JAMBLANG

41	1213.1.076	SHOLEHAH	P	GAMEL	PLERED	SMPN 2 PLERED
42	1213.1.077	SITI AISYAH	P	SLENDRA	GEGESIK	MTs N PALIMANAN
43	1213.1.078	SITI AROFAH	P	KARANG MULYA	PLUMBON	SMPN 2 PLUMBON
44	1213.1.079	SITI MARYAM	P	LUNGBENDA	PALIMANAN	SMPN 3 PALIMANAN
45	1213.1.080	SRI RUSTINAWATI	P	MATANGAJI	SUMBER	MTs NURUL HUDA MATANGAJI
46	1213.1.081	UMATUN KHOERIYAH	P	SETU KULON	WERU	SMPN 2 PLERED
47	1213.1.082	VIDIA	P	ASTAPADA	TENGAHTANI	SMPN 1 KEDAWUNG
48	1213.1.083	VIVI YULIANTI APAN	P	KEDONGDONG KIDUL	DUKUPUNTANG	SMPN 2 PALIMANAN
49	1213.1.084	YUNITA	P	TUKMUDAL	SUMBER	SMPN 2 SUMBER
JUMLAH						

DAFTAR PESERTA DIDIK KELAS X - 3
TAHUN PELAJARAN 2012/2013

Nomor Urut				Desa/Kel.	Kecamatan	Nama SMP/MTs
1		ABDUL HARIS	L	MEGU GEDE	WERU	SMPN 1 WERU
2		ADE NUR ISTIQOMAH	P	WARUJAYA	DEPOK	MTs N PALIMANAN
3		AHMAD NURALIM	L	LAJER	TUKDANA	SMPN 1 TUKDANA
4		AKHMAD ZAKKI	L	WERU LOR	WERU	MTs N CIREBON II
5		AMINAH	P	KARANGSARI	WERU	MTs N CIREBON II
6		APRIZAL HARYADI	L	JAMBLANG	JAMBLANG	SMPN2 JAMBLANG
7		ARIEF MUFTAKHUDIN	L	BOJONG WETAN	JAMBLANG	SMPN 1 JAMBLANG
8		AYU AFRIDAH	P	BUNDER	SUSUKAN	MTs YAPISA BUNDER
9		BADRUL MUNIR	L	BODESARI	PLUMBON	MTs SALAFIYAH BODE
10		BEBY AYU LESTARI	P	DANAMULYA	PLUMBON	SMPN 1 PLUMBON
11		DEDE FAUZI	L	KESUGENGAN LOR	DEPOK	SMPN 3 PALIMANAN
12		DIAN LESTARI	P	KALIWADAS	SUMBER	SMPN 2 SUMBER
13		DIYA JULAECHA	P	DESA SUCI	MUNDU	SMPN 13 CIREBON
14		DIYANA	P	LUNGBENDA	PALIMANAN	SMPN 4 PALIMANAN
15		EKA NILAM SARI	P	BAKUNG KIDUL	JAMBLANG	SMPN 2 GUNUNG JATI
16		ENGGAL DWI RAHMAWATI	P	WATUBELAH	SUMBER	SMP ISLAMIYAH WERU
17		TASICHAH	P	KALIWADAS	SUMBER	SMP SYARIF

						HIDAYATULLAH
18		HERLINA	P	MEGU CILIK	WERU	MTs N CIWARINGIN
19		HILDAYANTI	P	WARUKAWUNG	DEPOK	MTs N CISAAT SUMBER
20		IBTIYAH	P	PANEMBAHAN	PLERED	SMP ISLAMIYAH WERU
21		ISNA HIDAYATI	P	KLANGENAN	KLANGENAN	SMPN 3 PALIMANAN
22		JAMALUDIN	L	WATUBELAH	SUMBER	SMP DARUL MUSYAWIRIN
23		JAM'UL JAWAMI	L	TEGAL GUBUG	ARJAWINANGUN	SMPN 1 ARJAWINANGUN
24		KETRIYAWATI	P	JAMBE	KERTASMAYA	SMPN 1 CIWARINGIN
25		KHUSNUL KHOTIMAH	P	MEGU CILIK	WERU	MTs SALAFIYAH BODE
26		LAELY NAFIASARI	P	SIDAKATON	DUKUHTURI	MTs N CIWARINGIN
27		LIZA AYU LESTARI	P	GESIK	TENGAHTANI	SMPN 1 KEDAWUNG
28		MILATUL KHABIBAH	P	KEDUNGSANA	PLUMBON	SMPN 2 PLUMBON
29		MOCHAMAD FAISAL HERDIYANA	L	TUKMUDAL	SUMBER	SMPN 2 SUMBER
30		MUHAMMAD ERWIN ABDILLAH	L			
31		MUN'IMAH AZHIMAH	P	KREYO	KLANGENAN	MTs N CIWARINGIN
32		NOVA	P	MARIKANGEN	PLUMBON	SMPN 2 PLUMBON
33		NOVI LESTARI	P	SUMBER	SUMBER	SMPN 1 CILEBAK
34		NUR AFIATUSSALAMAH	P	PERBUTULAN	SUMBER	SMPN 3 SUMBER
35		NUR ALIFFAH	P	WATUBELAH	SUMBER	SMPN 3 SUMBER
36		NUR AZIZAH	P	WARUJAYA	DEPOK	MTs N PALIMANAN

37		NUR INEWATI	P	ASTAPADA	TENGAHTANI	SMPN 1 KEDAWUNG
38		NURFAIZAH	P	PANGURAGAN WETAN	PANGURAGAN	SMPN 1 PANGURAGAN
39		SHOFRIA ROHMATUN	P		WERU	SMPN 2 WERU
40		SITI NURJANAH	P	GOMBANG RT 09/03	PLUMBON	MTs PEMBANGUNAN PLUMBON
41		SITI ROHMAH	P	BABAKAN	CIWARINGIN	SMPN 1 CIWARINGIN
42		SITI SHO'IDAH JURUZAH	P	SETU KULON	WERU	SMPN 1 WERU
43		SONI DENIKA	P	LURAH	PLUMBON	SMP PGRI PLUMBON
44		TAUFIQ NUR BAHAGIA	L	KALIWULU	PLERED	MTs N CIREBON I
45		WATI HERNINGSIH	P	BULAK	ARJAWINANGUN	SMPN 3 PALIMANAN
46		YAYAH BAETIYAH	P	KEDUNG WUNGU	KRANGKENG	MTs N ARJAWINANGUN
47		YULIANA LESTARI	P	SUMBER	SUMBER	SMPN 2 SUMBER
48		YUNITA	P	TUKMUDAL	SUMBER	SMPN 2 SUMBER

DAFTAR PESERTA DIDIK KELAS X - 4
TAHUN PELAJARAN 2012/2013

Nomor Urut				Desa/Kel.	Kecamatan	Nama SMP/MTs
1		ADE MUFLIKA	P	KEDUNG DAWA	KEDAWUNG	SMPN 1 TENGAHTANI
2		ADI MASHUDI	L	KARANGMULYA	PLUMBON	SMPN 1 PLUMBON
3		AHMAD FUTUNUL FIKRI	L	LUNGBENDA	PALIMANAN	SMPN 3 PALIMANAN
4		AJI NACHLAN	L	BODELOR	PLUMBON	MTs SALAFIYAH BODE
5		ALI FAHLEVI	L	TEGAL GUBUG	ARJAWINANGUN	MTs N ARJAWINANGUN
6		AYU KHOLIFATUS SOFA	P	CIWARINGIN	CIWARINGIN	MTs N CIWARINGIN
7		DARWI	P	KREYO	KLANGENAN	SMPN 1 KLANGENAN
8		DETI IRMAWATI	P	WARUKAWUNG	DEPOK	MTs N CISAAT SUMBER
9		DIEN PASHALIANI	P	KALIWADAS	SUMBER	MTs SALAFIYAH BODE
10		EKA NURAFIAH	P	TEGAL WIRANGRONG	KERTASMAYA	MTs N CIWARINGIN
11		EVA LUFIYANTI	P	JATI ANOM	SUSUKAN	SMPN 2 KALIWEDI
12		EVI RIYANI	P	MEGU CILIK	WERU	SMPN 1 WERU
42		TANIA MUSTIKASARI	P	KALIWADAS	SUMBER	SMPN 2 SUMBER
13		HALIMATUS SYA'DIYA	P	TEGALWANGI	WERU	MTs N CIREBON II
14		HALWA FAUZIYAH	P	KLANGENAN	KLANGENAN	SMPN 1 PALIMANAN

15		HANIK MAFTUKHA	P	KALIWULU	PLERED	MTs N CIWARINGIN
16		IBNU SEPTIONO	L	DAWUAN	TENGAHTANI	SMPN 1 KEDAWUNG
17		IIN INAYAH	P	KEDUNG BUNDER	GEMPOL	SMPN 1 GEMPOL
18		ISTI QOMARIYAH	P	WARUKAWUNG	DEPOK	SMPN 2 DEPOK
19		ISTIANAH	P	TUKMUDAL	SUMBER	SMPN 2 SUMBER
20		JUMALI	L	GUWA LOR	KALIWEDI	SMPN 2 KALIWEDI
21		LISA ANDRI YANI	P	DANAMULYA	PLUMBON	SMPN 1 PLUMBON
22		LUCYANI	P	KEDUNG JAYA	KEDAWUNG	SMP ISLAMIYAH WERU
23		MAHMUDAH	P	BODE LOR	PLUMBON	SMPN 1 WERU
24		MERISA	P	PALIMANAN BARAT	GEMPOL	SMPN 1 GEMPOL
25		MOH. SHODIK ALKANOFAN	L	PANEMBAHAN	PLERED	SMP ISLAMIYAH WERU
26		MUHAMMAD FAKHRURROZI	L	HARJAMUKTI	HARJAMUKTI	MTs KHAS KEMPEK
27		MUHAMMAD HENDRI PERMANA	L	PANEMBAHAN	PLERED	SMPN 1 WERU
28		NOVA INDRIYANI	P	CIKALAHANG	DUKUPUNTANG	SMPN 1 DUKUPUNTANG
29		NOVITA CATURWATI	P	TARIKOLOT	PALASAH	SMPN 1 CIWARINGIN
30		OKI MUHAMMAD RIZA	L	KEDUANAN	DEPOK	SMPN 1 DEPOK
31		RAHMAWATI	P	KEDUNG DAWA	KEDAWUNG	SMPN 1 TENGAHTANI
32		RIA APRILIA	P	MEGU CILIK	WERU	MTs N CIREBON II
33		RIHANA	P	BODESARI	PLUMBON	MTs SALAFIYAH BODE

34		RIZKY WAHYUDI	L	BOJONG KULON	SUSUKAN	SMPN 1 ARJAWINANGUN
35		SILFI ZULVIAH	P	WERU KIDUL	WERU	SMP ISLAMIYAH WERU
36		SINDI SINTIYA	P	KERTAWINAN GUN	KEDAWUNG	SMPN 3 SUMBER
37		SINTIA	P	MEGU CILIK	WERU	SMP ISLAMIYAH WERU
38		SITI HARTINA	P	WARUROYOM	DEPOK	SMPN 2 PALIMANAN
39		SITI SABARIYAH	P	BANDENGAN	MUNDU	MTs N CIREBON II
40		SUBHAN SAPUTRA	L	WERU KIDUL	WERU	SMPN 1 WERU
41		SUCI BAYINATUN WAKHIDAH	P	TUKMUDAL	SUMBER	SMP AL-WASHLIYAH
44		UYUNI FAIZAH	P	BAYALANGU	GEGESIK	MTs NU 01 GRINGSING
45		WARSINI	P	KALIWULU	PLERED	SMPN 1 PLERED
46		WENICA	P	SIRNABAYA	GUNUNG JATI	SMPN 1 GUNUNG JATI
43		WIDYANINGSIH	P	SURANENGGA LA LOR	SURANENGG ALA	SMPN 1 SURANENGGALA
47		YETI OVI YANI	P	SURANENGGA LA LOR	SURANENGG ALA	SMPN 1 SURANENGGALA
48		YULI YANTI DEWI	P	KEDUNGSANA	PLUMBON	SMPN 2 PLUMBON
49		YULIA PUSPARANI	P	PAMIJAHAN	PLUMBON	SMPN 1 PLUMBON
JUML AH						

DAFTAR PESERTA DIDIK KELAS X - 5
TAHUN PELAJARAN 2012/2013

Nomor Urut				Desa/Kel.	Kecamatan	Nama SMP/MTs
1		ABDUL NUDI	L	PAMIJAHAN	PLUMBON	SMPN 1 PLUMBON
2		AI' ARYANTI	P	WERU	WERU	MTs N CIREBON II
3		AISYAH	P	TUKMUDAL	SUMBER	SMPN 2 SUMBER
4		AKHMAD MUHADI	L	GEGUNUNG	SUMBER	SMP AL-WASHLIYAH
5		ALVITANIA SHOLEHAH	P	KARANGASEM	TERISI	MTs N CIREBON II
6		AYU SITI JUHAERIYAH	P	MATANGAJI	SUMBER	MTs NURUL HUDA MATANGAJI
7		DARA WAKHYUNINGRUM	P	JUNG JANG	ARJAWINANGUN	MTs MIFTAHUL ULUM
8		DEDE YULIA NURKHOFIFAH	P	CIBALANDONG JAYA	CIBOGO	SMP CINTA BANGSA CIBALANDONG
9		DESI AJENG SAFITRI	P	ARJAWINANGUN	ARJAWINANGUN	SMPN 1 ARJAWINANGUN
10		FAKIH ANWAR ZARKASYI	L	MANDALA	DUKUPUNTANG	MTs AL-ISHLAH BOBOS
11		FIKRIYAH	P	PAMIJAHAN	PLUMBON	SMPN 1 PLUMBON
12		FITRIYAH	P	KEDUNGSANA	PLUMBON	SMPN 1 PLUMBON
13		FRISCA DWI LESTARI	P	BODE LOR	PLUMBON	SMPN 1 PLUMBON
14		HALIMAH SA'DIYAH	P	KALIBARU	TENGAHTANI	SMPN 1 TENGAHTANI
15		HANITA	P	MAYUNG	GUNUNG JATI	SMPN 3 GUNUNG JATI

16		IBROHIM BARDAN	L	PANGURAGAN KIDUL	PANGURAGAN	SMPN 1 ARJAWINANGUN
17		IIN NUSSRILAH	P	DANAWINANGUN	KLANGENAN	SMPN 3 CILEUNYI
18		IQBAL WIDIANTO	L	TUKMUDAL	SUMBER	SMP ITUS JALAKSANA
19		KHUMAEROH	P	BATEMBAT	TENGAHTANI	SMPN 2 PLERED
20		KHUSNUL KHAJIBAH	P	PANGURAGAN	PANGURAGAN	MTs NURUL BAHRI JAKARTA
21		KURNIAWATI	P	BAKUNG KIDUL	JAMBLANG	SMPN 2 GUNUNG JATI
22		LENI YULIANTI	P	LURAH	PLUMBON	SMPN 1 DEPOK
23		LINDA ASHARI	P	PESANGGRAHAN	PLUMBON	MTs AL HIKMAH 02
24		LUTFI AJI SAPUTRA	L	KALITENGAH	TENGAHTANI	SMPN 1 TENGAHTANI
25		M. FAHRUL FAOZAN	L	SINDANG MEKAR	DUKUPUNTANG	MTs AL-ISHLAH BOBOS
26		MOH UBAEDILLAH	L	KREYO	KLANGENAN	SMPN 1 KLANGENAN
27		MOH. HAFIDIN SUHARTO	L	GUWA KIDUL	KALIWEDI	SMPN 1 CIWARINGIN
28		MUHAMAD ABDULANI	L	KARANGSARI	WERU	MTs NU PUTRA I BUNTET
29		NONI	P	PAMIJAHAN	PLUMBON	SMPN 1 SUMBER
30		NURCHASANAH	P	GESIK	TENGAHTANI	SMP ISLAMIYAH WERU
31		ONI'AH	P	LURAH	PLUMBON	SMPN 2 PLUMBON
32		OVIE NUR AZIZAH	P	KUMBUNG	RAJAGALUH	SMPN 1 CIWARINGIN
33		PARINA	P	PANGKALAN	PLERED	SMPN 3 PLERED

34		PEGI YULIAWATI	P	PALIMANAN BARAT	GEMPOL	MTs N PALIMANAN
35		PIPIT DAMAYANTI	P	KESUGENGAN LOR	DEPOK	SMPN 2 JAMBLANG
36		ROIKHATUL JANNAH	P	TEGAL GUBUG LOR	ARJAWINANGUN	MTs N CIWARINGIN
37		RUMINA	P	DAWUAN	TENGAHTANI	SMP ISLAMIYAH WERU
38		SAPUTRA ANURI	L	GOMBANG	PLUMBON	SMP PGRI PLUMBON
39		SILVIA INTAN	P	DANAWINANGUN	KLANGENAN	SMPN 2 JAMBLANG
40		SITI AZIZAH	P	MEGU CILIK	WERU	SMPN 20 BEKASI
41		SITI FATCHIYATUL KHUMAEROH	P	SETU KULON	WERU	MTs N CIREBON II
42		SITI KHUMAEROH	P	CANGKUAK	DUKUPUNTANG	SMP ASY-SYAHIDA
43		SITI ROFIQOH	P	WINONG	GEMPOL	MTs N ARJAWINANGUN
44		SITI SOLECHA	P	PEJAMBON	SUMBER	SMPN 3 SUMBER
45		SOPIYANA	P	KARANGSARI	WERU	SMPN 1 PLUMBON
46		SUNOTO	L	CIKEDUK	DEPOK	MTs N CISAAT SUMBER
47		TARMADI	L	SURANENGGALA LOR	SURANENGGALA	MTs KAPETAKAN
48		ULFAH HANIF ROSYIDAH	P			
48		WIDYANINGSIH	P	SURANENGGALA LOR	SURANENGGALA	SMPN 1 SURANENGGALA
49		ZAKIYATUL FITRI	P	KEDUNG BUNDER	GEMPOL	SMPN 1 GEMPOL

Nomor					
JUML AH					

DAFTAR PESERTA DIDIK KELAS X - 6
TAHUN PELAJARAN 2012/2013

Nomor Urut				Desa/Kel.	Kecamatan	Nama SMP/MTs
1		ADE PRASETYO	L	BODE LOR	PLUMBON	MTs N CIREBON II
2		ADNIN PRIYANDI	L	CANGKRING	PLERED	SMPN 3 PLERED
3		AFIFATUL MAEMUNAH	P	KERANDON	TALUN	MTs AL ANWAR SAMPIRAN
4		AKHMAD BURHAN	L	WERU KIDUL	WERU	SMP AL-HIKMAH
5		ANNUR DIANA	P	TUKMUDAL	SUMBER	SMPN 1 SUMBER
6		DESI RAHAYU MUJIZAH	P	BOJONG LOR	JAMBLANG	SMPN 1 JAMBLANG
7		DWI YANTI	P	WARU KAWUNG	DEPOK	SMPN 2 DEPOK
8		DYAH NURAENI	P	KEMANTREN	SUMBER	SMP AL-WASHLIYAH
9		EKO PUTRA MAULANA	L	PANEMBAHAN	PLERED	MTs N CIREBON II
10		ELI PURNAMA SARI	P	WATUBELAH	SUMBER	SMP ISLAMIYAH WERU
11		ERMA ROSMAYANTI	P	KALIWADAS	SUMBER	SMPN 2 PLUMBON
12		FATIMAH	P	KERTASARI	WERU	MTs N CIREBON II
13		FAUZIYAH	P	KEDUNG BUNDER	PALIMANAN BARAT	SMPN 3 PLERED
14		HUSNUL KHOTIMAH	P	CENGKUANG	PALIMANAN	SMPN 3 PALIMANAN

15		IMAS AYU SHOBIROH	P	CIREBON GIRANG	TALUN	MTs N CIWARINGIN
16		IRA HIDAYAH	P	DANAMULYA	PLUMBON	SMPN 1 PLUMBON
17		LILIS ROLLYAH	P	WERU KIDUL	WERU	MTs N CIWARINGIN
18		LULU ATUL ALAWIYAH	P	GUWA LOR	KALIWEDI	MTs N PALIMANAN
19		MAR'ATUSHOLIKHA	P	SETU KULON	WERU	SMPN 1 TENGAHTANI
20		MAULIDIYAH	P	PAMIJAHAN	PLUMBON	SMPN 1 DEPOK
21		MELLAN MUSLIYANA	P	PAMIJAHAN	PLUMBON	SMPN 1 PLUMBON
22		MIFTAHUL JANNAH	P	BAKUNG LOR	WERU	MTs N CIREBON II
23		MINKHATUL MAULA	P	KALIWADAS	SUMBER	SMP AL-WASHLIYAH
24		MUHAMAD SALAMUN	L	ASTAPADA	TENGAHTANI	SMPN 3 SUMBER
25		MUHAMMAD ADAM	L	CIKEDUK	DEPOK	SMPN 1 DUKUPUNTANG
26		MUHAMMAD HARDIYANTO	L	DEPOK	DEPOK	SMP PARIPURNA
27		MUHAMMAD NEILAL VAZLEAL	L	WERU LOR	WERU	SMPN 2 PLERED
28		MUTMAINAH	P	BEBERAN	PALIMANAN	SMPN 4 PALIMANAN
29		NADYA SAFRIANA LA ONDA	P	SUMBER	SUMBER	SMP AL-WASHLIYAH
30		NAYLA FAZA	P	BALERANTE	PALIMANAN	SMPN 2 PALIMANAN
31		NINA FAUZIYAH	P	TEGALWANGI	WERU	MTs N CIREBON II
32		NUR KHOLIFAH	P	MEGU CILIK	WERU	SMPN 1 WERU
33		NUR MUKHAMAD	L	KEMPEK	GEMPOL	SMP BANI ALI GEMPOL
34		OIM IBROHIM	L	KALIWEDI	KALIWEDI	MTs N ARJAWINANGUN
35		RENI FARIDA	P	KALITENGAH	TENGAHTANI	SMPN 1 PLERED
36		RIKI MAULIDA RAHMAN	L	SINDANG	DUKUPUNTA	MTs AL-ISHLAH BOBOS

				MEKAR	NG	
37		ROHANIYAH	P	PAMIJAAN	PLUMBON	SMPN 1 PLUMBON
38		SITI DEWI KOMALASARI	P	MERTASINGA	GUNUNG JATI	MTs KAPETAKAN
39		SITI NUR HIDAYATI	P	KARANG MULYA	PLUMBON	SMPN 2 PLUMBON
40		SITI ROKHIMAH	P	BABAKAN	SUMBER	SMPN 2 SUMBER
41		SITI ROMLAH	P	WARUJAYA	DEPOK	MTs N PALIMANAN
42		SOFYAN MAR'I	L	WERU KIDUL	WERU	SMPN 1 WERU
43		SOLIKHIN	L	WOTGALI	PLERED	SMP SEKAR KEMUNING
44		SURYANI	P	PASALAKAN	SUMBER	SMPN 1 WERU
45		UMMI KHULSUM	P	KEMLAKA	TENGAH TANI	MTs NU PANEMBAHAN
46		USWATUN KHASANAH	P	GEGUNUNG	SUMBER	SMP AL-WASHLIYAH
47		YATI ROHAYATI	P	MEGU GEDE	WERU	MTs N CIREBON II
48		YOGI PURNAWAN	L	CANGKRING	PLERED	SMPN 3 PLERED
49		ZAHRO NOVIANTI	P	ARJAWINANGUN	ARJAWINANGUN	SMPN 1 ARJAWINANGUN
JUMLAH						

DAFTAR PESERTA DIDIK KELAS X - 7
TAHUN PELAJARAN 2012/2013

Nomor				Desa/Kel.	Kecamatan	Nama SMP/MTs
Urut				Desa/Kel.	Kecamatan	Nama SMP/MTs
1		ABDULLAH	L	TEGAL GUBUG	ARJAWINANGUN	MTs N ARJAWINANGUN
2		ANSORULLOH	L	PANGGUNG	KEDUNG	SMP IT FATHATUL HIDAYAH
3		ARIF GUNAWAN	L	TEGALWANGI	WERU	SMPN 1 PLUMBON
4		ASMINI	P	PAMIJAHAN	PLUMO	SMPN 1 DEPOK
5		ATINA WARDAH	P	SETU WETAN	WERU	SMP ISLAMIYAH WERU
6		AYU NURJANAH	P	PANEMBAHAN	PLERED	SMPN 1 WERU
7		AYUNI FITRIASIH	P	WERU LOR	WERU	MTs N CIREBON II
8		BADRIYAH	P	KALIWADAS	SUMBER	MTs ASH-SHALAH
9		DEWI NUROHMAH	P	PANEMBAHAN	PLERED	SMP IT TARBIYATUL BANIN
10		DIYANI FITRI	P	BUYUT	GUNUNG JATI	SMPN 3 GUNUNG JATI
11		ELI	P	WINONG	GEMPOL	MTs N ARJAWINANGUN
12		EVI NOVIANA GUSHA	P	SIRNABAYA	GUNUNG JATI	SMPN 1 GUNUNG JATI
13		FAHRI AHDIAT	L	KALIWADAS	SUMBER	SMP AL-WASHLIYAH
14		GISYA DEWI KHARISMA	P	WERU KIDUL	WERU	MTs N CIREBON II
15		HAMIDAH	P	TEGALWANGI	WERU	MTs N CIREBON II

16		IAN PERASUTIYO	L	BALERANTE	PALIMANAN	SMPN 1 PALIMANAN
17		IBNU SOLEH	L	KERTASARI	WERU	SMPN 2 WERU
18		IDA ROHANA	P	MEGU CILIK	WERU	MTs N CIREBON II
19		INDRIAWANTI	P	PAMIJAHAN	PLUMBON	SMPN 2 PLUMBON
20		JUMI ATI	P	SAMBENG	GUNUNG JATI	SMPN 3 GUNUNG JATI
21		JUWENI	P	PANGURAGAN WETAN	PANGURAGAN	SMPN 1 PANGURAGAN
22		KARLINA	P	CEMPAKA	PLUMBON	SMPN 2 SUMBER
23		KHOERUNISA	P	KEJUDEN	DEPOK	SMPN 1 DEPOK
24		KHOTIMATIN	P	KEDUNGSANA	PLUMBON	MTs N CIREBON II
25		KHUSNUL KHOWATIM	P	TEGAL GUBUG	ARJAWINANGUN	MTs N ARJAWINANGUN
26		LUSYANA	P	MEGU GEDE	WERU	SMPN 1 WERU
27		MARZUKI	L	MEGU CILIK	WERU	MTs N CIREBON II
28		MUSA SYAIFUL ANAM	L	BODELOR	PLUMBON	MTs KHAS KEMPEK
29		NINA DUROTUS SAMINA	P	TEGAL GUBUG	ARJAWINANGUN	SMP SABILUNA JAKARTA
30		NUR KHALIMA TUSA'DIYAH	P	SEMPLO	PALIMANAN	SMPN 2 PALIMANAN
31		NURIKHSAN	L	WANASABA KIDUL	TALUN	SMPN 2 SUMBER
32		NURSIPA	P	PESANGGRAHAN	PLUMBON	SMPN 2 PLUMBON
33		RIFQOTUN NADA	P	PERBUTULAN	SUMBER	MTs N CIREBON II
34		RIRIN NUR'AENI	P	ORIMALANG	JAMBLANG	SMPN 1 JAMBLANG
35		RISMA ANGGI APRILIA	P	KEBAREPAN	PLUMBON	SMPN 3 PALIMANAN

36		RITA REFUELSA	P	WATUBELAH	SUMBER	SMPN 1 WERU
37		RIYADUS SHOLIHIN	L	MEGU CILIK	WERU	SMPN 1 WERU
38		RODIYA	P	CIREBON GIRANG	TALUN	SMPN 1 TALUN
39		ROIHATUL JANNAH	P	SETU WETAN	WERU	MTs N CIREBON II
40		ROYANI	P	BODESARI	PLUMBON	SMPN 2 PLUMBON
41		RUSWIKA	P	WOTGALI	PLERED	SMPN 2 PLERED
42		SALAHUDIN SHEHAB AYYUBI	L	BODESARI	PLUMBON	MTs SALAFIYAH BODE
43		SAMSUL MA'ARIF	L	TUK	KEDAWUNG	SMPN 1 KEDAWUNG
44		SANDI WIJAYA	L	CANGKOAK	DUKUPUNTANG	SMPN 1 DUKUPUNTANG
45		SRI TUTI MUSLICHA	P	KEDUNGSANA	PLUMBON	SMPN 4 PALIMANAN
46		SRIYANA SEPTIANI	P	WANASABA KIDUL	TALUN	MTs N CIREBON II
47		SUHERTI	P	DANAMULYA	PLUMBON	SMPN 1 PLUMBON
48		SUSANTI	P	WERU LOR	WERU	SMP TERBUKA NEGERI 1 PLERED
49		TIYAS FITRI LIYANI	P		TENGAHTANI	SMP ISLAMIYAH WERU
JUMLAH						

DAFTAR PESERTA DIDIK KELAS X – 8
TAHUN PELAJARAN 2012/2013

Nomor Urut				Desa/Kel.	Kecamatan	Nama SMP/MTs
1		ABDUL MUONIP	L	SAMBENG	GUNUNG JATI	SMPN 3 GUNUNG JATI
2		ADE NUR'AENI	P	PALIMANAN BARAT	GEMPOL	MTs N PALIMANAN
3		ADUN CHOLIDUN	L	TEGALWANGI	WERU	SMP ISLAMIYAH WERU
4		AHMAD HAKIM ROJA APROLLA AL FALASIFAH	L	KALIBARU	TENGAHTANI	SMPN 2 PLERED
5		ALFIYA	P	LUNGBENDA	PALIMANAN	SMPN 4 PALIMANAN
6		AMIN MASDUKI	L	BOJONG WETAN	JAMBLANG	SMPN 2 JAMBLANG
7		ATIKAH	P	PASALAKAN	SUMBER	SMPN 2 SUMBER
8		DESTRY ARIANTI	P	KEDUNG JAYA	KEDAWUNG	SMP PGRI KEDAWUNG
9		DIANA INDRIYANI	P	JATI ANOM	SUSUKAN	SMPN 2 SUKAGUMIWANG
10		EGA FIANNITA	P	CANGKOAK	DUKUPUNTANG	MTs N CISAAT SUMBER
11		ELSA SAFITRI	P	TEGALSARI	PLERED	SMPN 1 PLUMBON
12		FAISAL AL FAYERD	L	KENANGA	SUMBER	SMPN 1 DUKUPUNTANG
13		FITRI WULAN DARI	P	PANGKALAN	PLERED	SMPN 3 PLERED
14		GHINA NUR MALAWATI F	P	SUNYARAGI	KESAMBI	SMP AL-IRSYAD AL-ISLAMIYAH

15		HAEBATUSSYARIFAH	P	KENANGA	SUMBER	MTs ISLAMIYAH KENANGA
16		HANIPA	P	PANGKALAN	PLERED	SMP ISLAMIYAH WERU
17		HERINA DWI LESTARI	P	KEDUANAN	DEPOK	SMPN 1 DEPOK
18		INAYAH ALFIYANI	P	BODESARI	PLUMBON	MTs SALAFIYAH BODE
19		INDAH SARI	P	BUYUT	GUNUNG JATI	MTs AL-IKHLAS MAYUNG
20		JARO TULMUNAWARO	P	ORIMALANG	JAMBLANG	SMPN 2 JAMBLANG
21		KHOLILATUL MAULA	P	PEGAGAN	PALIMANAN	SMPN 1 PALIMANAN
22		KHUS WATUN KHASANAH	P	KARANGASEM	PLUMBON	SMPN 2 PLUMBON
23		LINA FADILAH F	P	PEGAGAN	PALIMANAN	SMPN 3 PALIMANAN
24		LU'AY MARWAN	L	BODE LOR	PLUMBON	MTs SALAFIYAH BODE
25		M. AHSIN KHAUFI	L	WINONG	GEMPOL	SMPN 1 CIWARINGIN
26		MAFTUHAH	P	BODE LOR	PLUMBON	MTs N CIREBON II
27		MAYANG DELLA	P	KARANGSARI	WERU	SMPN 2 PLUMBON
28		MEILIANA	P	WOTGALI	PLERED	MTs N CIREBON II
29		MOH. ANWAR	L	DS. BODESARI	BODESARI	MTs SALAFIYAH BODE
30		MUFRIKHA	P	KARANGSARI	WERU	MTs N CIREBON II
31		MUHAIMIN	L	KEDUNGDAWA	KEDAWUNG	SMPN 1 KEDAWUNG
32		MUHAMAD AFIFUDIN	L	WARUJAYA	DEPOK	MTs N PALIMANAN
33		PIPIT DIAH SAPITRI	P	KENANGA	SUMBER	SMPN 1 DUKUPUNTANG
34		PRASETYO	L	KALIWADAS	SUMBER	SMPN 2 SUMBER
35		RUSMIYATI	P	GESIK	TENGAHTANI	SMPN 1 KEDAWUNG
36		SANTIKA	P	PASALAKAN	SUMBER	SMPN 1 WERU

37		SHANANDA SHAFIAH	P	MARIKANGEN	PLUMBON	SMPN 2 PLUMBON
38		SITI NURHAYATI	P	GESIK	TENGAHTANI	SMPN 1 TENGAHTANI
39		SITI NURKHAMIDAH	P	PANEMBAHAN	WERU	MTs N CIREBON II
40		SRI WAHYULI	P	BABADAN	GUNUNG JATI	SMPN 3 GUNUNG JATI
41		SUHAILAH	P	CEMPAKA	PLUMBON	SMPN 2 SUMBER
42		SUHERMAN	L	PALIMANAN BARAT	GEMPOL	MTs N PALIMANAN
43		SULASTRI	P	WARUROYOM	DEPOK	SMPN 2 PALIMANAN
44		SUSIYANI	P	PANONGAN	PALIMANAN	MTs N PALIMANAN
45		UMAMAH	P	TEGALWANGI	WERU	SMPN 1 WERU
46		WHISNU UBAIDILLAH	L	GETASARI	DEPOK	SMPN 1 DEPOK
47		WINDARI	P	PALIMANAN BARAT	GEMPOL	MTs N PALIMANAN
48		WINDI ANTIKA	P	DANAMULYA	PLUMBON	SMPN 1 PLUMBON
49		TITANIA MEIFITIYANI PRANIESWARI	P	BAKUNG KIDUL	JAMBLANG	SMPN 3 GUNUNG JATI
JUMLAH						

DAFTAR PESERTA DIDIK KELAS X - 10
TAHUN PELAJARAN 2012/2013

Nomor Urut				Desa/Kel.	Kecamatan	Nama SMP/MTs
1		AFIFATUR RIZKI	P	CANGKRING	PLERED	SMP ISLAMIYAH WERU
2		AMIRUDIN	L	GEGUNUNG	SUMBER	SMP AL-WASHLIYAH
3		ASEP SUPRIYADI	L	WARUGEDE	DEPOK	SMPN 2 PALIMANAN
4		ASRIYANI	P	JUNGJANG WETAN	ARJAWINANGUN	SMPN 2 ARJAWINANGUN
5		CHOIRUL TAMIMI	L	PANGKALAN	PLERED	SMP ISLAMIYAH WERU
6		DIANA SARI	P	ASTAPADA	TENGAHTANI	SMPN 3 SUMBER
7		DWI ANDINI	P	GAMBANG	PLUMBON	SMPN 1 PLUMBON
8		FUJI RAHAYU SETIAWAN	P	KERTAWINANGUN	KEDAWUNG	MTs N CIREBON I
9		HAFIZH HAIKAL AMRULLAH	L	TUKMUDAL	SUMBER	SMP ITUS JALAKSANA
10		HAYU SEPTIYANI	P	KLANGENAN	KLANGENAN	SMPN 4 PALIMANAN
11		IBNU KHAFID	L	KALIWEDI	KALIWEDI	MTs N ARJAWINANGUN
12		ISNATUN HASANAH	P	GEGUNUNG	SUMBER	SMP AL-WASHLIYAH
13		KHOTRIYA	P	SETU WETAN	WERU	MTs N CIREBON II
14		KHUMAEROH	P	SETU KULON	WERU	MTs N CIREBON II
15		LINDA RAHAYU	P	KEDUNG JAYA	KEDAWUNG	SMPN 1 TENGAHTANI
16		MAESAROH	P	DUKUPUNTANG	DUKUPUNTANG	SMPN 1 DUKUPUNTANG

17		MAFTUHATUL KHOERIYAH	P	BODELOR	PLUMBON	MTs SALAFIYAH BODE
18		MALIHATULLAILAH	P	PESANGGRAHAN	PLUMBON	SMPN 1 PLUMBON
19		MALIYATI	P	BALERANTE	PALIMANAN	MTs N PALIMANAN
20		MAWADATHUL DAMAYANTI	P	TEGALWANGI	WERU	SMPN 1 WERU
21		MOCHAMMAD ICHYA	L	CEMPAKA	PLUMBON	MTs AL-WAHDAH
22		MOH RIZAL ANWARI	L	SUMBER	SUMBER	SMPN 2 SUMBER
23		MOHAMMAD LUTFI AZIS	L	CIKEDUK	DEPOK	MTs N CIWARINGIN
24		MUH AZHAR MUSHOFFA	L	PALIMANAN BARAT	GEMPOL	SMPN 1 PALIMANAN
25		MUH HENDRA NUGRAHA	L	PANEMBAHAN	PLERED	SMPN 1 WERU
26		MUHAMAD DARSONO	L	KARANGSARI	WERU	MTs N CIREBON II
27		NENI RISWANTHI	P	TEGALWANGI	WERU	SMPN 1 PLUMBON
28		NUR ARISKA	P	SUMBER	SUMBER	SMPN 2 SUMBER
29		NUR KOMALA	P	SETU WETAN	WERU	MTs N CIREBON II
30		NURBAETI	P	WERU LOR	WERU	SMP DARUL MUSYAWIRIN
31		NURWANTI	P	DANAMULYA	PLUMBON	MTs SALAFIYAH BODE
32		RASTIAH	P	PERBUTULAN	SUMBER	MTs ASH-SHIDDIQIYYAH
33		RINDA SEPTIANI	P	MEGU GEDE	WERU	SMPN 1 WERU
34		RIZKY AMALIA	P	BODELOR	PLUMBON	MTs SALAFIYAH BODE
35		ROAEDI	P	BUYUT	GUNUNG JATI	SMPN 3 GUNUNG JATI
36		ROMLAH	P	GUNUNGSARI	SUKAGUMIWANG	SMPN 1 SUKAGUMIWANG
37		ROSHALIMAH	P	SUMBER	SUMBER	SMPN 2 SUMBER
38		ROSI'A	P	PAMIJAHAN	PLUMBON	SMPN 1 DEPOK

39		SITI AISYAH	P	GUWA LOR	KALIWEDI	SMPN 2 KALIWEDI
40		SITI KHUMAEROTUL FITRIYAH	P	WANAKAYA	GUNUNG JATI	MTs N CIREBON I
41		SITI LAM'ATUN	P	PANEMBAHAN	PLERED	MTs N CIWARINGIN
42		SOGIANTO	L	CEMPAKA	PLUMBON	SMPN 2 PLUMBON
43		SURINI	P	GAMEL	PLERED	SMP ISLAMIYAH WERU
44		SYAHRU ROMDHONI	L	KARANGWANGI	DEPOK	SMP AL-FALAH
45		TAUFIK ABDILLAH	L			SMPN 1 PLUMBON
46		USWATUN HASANAH	P	ORIMALANG	JAMBLANG	SMPN 2 JAMBLANG
47		WAHID RIFQI HUSNUDDIN	L	KEMANTREN	SUMBER	SMPN 2 SUMBER
48		WIWIN ANGGRAENI	P	MERTASINGA	GUNUNG JATI	SMPN 1 GUNUNG JATI

A.2. Data Sample

No	Name	former	Number item									Total	Score
			1	2	3	4	5	6	7	8	9		
1	ADE PRASETIO	MTs	2	3	3	1	2	3	2	5	2	23	51,11111
2	AFIFATUL MAEMUNAH	MTs	3	3	2	2	5	2	2	2	3	24	53,33333
3	ALVITANIA SOLEHA	MTs	2	3	3	3	5	2	5	3	5	31	68,88889
4	ANNUR DIANA	MTs	2	3	5	5	3	3	2	3	3	29	64,44444
5	AYU SOBIROH	MTs	3	3	3	5	5	1	5	4	4	33	73,33333
6	DARA WAKHYUNINGRUM	MTs	1	3	3	1	5	1	5	1	5	25	55,55556
7	EKO PUTRA M	MTs	2	3	3	2	2	3	2	3	3	23	51,11111
8	FAKIH ANWAR	MTs	2	3	3	3	3	2	5	5	5	31	68,88889
9	FATIMAH	MTs	3	3	4	4	4	3	2	2	3	28	62,22222
10	FITRIYAH	MTs	2	3	3	3	5	2	5	3	3	29	64,44444
11	KHUSNUL HAJIBAH	MTs	2	4	4	5	5	5	5	2	2	34	75,55556
12	LILIS ROLYAH	MTs	4	3	4	5	3	3	5	1	3	31	68,88889
13	LINDA ASHARI	MTs	2	4	3	3	5	2	5	1	3	28	62,22222
14	LU'LUATUL A	MTs	1	3	3	3	3	2	5	3	4	27	60
15	M FAHRUL FAOZAN	MTs	2	3	3	3	2	2	3	3	5	26	57,77778
16	MIFTAHUL JANNAH	MTs	2	3	3	2	2	1	2	3	3	21	46,66667
17	MOH UBAEDILLAH	MTs	2	3	3	3	2	2	5	5	5	30	66,66667
18	MUH ABDULANI	MTs	2	3	3	3	5	2	5	5	5	33	73,33333
19	PEGI YULIAWATI	MTs	2	3	3	2	5	2	5	2	3	27	60
20	ROIKHATUL JANNAH	MTs	2	3	2	3	5	2	5	5	5	32	71,11111

21	SITI DEWI KOMALA SARI	MTs	1	3	3	5	5	5	2	5	2	31	68,88889
22	SITI FACHTIYATUL K	MTs	2	3	2	4	5	2	5	5	5	33	73,33333
23	SITI KHUMAEROH	MTs	2	3	3	3	5	2	5	3	5	31	68,88889
24	SITI ROFIQOH	MTs	1	3	3	3	5	3	5	1	3	27	60
25	SITI ROMLAH	MTs	3	3	2	4	2	1	2	2	3	22	48,88889
26	SOLIKHIN	MTs	4	4	4	5	5	2	5	3	4	36	80
27	SUNOTO	MTs	2	3	3	3	2	2	2	5	3	25	55,55556
28	Ulfah hanif rosyidah	MTs	3	2	3	3	5	2	5	3	2	28	62,22222
29	UMI KULSUM	MTs	2	3	2	2	5	2	2	2	2	22	48,88889
30	YATI ROHAYATI	MTs	3	4	4	1	5	1	2	1	3	24	53,33333
31	AISYAH	SMP	2	3	3	1	5	2	2	3	1	22	48,88889
32	AKHMAD MUHADI	SMP	2	3	3	3	5	1	5	5	2	29	64,44444
33	AL' ARIYANTI	SMP	1	3	3	2	2	3	5	1	1	21	46,66667
34	DEDE YULIANA N	SMP	2	3	2	2	5	2	5	1	2	24	53,33333
35	DESI AJENG SAFITRI	SMP	2	3	3	3	5	2	5	5	5	33	73,33333
36	DYAH NUR'AENI	SMP	5	4	3	5	5	3	3	4	4	36	80
37	FIKRIYAH	SMP	2	3	1	3	5	2	5	1	3	25	55,55556
38	FRISCA DEWI LESTARI	SMP	3	3	2	3	5	2	5	4	1	28	62,22222
39	HALIMAH SA'DIYAH	SMP	2	3	1	3	5	2	5	1	2	24	53,33333
40	HANITA	SMP	2	4	3	3	5	2	5	1	3	28	62,22222
41	IBROHIM BARDAN	SMP	2	3	3	3	5	2	5	5	5	33	73,33333
42	IQBLA WIDYANTO	SMP	3	3	3	3	5	2	5	5	5	34	75,55556
43	KHUMAEROIH	SMP	2	3	2	3	5	3	5	5	5	33	73,33333
44	KURNIAWATI	SMP	2	3	3	3	5	3	3	2	3	27	60
45	LENI YULIANTI	SMP	2	3	3	1	5	2	3	3	1	23	51,11111

46	LUTFI AJI SAPUTRA	SMP	3	3	3	3	5	2	5	5	5	34	75,55556
47	MOH HAFIDZIN S	SMP	1	3	3	3	2	1	5	5	1	24	53,33333
48	NONI	SMP	2	3	2	3	2	3	3	3	3	24	53,33333
49	NUR HASANAH	SMP	2	3	2	3	5	2	5	3	5	30	66,66667
50	OVIE NUR AZIZAHsmp	SMP	2	3	3	3	5	1	5	1	3	26	57,77778
51	PIPIT DAMAYANTI	SMP	3	3	3	3	5	2	5	5	5	34	75,55556
52	RUMINA	SMP	2	3	2	5	4	1	3	3	5	28	62,22222
53	SAPUTRA ANURI	SMP	1	4	3	4	2	1	5	5	5	30	66,66667
54	SILVIA INTAN	SMP	2	3	2	3	5	2	5	5	5	32	71,11111
55	SITI AZIZAH	SMP	2	3	2	3	3	2	5	2	5	27	60
56	SITI JUHAERIYAH	SMP	2	3	3	3	5	2	2	2	1	23	51,11111
57	SITI SOLECHA	SMP	2	3	3	1	5	1	5	3	5	28	62,22222
58	SOFYAN MAR'I	SMP	4	4	4	5	5	4	3	5	3	37	82,22222
59	WIDYANINGSIH	SMP	2	3	2	3	5	2	5	5	5	32	71,11111
60	ZAKIYATUL FITRI	SMP	2	3	3	2	5	2	5	2	3	27	60

No. Responden	Latar Belakang pendidikan	Total Skor	Keterangan
1	MTs	56	Kurang
2	MTS	76	Baik
3	MTS	60	Cukup
4	MTS	70	Baik
5	MTS	72	Baik
6	MTS	56	Kurang
7	MTs	74	Baik
8	MTs	64	Cukup
9	MTs	64	Cukup
10	MTs	62	Cukup
11	MTs	72	Baik
12	MTs	66	Cukup
13	MTs	68	Cukup
14	MTs	62	Cukup
15	MTs	64	Cukup
16	MTs	58	Kurang
17	MTs	66	Cukup
18	MTs	50	Kurang
19	MTs	64	Cukup
20	MTs	72	Baik
21	MTs	76	Baik
22	MTs	50	Kurang
23	MTs	52	Kurang
24	MTs	48	Kurang
25	MTs	50	Kurang
26	MTs	44	Kurang
27	MTs	68	Cukup
28	MTs	70	Baik
29	MTs	72	Baik
30	MTs	80	Sangat baik
31	SMP	64	Cukup
32	SMP	76	Baik
33	SMP	56	Kurang
34	SMP	64	Cukup
35	SMP	52	Kurang
36	SMP	62	Cukup

37	SMP	76	Baik
38	SMP	50	Kurang
39	SMP	54	Kurang
40	SMP	52	Kurang
41	SMP	78	Baik
42	SMP	78	Baik
43	SMP	54	Kurang
44	SMP	44	Kurang
45	SMP	74	Baik
46	SMP	66	Cukup
47	SMP	76	Baik
48	SMP	58	Kurang
49	SMP	84	Sangat Baik
50	SMP	64	Cukup
51	SMP	66	Cukup
52	SMP	68	Cukup
53	SMP	58	Kurang
54	SMP	54	Kurang
55	SMP	82	Sangat Baik
56	SMP	60	Cukup
57	SMP	62	Cukup
58	SMP	70	Baik
59	SMP	74	Baik
60	SMP	66	Cukup
Jumlah		3848	
Rata-rata		64,13333333	
Nilai maksimum		80	
Nilai minimum		44	
Rata-rata TP berlatar belakang SMP		64,73333333	
Rata-rata TP berlatar belakang MTs		63,53333333	
Nilai Min. TP berlatar belakang SMP		44	
Nilai Min. TP berlatar belakang MTs		44	
Nilai Mak. TP berlatar belakang SMP		84	
Nilai Mak. TP berlatar belakang MTs		80	

B.1. LATTICEWORK CONSTRUCTION

KISI-KISI INSTRUMEN TES

Mata Pelajaran : Matematika

Kelas/Semester : X/II

Pokok Bahasan :

Jenis Soal : Essay

Alokasi Waktu : 2 x 45 menit

Definisi Konseptual	Definisi Operasional	Dimensi	Indikator
Penalaran Matematika adalah bagian dari berpikir matematis yang meliputi membentuk generalisasi dan menggambarkan konklusi benar (valid) tentang idea-idea dan bagaimana idea-idea itu saling berkaitan.	skor total yang diperoleh siswa setelah mengerjakan soal-soal matematika yang merepresentasikan kemampuan penalaran matematikanya	1. Induktif	1. Kemapuan Analogi : Penarikan kesimpulan berdasarkan keserupaan data atau proses. 2. Kemampuan Generalisasi : Penarikan kesimpulan umum berdasarkan sejumlah data yang teramati. 3. Memperkirakan jawaban, solusi, atau kecenderungan 4. Memberi penjelasan terhadap model,

			fakta, sifat, hubungan, atau pola yang ada
		2. Deduktif	1. Melaksanakan perhitungan berdasarkan aturan atau rumus tertentu.
			2. memeriksa validitas argumen,
			3. Menyusun pembuktian langsung, pembuktian tak langsung

Keterangan

C3   : Aplikasi/penerapan

C4   : Analisis

C5   : Sintesis

KISI-KISI INSTRUMEN TES (2)

Standar Kompetensi: Menggunakan perbandingan, fungsi, persamaan, dan

identitas trigonometri dalam pemecahan masalah

No. Item Soal	Indikator	Aspek Kognitif
1	Penarikan kesimpulan berdasarkan keserupaan data atau proses.	C4
2	Penarikan kesimpulan umum berdasarkan sejumlah data yang teramati.	C4
3,4	Memperkirakan jawaban, solusi, atau kecenderungan Memberi penjelasan terhadap model, fakta, sifat, hubungan, atau pola yang ada	C4
5	Melaksanakan perhitungan berdasarkan aturan atau rumus tertentu	C4
5	Menyusun pembuktian langsung, pembuktian tak langsung	C4
6	memeriksa validitas argumen,	C3

B.2. INSTRUMENT

INSTRUMEN TES

TINGKAT PENALARAN MATEMATIKA SISWA

Petunjuk Pengisian :

1. Tulis identitas diri secara lengkap pada lembar jawaban
2. Sertakan cara dalam menjawab soal
3. Kerjakan yang dianggap mudah terlebih dahulu

Jawablah pertanyaan-pertanyaan di bawah ini dengan uraian yang jelas dan tepat!

1. Diketahui rumus luas segitiga adalah L = ½ bc sin A. Hitunglah luas segi-enam beraturan jika diketahui panjang diagonal terpanjangnya adalah 10 cm !
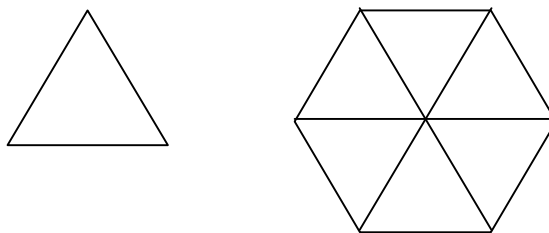
2. Umur Ali dua tahun lebih tua dari Hamzah, umur Hamzah lima tahun lebih muda dari umur Umar. Jika umar adalah kakak dari aziz, maka diantara Ali dan Aziz siapa yang lebih tua?

3. Perhatikan gambar!
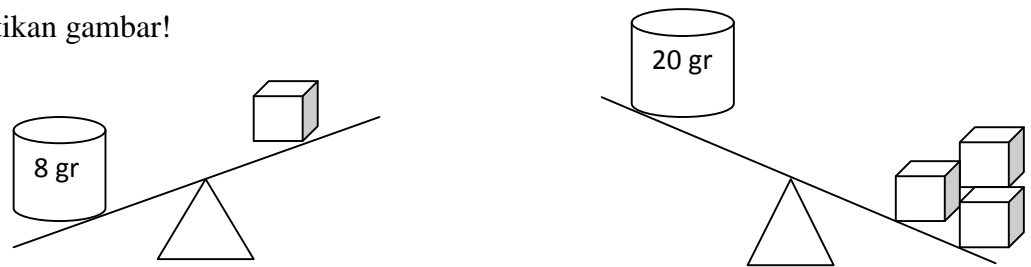
Berapakah berat ?

4. Benar atau salah bahwa panjang diagonal ruang lebih pendek dari diagonal bidang? Kemukakan alasanmu!

5. Diketahui

   P1: Jika saya lapar maka saya makan
   P2: jika saya makan maka saya kenyang

   $\therefore$ jika saya lapar maka saya kenyang.
   Tunjukan apakah penarikan kesimpulan diatas valid atau tidak, mengapa?

6. Perhatikan

   $\Leftrightarrow a^2 = a^2$

   $\Leftrightarrow a^2 - a^2 = a^2 - a^2$ ingat **a(b+c) = ab + ac** dan **$a^2 - b^2 = (a+b)(a-b)$,** maka,

   $\Leftrightarrow a(a - a) = (a+a)(a - a)$

   $\Leftrightarrow a(a \!\!\!\!/ \ a) = (a+a)(a \!\!\!\!/ - a)$

   $\Leftrightarrow a = (a + a)$

   $\Leftrightarrow a = 2a$

   $\Leftrightarrow a/a = 2$

   $\Leftrightarrow 1 = 2$

   Bagaimana bisa 1 = 2 ? , carilah kesalahan dalam pembuktian di atas, Jelaskan!

7. Hitunglah

   $1 + 3 + 5 + \cdots + 95 + 97 + 99 = \cdots$

8. Apakah pernyataan dibawah ini benar? Jika benar ungkapkan alasannya dan jika salah ungkapkan pula alasannya.

   a. Luas permukaan balok adalah jumlah dari seluruh luas sisi balok atau enam kali luas sisi balok.

   b. Sebuah kubus yang luas salah satu sisinya 36 cm2 pasti memiliki volum 216 cm3.

9. Diketahui segitiga ABC dengan panjang AB = BC = 10 cm, dan besar sudut $<$ BCA = 60° . Dengan menggunakan rumus L = $\sqrt{s(s-a)(s-b)(s-c)}$ dimana s = ½ Keliling, hitunglah luas segitiga tersebut!

~ Selamat Mengerjakan ~

B.3. SOLUTION

1. Dik :   Luas segitiga $= \frac{1}{2}$ bc sin a

    Panjang diagonal segi 6   = 10 cm, maka b = c = a = 5

    sin a $= \sin 60^o$ point 2

    Dit: Luas Segi 6?

    Jawab:

    Luas Segi 6   = 6. Luas segi 3 sama sisi

                   $= 6. \frac{1}{2} 5.5 . \sin 60^o$

                   $= 3. 25 . \frac{1}{2} \sqrt{3}$

                   $= 37,5 \sqrt{3}$ cm^2 point 3

2. Dik :   Umur ali   = 2 tahun + Umur hamzah
            Umur Hamzah + 5 tahun   = umur Umar
            Umur Umar > Umur Aziz

    Dit: siapa yang lebih tua antara Ali dengan Aziz?   Point 2

    Jawab:

    Karena Aziz < Umar, dan belum pasti berapa tahun selang umurmnya, maka selang umur Umar dan aziz adalah antara 0-tak terhingga...

Maka posisi hamzah dengan aziz belum pasti diketahui, dan otomatis posisi umur aziz dan umur ali tidak juga diketahui, atau berlaku sifat trikotomi, point 2

Yakni :

Umur Aziz = Umur Ali   point 1

Umur Aziz > umur Ali

Umur Aziz < umur Ali

3. Dik : 8gr> berat kotak

       20 gr< berat 3 kotak

Dit : Berat Kotak?

Jawab :   point 2

Misalkan berat kotak = a gr

Maka :

$a < 8gr$ point 1

dan

$\leftrightarrow 3 a > 20$ gr

$\leftrightarrow a > 20/3$ gr

$\leftrightarrow a > 6{,}67$ gr

Didapat, $a < 8gr$ dan $a > 6{,}67gr$

Atau $a = \{ 6{,}67 \text{ gr} < a \text{ gr} < 8 \text{ gr} \}$ point 2

Jadi berat kotak = $\{ 6{,}67 \text{ gr} < a \text{ gr} < 8 \text{ gr} \}$

4. Salah,   point 2

karena jika kita sambungkan diagonal ruang, diagonal sisi dan satu buah rusuk, maka akan didapat segitiga siku-siku, dengan diagonal ruang sebagai sisi miringnya. Sedangkan sisi miring adalah sisi terpanjang dari segitiga siku- siku, maka panjang diagonal ruang adalah lebih panjang dibanding diagonal sisi   point 3

5. Valid,   point 2

yaitu rumus penarikan kesimpulan Sylogisme.

Dan untuk membuktikanya Menggunakan Tautologi.

p	q	r	p→q	q→ r	p→r	(p→q) ∩(q→ r)	[(p→q) ∩(q→ r)] → (p→r)
B	B	B	B	B	B	B	B
B	B	S	B	S	S	S	B
B	S	B	S	B	B	S	B
B	S	S	S	B	S	S	B
S	B	B	B	B	B	B	B
S	B	S	B	S	B	S	B
S	S	B	B	B	B	B	B
S	S	S	B	B	B	B	B

                                            Point 3

6. Perhatikan

$$\Leftrightarrow a^2 = a^2$$
$$\Leftrightarrow a^2 - a^2 = a^2 - a^2 \qquad \text{ingat } \mathbf{a(b+c) = ab + ac} \text{ dan } \mathbf{a^2 - b^2 = (a+b)(a-b)}, \text{ maka,}$$
$$\Leftrightarrow a(a - a) = (a+a)(a - a)$$
$$\Leftrightarrow a(a \diagup a) = (a+a)(a \diagup a)$$
$$\Leftrightarrow a = (a + a)$$
$$\Leftrightarrow a = 2a$$
$$\Leftrightarrow a/a = 2$$
$$\Leftrightarrow 1 = 2$$

Bagaimana bisa 1 = 2 ? , carilah kesalahan dalam pembuktian di atas, Jelaskan!

Jawab :   point 2

Kesalahan terjadi di point ke 4, yaitu pencoretan atau penghilangan faktor nol, atau penyebab nol..   point 1

karena pada dasarnya

$$\Leftrightarrow a(a - a) = (a+a)(a - a)$$
$$\Leftrightarrow a (0) = 2a (0)$$
$$\Leftrightarrow a(0/0) = 2a \text{ tidak akan pernah terjadi, karena tidak terdefinisi.}$$

Point 2

7. $1 + 3 + 5 + \cdots + 95 + 97 + 99 = \cdots$
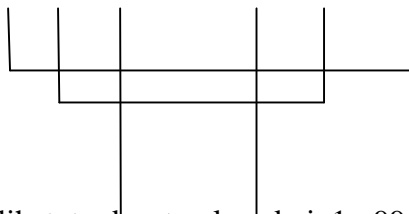
Point 2

Kita lihat, terdapat pola yakni, 1+ 99 =100, 3 + 97=100, 5 + 95 = 100,   point 1

Maka bisa dhitung dengan cara Sn= 25(1+99)=25 (100)= 2500   point 2

8. Apakah pernyataan dibawah ini benar? Jika benar ungkapkan alasannya dan jika salah ungkapkan pula alasannya.

a. Luas permukaan balok adalah jumlah dari seluruh luas sisi balok atau enam kali luas sisi balok.

Jawab :

Salah, karena sisi balok belum tentu sama, yaitu biasanya digunakan rumus 2(pl+pt+tl)   point 2

b. Sebuah kubus yang luas salah satu sisinya 36 cm^2 pasti memiliki volum 216 cm^3

Jawab:

Benar, karena luas kubus = S^2

Maka ,   S= $\sqrt{36}$ = 6

Dan volume kubus sudah pasti S^3= 6^3 = 216 Cm^3.   Point 3

9. Diketahui segitiga ABC dengan panjang AB = BC = 10 cm, dan besar sudut < BCA = 60° . Dengan menggunakan rumus L = $\sqrt{s(s-a)(s-b)(s-c)}$ dimana s = ½ Keliling, hitunglah luas segitiga tersebut!

Jawab:

Jika AB=BC maka < CAB=<BCA= 60°
Maka otomatis <ABC = 60° (sudut segitiga)
Jadi segitiga ABC segitiga sama sisi dengan
Panjang sisi AB=BC=AC=10 Cm
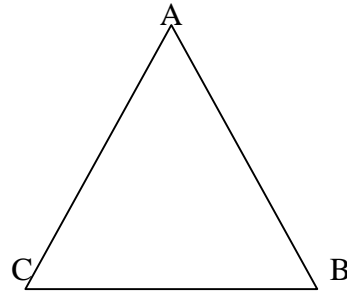
Point 2
Maka,
s = ½ (10 + 10 + 10)
s = ½ (30)
s = 15
L =$\sqrt{15(15-10)(15-10)(15-10)}$
L = $\sqrt{15 .5 .5 .5}$ = 25 $\sqrt{3}$ cm^2 point 3

C.1. EMPHIRIC TRY OUT

RELIABILITAS TES

================

Rata2= 31.60

Simpang Baku= 7.79

KorelasiXY= 0.92

Reliabilitas Tes= 0.96

Nama berkas: F:\SKRIPS~3\UJIANA~1.AUR

No.Urut	No. Subyek	Kode/Nama Subyek	Skor Ganjil	Skor Genap	Skor Total
1	27	MAR'ATUS SHOL...	24	25	49
2	3	MILA MULYANTI	20	23	43
3	16	MASRUROH	20	23	43
4	8	QURROTUL A'NI	21	21	42
5	20	SITI MARYAM	19	23	42
6	1	ILHAM MUNA'AM	18	22	40
7	15	SRI RUSTINAWATI	19	21	40
8	25	MOH. SHIDDIQ ...	18	20	38
9	21	RHISKI FATIMA	16	19	35
10	13	M. SALMAN A.F.	16	17	33
11	17	KHUSNUL KHOTIMAH	16	17	33
12	9	SHOLEHAH	18	14	32
13	11	SAIF ROMDHONI	15	17	32
14	2	AYU SIFA MAYU	14	17	31
15	29	MAGHFIROH	16	15	31
16	18	M. RISYALDI	15	15	30
17	19	REZA MAULANA	15	15	30
18	22	YUNITA	15	15	30

19	24	UMATUN KHOERIYAH	15	15	30
20	26	AIZA NURFITRI...	13	15	28
21	6	RISMA AMALIA ...	13	14	27
22	10	IBNU UBAIDILLAH	13	14	27
23	28	SITI AISYAH	13	14	27
24	30	USWATUN K.	12	14	26
25	4	ISMATUL MAULA	12	13	25
26	14	SAEF ANTON	12	12	24
27	12	FADLUN MAULINA	11	12	23
28	7	FITRIANAH MAR...	10	11	21
29	23	MUJRI'AH	9	11	20
30	5	SITI AROFAH	9	7	16

KELOMPOK UNGGUL & ASOR

=====================

Kelompok Unggul

Nama berkas: F:\SKRIPS~3\UJIANA~1.AUR

				1	2	3	4	5
No Urt	No Subyek	Kode/Nama Subyek	Skor	1	2	3	4	5
1	27	MAR'ATUS SHOL...	49	5	5	5	5	5
2	3	MILA MULYANTI	43	4	4	4	5	5
3	16	MASRUROH	43	4	3	3	5	5
4	8	QURROTUL A'NI	42	4	4	4	4	5
5	20	SITI MARYAM	42	4	4	3	5	5
6	1	ILHAM MUNA'AM	40	3	4	3	5	5
7	15	SRI RUSTINAWATI	40	3	3	3	5	5
8	25	MOH. SHIDDIQ ...	38	4	3	3	5	4

			Rata2 Skor		3.88	3.75	3.50	4.88	4.88
			Simpang Baku		0.64	0.71	0.76	0.35	0.35

6 7 8 9 10

No Urt	No Subyek	Kode/Nama Subyek	Skor	6	7	8	9	10
1	27	MAR'ATUS SHOL...	49	5	4	5	5	5
2	3	MILA MULYANTI	43	5	3	4	4	5
3	16	MASRUROH	43	5	3	5	5	5
4	8	QURROTUL A'NI	42	5	4	4	4	4
5	20	SITI MARYAM	42	5	3	4	4	5
6	1	ILHAM MUNA'AM	40	5	3	4	4	4
7	15	SRI RUSTINAWATI	40	5	3	4	5	4
8	25	MOH. SHIDDIQ ...	38	5	3	3	4	4
		Rata2 Skor		5.00	3.25	4.13	4.38	4.50
		Simpang Baku		0.00	0.46	0.64	0.52	0.53

Kelompok Asor

Nama berkas: F:\SKRIPS~3\UJIANA~1.AUR

1 2 3 4 5

No Urt	No Subyek	Kode/Nama Subyek	Skor	1	2	3	4	5
1	28	SITI AISYAH	27	2	3	3	4	5
2	30	USWATUN KHASANAH	26	2	3	3	4	3
3	4	ISMATUL MAULA	25	2	2	2	3	4
4	14	SAEF ANTON	24	2	3	3	2	4
5	12	FADLUN MAULINA	23	1	2	3	3	3
6	7	FITRIANAH MAR...	21	2	2	2	2	3
7	23	MUJRI'AH	20	1	2	2	3	3

8	5	SITI AROFAH	16	1	2	2	1	3
		Rata2 Skor	1.63	2.38	2.50	2.75	3.50
		Simpang Baku		0.52	0.52	0.53	1.04	0.76

6   7   8   9   10

No Urt	No Subyek	Kode/Nama Subyek	Skor	6	7	8	9	10
1	28	SITI AISYAH	27	3	1	3	2	1
2	30	USWATUN KHASANAH	26	3	2	2	2	2
3	4	ISMATUL MAULA	25	3	1	3	3	2
4	14	SAEF ANTON	24	3	1	3	2	1
5	12	FADLUN MAULINA	23	3	2	2	2	2
6	7	FITRIANAH MAR...	21	3	1	2	2	2
7	23	MUJRI'AH	20	3	1	2	2	1
8	5	SITI AROFAH	16	2	1	1	2	1
		Rata2 Skor	2.88	1.25	2.25	2.13	1.50
		Simpang Baku		0.35	0.46	0.71	0.35	0.53

DAYA PEMBEDA

============

Jumlah Subyek= 30

Klp atas/bawah(n)= 8

Butir Soal= 10

Un: Unggul; AS: Asor; SB: Simpang Baku

Nama berkas: F:\SKRIPS~3\UJIANA~1.AUR

No	No Btr Asli	Rata2Un	Rata2As	Beda	SB Un	SB As	SB Gab	t	DP(%)
1	1	3.88	1.63	2.25	0.64	0.52	0.29	7.73	45.00
2	2	3.75	2.38	1.38	0.71	0.52	0.31	4.44	27.50
3	3	3.50	2.50	1.00	0.76	0.53	0.33	3.06	20.00
4	4	4.88	2.75	2.13	0.35	1.04	0.39	5.49	42.50
5	5	4.88	3.50	1.38	0.35	0.76	0.30	4.66	27.50
6	6	5.00	2.88	2.13	0.00	0.35	0.13	1...	42.50
7	7	3.25	1.25	2.00	0.46	0.46	0.23	8.64	40.00
8	8	4.13	2.25	1.88	0.64	0.71	0.34	5.56	37.50
9	9	4.38	2.13	2.25	0.52	0.35	0.22	1...	45.00
10	10	4.50	1.50	3.00	0.53	0.53	0.27	1...	60.00

INDEX DIFFICULTY

=================

Jumlah Subyek= 30

Butir Soal= 10

Nama berkas: F:\SKRIPS~3\UJIANA~1.AUR

No Butir Baru	No Butir Asli	Tkt. Kesukaran(%)	Tafsiran
1	1	55.00	Sedang
2	2	61.25	Sedang
3	3	60.00	Sedang
4	4	76.25	Mudah
5	5	83.75	Mudah
6	6	78.75	Mudah
7	7	45.00	Sedang
8	8	63.75	Sedang
9	9	65.00	Sedang
10	10	60.00	Sedang

CORELATION

================================

Jumlah Subyek= 30

Butir Soal= 10

Nama berkas: F:\SKRIPS~3\UJIANA~1.AUR

No Butir Baru	No Butir Asli	Korelasi	Signifikansi
1	1	0.924	Sangat Signifikan
2	2	0.803	Sangat Signifikan
3	3	0.761	Sangat Signifikan
4	4	0.813	Sangat Signifikan
5	5	0.762	Sangat Signifikan
6	6	0.911	Sangat Signifikan
7	7	0.845	Sangat Signifikan
8	8	0.875	Sangat Signifikan
9	9	0.854	Sangat Signifikan
10	10	0.912	Sangat Signifikan

Catatan: Batas signifikansi koefisien korelasi sebagaai berikut:

df (N-2)	P=0,05	P=0,01	df (N-2)	P=0,05	P=0,01
10	0,576	0,708	60	0,250	0,325
15	0,482	0,606	70	0,233	0,302
20	0,423	0,549	80	0,217	0,283
25	0,381	0,496	90	0,205	0,267
30	0,349	0,449	100	0,195	0,254
40	0,304	0,393	125	0,174	0,228
50	0,273	0,354	>150	0,159	0,208

Bila koefisien = 0,000 berarti tidak dapat dihitung.

REKAP ANALISIS BUTIR

====================

Rata2= 31.60

Simpang Baku= 7.79

KorelasiXY= 0.92

Reliabilitas Tes= 0.96

Butir Soal= 10

Jumlah Subyek= 30

Nama berkas: F:\SKRIPS~3\UJIANA~1.AUR

No	No Btr Asli	T	DP(%)	T. Kesukaran	Korelasi	Sign. Korelasi
1	1	7.73	45.00	Sedang	0.924	Sangat Signifikan
2	2	4.44	27.50	Sedang	0.803	Sangat Signifikan
3	3	3.06	20.00	Sedang	0.761	Sangat Signifikan
4	4	5.49	42.50	Mudah	0.813	Sangat Signifikan
5	5	4.66	27.50	Mudah	0.762	Sangat Signifikan
6	6	1...	42.50	Mudah	0.911	Sangat Signifikan
7	7	8.64	40.00	Sedang	0.845	Sangat Signifikan
8	8	5.56	37.50	Sedang	0.875	Sangat Signifikan
9	9	1...	45.00	Sedang	0.854	Sangat Signifikan
10	10	1...	60.00	Sedang	0.912	Sangat Signifikan

C.2. DATA ANALYZE

Descriptives

<table>
<tr><th colspan="3" align="center">Notes</th></tr>
<tr><td>Output Created</td><td></td><td>04-Sep-2013 12:01:47</td></tr>
<tr><td>Comments</td><td></td><td></td></tr>
<tr><td>Input</td><td>Active Dataset</td><td>DataSet0</td></tr>
<tr><td></td><td>Filter</td><td><none></td></tr>
<tr><td></td><td>Weight</td><td><none></td></tr>
<tr><td></td><td>Split File</td><td><none></td></tr>
<tr><td></td><td>N of Rows in Working Data File</td><td>60</td></tr>
<tr><td>Missing Value Handling</td><td>Definition of Missing</td><td>User defined missing values are treated as missing.</td></tr>
<tr><td></td><td>Cases Used</td><td>All non-missing data are used.</td></tr>
<tr><td>Syntax</td><td></td><td>DESCRIPTIVES VARIABLES=mathematical_reasoning /STATISTICS=MEAN SUM STDDEV VARIANCE RANGE MIN MAX SEMEAN.</td></tr>
<tr><td>Resources</td><td>Processor Time</td><td>00 00:00:00,000</td></tr>
<tr><td></td><td>Elapsed Time</td><td>00 00:00:00,047</td></tr>
</table>

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
mathematical_reasoning	60	35,56	46,67	82,22	3777,78	62,9630	1,20873	9,36276	87,661
Valid N (listwise)	60								

Explore

Notes		
Output Created		04-Sep-2013 12:02:25
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	60
Missing Value Handling	Definition of Missing	User-defined missing values for dependent variables are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any dependent variable or factor used.
Syntax		EXAMINE VARIABLES=mathematical_reasoning BY educational_background /PLOT BOXPLOT STEMLEAF NPPLOT /COMPARE GROUPS /STATISTICS NONE /CINTERVAL 95 /MISSING LISTWISE /NOTOTAL.
Resources	Processor Time	00 00:00:11,856
	Elapsed Time	00 00:00:15,257

educational_background

Case Processing Summary							
		Cases					
		Valid		Missing		Total	
	educational_background	N	Percent	N	Percent	N	Percent
mathematical_reasoning	MTs	30	100,0%	0	,0%	30	100,0%
	SMP	30	100,0%	0	,0%	30	100,0%

Tests of Normality

	educational_background	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
mathematical_reasoning	MTs	,129	30	,200[*]	,968	30	,490
	SMP	,115	30	,200[*]	,957	30	,263

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

mathematical_reasoning
Stem-and-Leaf Plots

mathematical_reasoning Stem-and-Leaf Plot for
educational_background= MTs

```
 Frequency    Stem &  Leaf

    3,00      4 .  688
    4,00      5 .  1133
    3,00      5 .  557
    8,00      6 .  00022244
    6,00      6 .  688888
    4,00      7 .  1333
    1,00      7 .  5
    1,00      8 .  0

 Stem width:    10,00
 Each leaf:      1 case(s)
```

mathematical_reasoning Stem-and-Leaf Plot for
educational_background= SMP

```
 Frequency    Stem &  Leaf

    2,00      4 .  68
    6,00      5 .  113333
    2,00      5 .  57
    8,00      6 .  00022224
    2,00      6 .  66
    5,00      7 .  11333
    3,00      7 .  555
    2,00      8 .  02

 Stem width:    10,00
 Each leaf:      1 case(s)
```

Normal Q-Q Plots

Normal Q-Q Plot of mathematical_reasoning

for educational_background= MTs
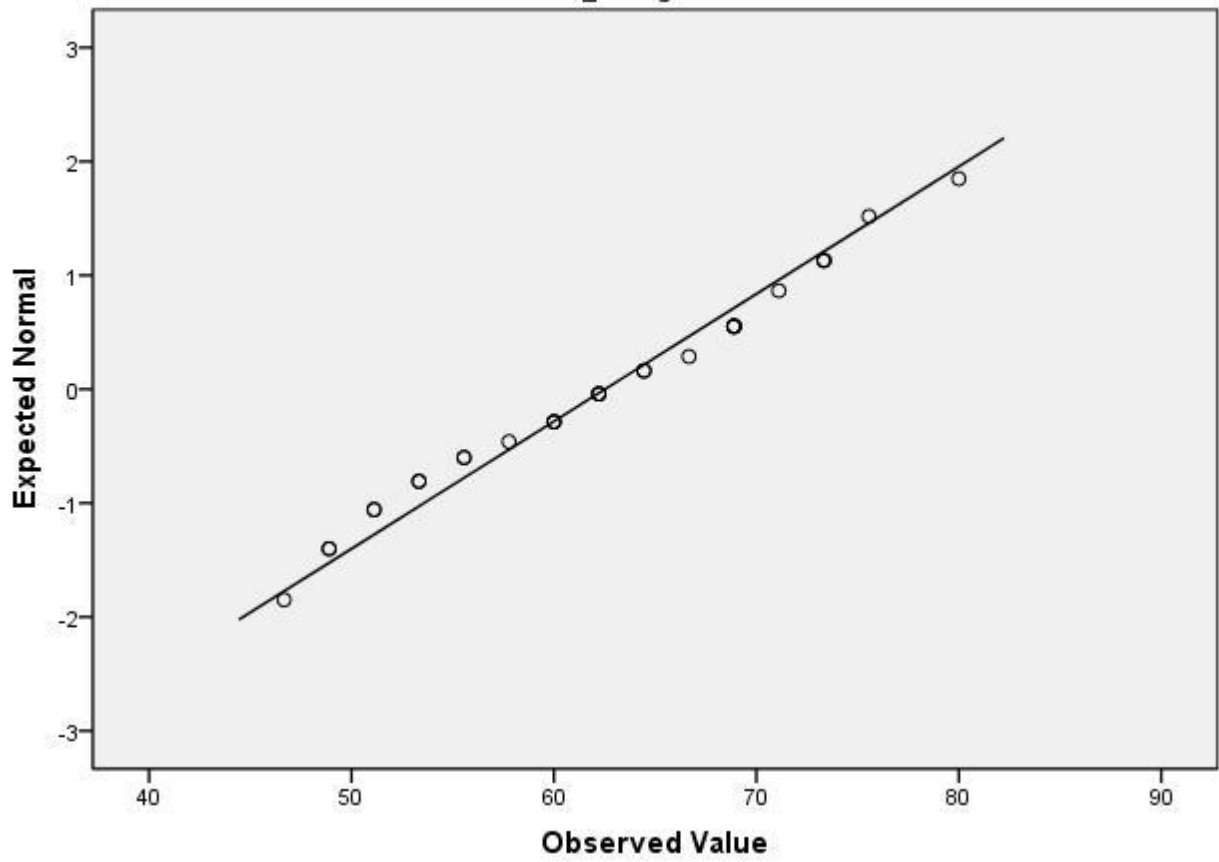
Normal Q-Q Plot of mathematical_reasoning

for educational_background= SMP
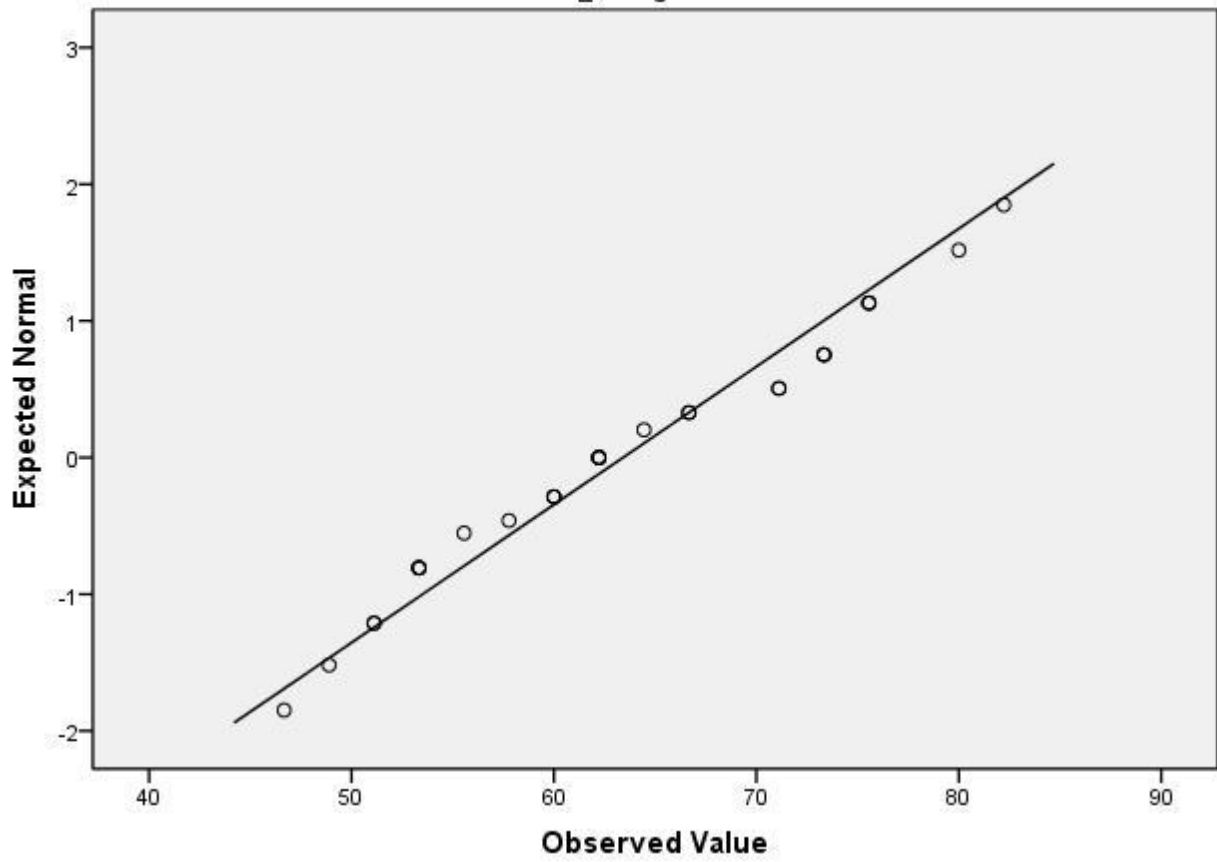
Detrended Normal Q-Q Plots

Detrended Normal Q-Q Plot of mathematical_reasoning
for educational_background= MTs
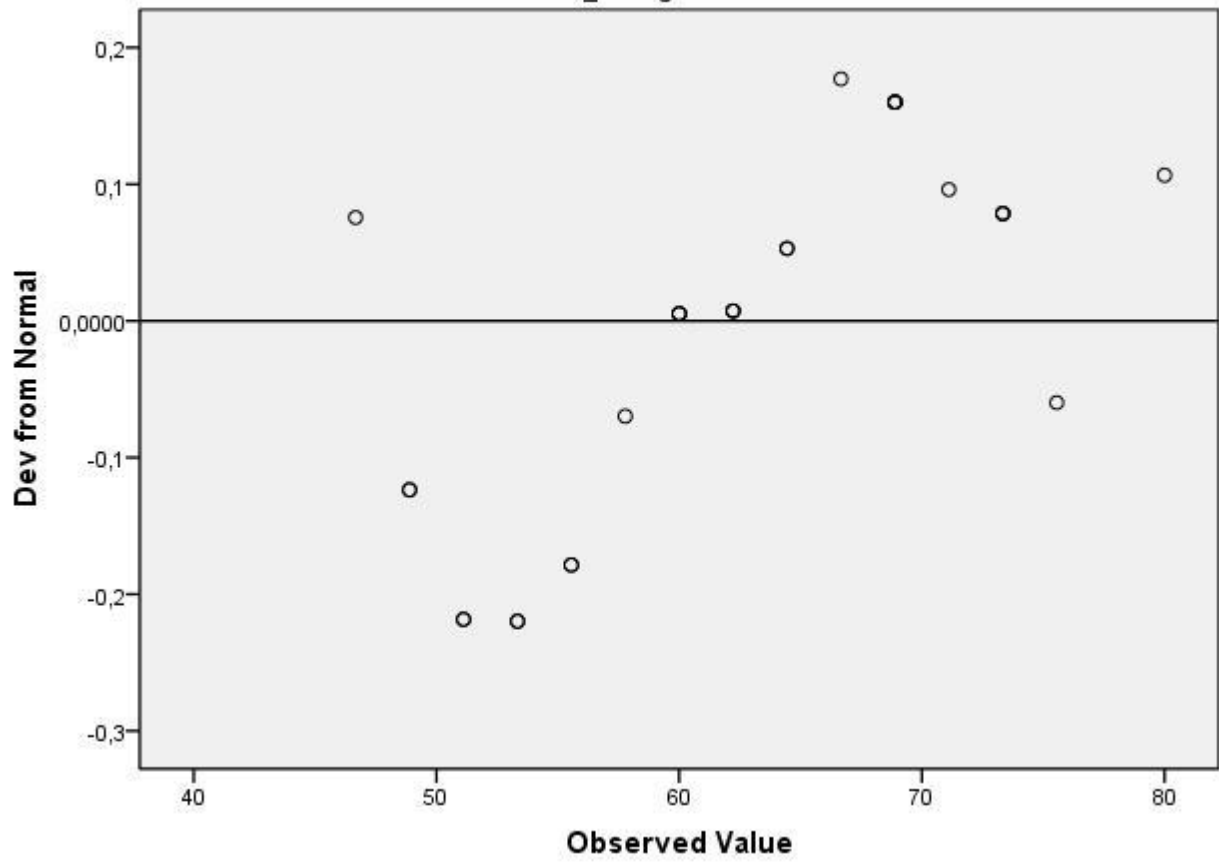
Detrended Normal Q-Q Plot of mathematical_reasoning

for educational_background= SMP
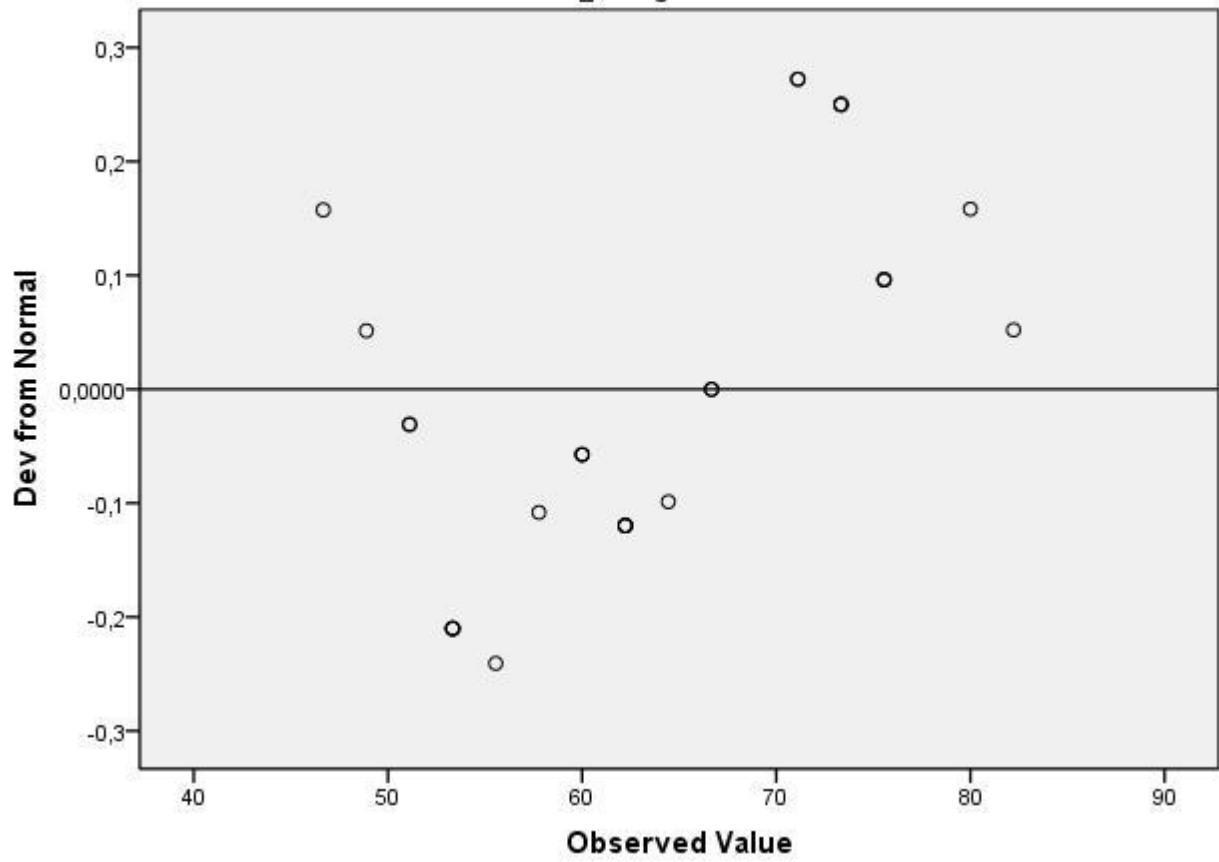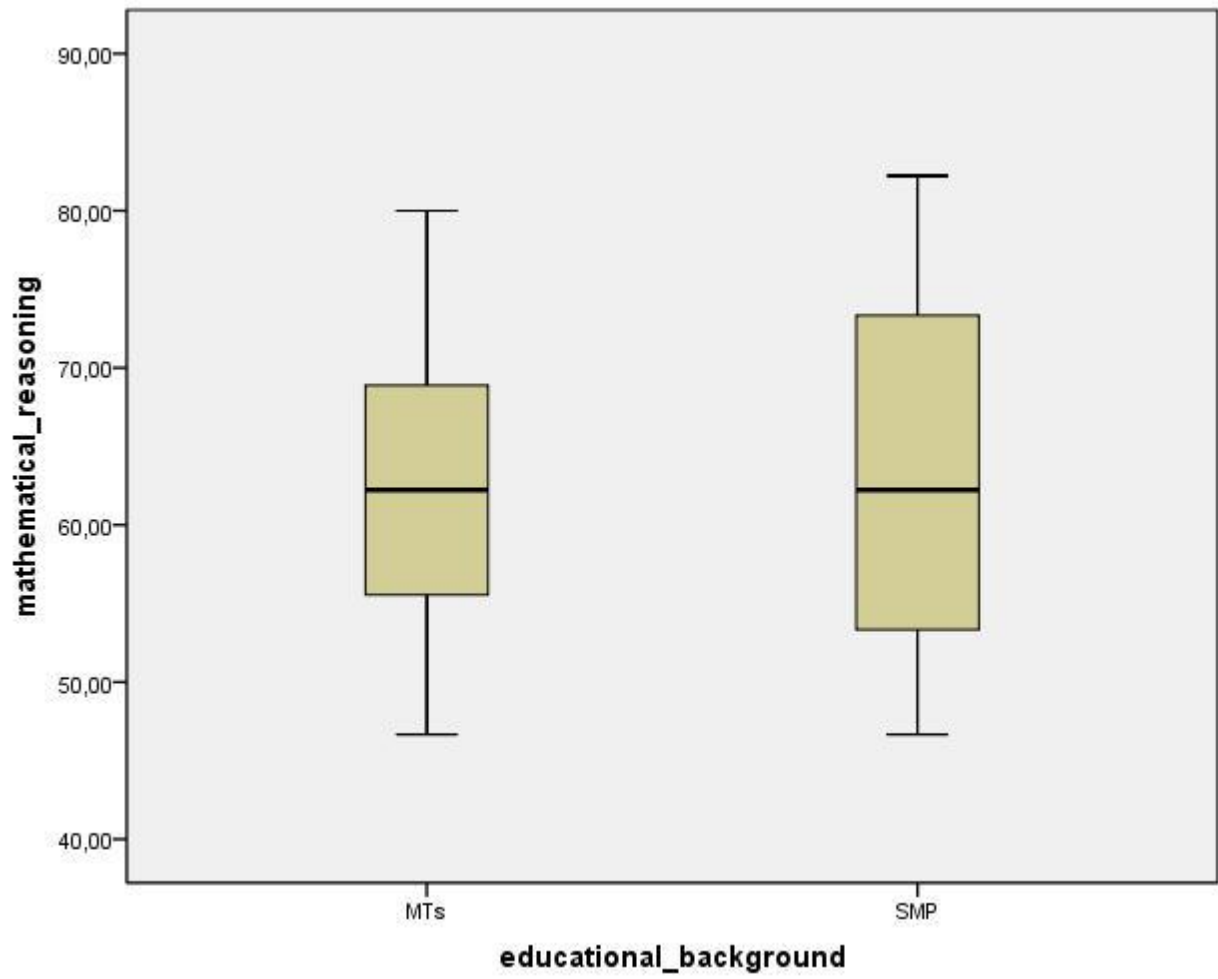
Oneway

Notes

Output Created		04-Sep-2013 12:03:00
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	60
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY mathematical_reasoning BY educational_background /STATISTICS HOMOGENEITY /MISSING ANALYSIS.
Resources	Processor Time	00 00:00:00,015
	Elapsed Time	00 00:00:01,170

Test of Homogeneity of Variances

mathematical_reasoning

Levene Statistic	df1	df2	Sig.
,468	1	58	,497

ANOVA

mathematical_reasoning

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11,852	1	11,852	,133	,716
Within Groups	5160,165	58	88,968		
Total	5172,016	59			

T-Test

Notes		
Output Created		04-Sep-2013 12:03:43
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
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Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=educational_background(1 2) /MISSING=ANALYSIS /VARIABLES=mathematical_reasoning /CRITERIA=CI(.95).
Resources	Processor Time	00 00:00:00,015
	Elapsed Time	00 00:00:00,079

Group Statistics					
	educational_background	N	Mean	Std. Deviation	Std. Error Mean
mathematical_reasoning	MTs	30	62,5185	8,94110	1,63241
	SMP	30	63,4074	9,89917	1,80733

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
mathematical_reasoning	Equal variances assumed	,468	,497	-,365	58	,716	-,88889	2,43541	-5,76389	3,98611
	Equal variances not assumed			-,365	57,409	,716	-,88889	2,43541	-5,76496	3,98718

t Table

cum. prob	$t_{.50}$	$t_{.75}$	$t_{.80}$	$t_{.85}$	$t_{.90}$	$t_{.95}$	$t_{.975}$	$t_{.99}$	$t_{.995}$	$t_{.999}$	$t_{.9995}$
one-tail	0.50	0.25	0.20	0.15	0.10	0.05	0.025	0.01	0.005	0.001	0.0005
two-tails	1.00	0.50	0.40	0.30	0.20	0.10	0.05	0.02	0.01	0.002	0.001
df											
1	0.000	1.000	1.376	1.963	3.078	6.314	12.71	31.82	63.66	318.31	636.62
2	0.000	0.816	1.061	1.386	1.886	2.920	4.303	6.965	9.925	22.327	31.599
3	0.000	0.765	0.978	1.250	1.638	2.353	3.182	4.541	5.841	10.215	12.924
4	0.000	0.741	0.941	1.190	1.533	2.132	2.776	3.747	4.604	7.173	8.610
5	0.000	0.727	0.920	1.156	1.476	2.015	2.571	3.365	4.032	5.893	6.869
6	0.000	0.718	0.906	1.134	1.440	1.943	2.447	3.143	3.707	5.208	5.959
7	0.000	0.711	0.896	1.119	1.415	1.895	2.365	2.998	3.499	4.785	5.408
8	0.000	0.706	0.889	1.108	1.397	1.860	2.306	2.896	3.355	4.501	5.041
9	0.000	0.703	0.883	1.100	1.383	1.833	2.262	2.821	3.250	4.297	4.781
10	0.000	0.700	0.879	1.093	1.372	1.812	2.228	2.764	3.169	4.144	4.587
11	0.000	0.697	0.876	1.088	1.363	1.796	2.201	2.718	3.106	4.025	4.437
12	0.000	0.695	0.873	1.083	1.356	1.782	2.179	2.681	3.055	3.930	4.318
13	0.000	0.694	0.870	1.079	1.350	1.771	2.160	2.650	3.012	3.852	4.221
14	0.000	0.692	0.868	1.076	1.345	1.761	2.145	2.624	2.977	3.787	4.140
15	0.000	0.691	0.866	1.074	1.341	1.753	2.131	2.602	2.947	3.733	4.073
16	0.000	0.690	0.865	1.071	1.337	1.746	2.120	2.583	2.921	3.686	4.015
17	0.000	0.689	0.863	1.069	1.333	1.740	2.110	2.567	2.898	3.646	3.965
18	0.000	0.688	0.862	1.067	1.330	1.734	2.101	2.552	2.878	3.610	3.922
19	0.000	0.688	0.861	1.066	1.328	1.729	2.093	2.539	2.861	3.579	3.883
20	0.000	0.687	0.860	1.064	1.325	1.725	2.086	2.528	2.845	3.552	3.850
21	0.000	0.686	0.859	1.063	1.323	1.721	2.080	2.518	2.831	3.527	3.819
22	0.000	0.686	0.858	1.061	1.321	1.717	2.074	2.508	2.819	3.505	3.792
23	0.000	0.685	0.858	1.060	1.319	1.714	2.069	2.500	2.807	3.485	3.768
24	0.000	0.685	0.857	1.059	1.318	1.711	2.064	2.492	2.797	3.467	3.745
25	0.000	0.684	0.856	1.058	1.316	1.708	2.060	2.485	2.787	3.450	3.725
26	0.000	0.684	0.856	1.058	1.315	1.706	2.056	2.479	2.779	3.435	3.707
27	0.000	0.684	0.855	1.057	1.314	1.703	2.052	2.473	2.771	3.421	3.690
28	0.000	0.683	0.855	1.056	1.313	1.701	2.048	2.467	2.763	3.408	3.674
29	0.000	0.683	0.854	1.055	1.311	1.699	2.045	2.462	2.756	3.396	3.659
30	0.000	0.683	0.854	1.055	1.310	1.697	2.042	2.457	2.750	3.385	3.646
40	0.000	0.681	0.851	1.050	1.303	1.684	2.021	2.423	2.704	3.307	3.551
60	0.000	0.679	0.848	1.045	1.296	1.671	2.000	2.390	2.660	3.232	3.460
80	0.000	0.678	0.846	1.043	1.292	1.664	1.990	2.374	2.639	3.195	3.416
100	0.000	0.677	0.845	1.042	1.290	1.660	1.984	2.364	2.626	3.174	3.390
1000	0.000	0.675	0.842	1.037	1.282	1.646	1.962	2.330	2.581	3.098	3.300
z	0.000	0.674	0.842	1.036	1.282	1.645	1.960	2.326	2.576	3.090	3.291
	0%	50%	60%	70%	80%	90%	95%	98%	99%	99.8%	99.9%
							Confidence Level				

t-table.xls 7/14/2007

t Table

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5	0.000	0.727	0.920	1.156	1.476	2.015	2.571	3.365	4.032	5.893	6.869
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z	0.000	0.674	0.842	1.036	1.282	1.645	1.960	2.326	2.576	3.090	3.291
	0%	50%	60%	70%	80%	90%	95%	98%	99%	99.8%	99.9%
						Confidence Level					