

---

## Analysis of Mathematical critical thinking skills of XI Students

Nufa visca amaratya

Rahma Dita Indriani

**Abstract.** *This research aims to analyze the critical thinking skills in mathematics of class X students. The research method used is survey research using tests of critical thinking skills in mathematics. Data was collected from class X students through a test specifically designed to measure their critical thinking skills in a mathematical context. Analysis was carried out to evaluate the level of students' critical thinking skills and the factors that influence them. The results showed that there was variation in students' critical thinking skills, with several factors such as educational background and level of motivation playing a role in influencing these skills.*

**Keywords:** *critical thinking skills, mathematics, class X students, tests, factors, analysis*

### INTRODUCTION

Mathematics is Wrong One field studies Which important in education. Mathematics is taught in schools, both elementary schools, junior high schools, and School intermediate On. Learning mathematics, according to Bruner (Herman Hudoyo, 2000: 56) is learning about mathematical concepts and structures contained in the material studied as well as look for connection between draft And structure mathematics in inside. Mathematics learning aims to ensure that students have the ability to think critically, logical, systematic, own attitude objective, Honest And discipline, as well as own ability solving a problem ( *problem solving* ). According to the Ministry of National Education (2006), components The important thing that students must have is the ability to solve problems. Matter This in line with objective learning mathematics in accordance with the unit curriculum education Which state that mathematics aim so that participant educate own ability understand draft mathematics, ability with reasoning, ability solve problem covers ability understand problem, designing model mathematics, solving models, and interpreting the solutions obtained.

On ability solution problem mathematics, student sued For can devising a strategy and solving a problem is not just about understanding it these problems (Annisa et al., 2021). In line with this, Andayani & Lathifah (2019:3) say that ability solution problem is potency Which owned somebody or student in solving story problems, solving problems that No routine, as well as apply mathematics in life daily For find solutions or solve problems in mathematics. If participants educate own ability solve problem well, then students will can easily solve

problems in learning mathematics.

## RESEARCH METHODS

Study This use method approach descriptive qualitative. Study descriptive qualitative addressed For describe And describe phenomenon - phenomenon Which There is, Good nature natural nor manipulation man, Which more notice about characteristics, quality, linkages between activity (Nana Syaodih Sukmadinata, 2011:73). Study This done in SENIOR HIGH SCHOOL Country 55 Jakarta, precisely in Pancoran District, South Jakarta City, DKI Jakarta.

Research subjects are informants or sources who are the source of research data (Mukhtazar, 2020:45). The research subjects were class XI students of SMAN 55 Jakarta teachings 2022/2023 Which amount 36 students consisting of 18 female students and 18 male students. The research instrument used in this research is interviews, observations, and documentation.

Data sources were obtained and discussed in this research using data primary and secondary. Primary data is all class XI students at SMAN 55 Jakarta, and data secondary, namely interviews with class XI mathematics teachers at SMAN 55 Jakarta, as well as documentation student learning outcomes.

## DATA ANALYSIS

Technique analysis data Which used in study This is analysis data qualitative with model Milles And Huberman, covers (1) reduction data, (2) presentation data, (3) drawing conclusions.

Reducing data that is summarize, choose things Which tree, focus things Which important, look for theme And the pattern as description clear And makes it easier researchers in collecting data. The data obtained was reduced.

After being reduced, the data is presented in the form of a short description, charts, relationships between categories, and so on. After that, conclusions are drawn.

## RESULTS AND DISCUSSION

| Jumlah siswa | Nilai Rata-rata | Tuntas | Tidak Tuntas |
|--------------|-----------------|--------|--------------|
| 36           | 76,64           | 16     | 20           |
| Persentase   |                 | 44.40% | 55.60%       |

**Table 1. Results Study Student class XI PUBLIC HIGH SCHOOL 55 Jakarta**

The following are the results of the study carried out by class XI students at SMAN 55 Jakarta with interviews, observation and documentation. Some have difficulty learning

mathematics Some of them are caused by the level of intelligence. Students who do not complete the problem solving steps are not good, because of the calculation process errors still occur and result in inaccurate results.

Following are some suggestions from researchers to students and teachers so that there can be improvements about mathematical problem solving abilities:

1. Teachers should provide learning activities to familiarize students working on math problems with means that can improve abilities solving student mathematics problems.
2. It is better for teachers to know students' problem solving abilities so that p This can be used as an evaluation to reduce errors as well improve the learning process.
3. The teacher trains students to give reasons for each answer given so that students get used to relating every problem to that knowledge owned.
4. Students should always check the answers they have obtained through certain processes to avoid errors. In addition, students must master number operations, so as not to make mistakes in the operations.

## BIBLIOGRAPHY

- Anggraeni, R., & Kadarisma, G. (2020). Analysis of Problem Solving Ability Mathematics for Class VII Middle School Students on Set Material. Scholar's Journal: *Journal Mathematics Education* , 4(2), 1072–1082.
- Astuti, Nurul Heni, et al., (2020). Analysis of Polya Model Problem Solving Ability Material Vibration, Wave, And Sound Student JUNIOR HIGH SCHOOL. *UPEJ: Unnes Physics Education Journal* , 9(1): 1-8.
- Damayanti, Nofita, and Kartini Kartini. "Analysis of mathematical problem solving abilities high school students on geometric sequences and series." *Mosharafa: Journal of Education Mathematics* 11.1 (2022): 107-118.
- Febrianti, Kintan (2022). Analysis of Grade Students' Mathematical Problem Solving Abilities V SDN Tebet Barat 03 AM on Fraction Calculation Operation Material. *Indraprasta University PGRI*.
- Hidayat, W., & Ayudia, DB (2019). Mathematics Anxiety and Solving Ability Problem Mathematical Student SENIOR HIGH SCHOOL. *Kalamatics: Journal Education Mathematics* , 4(2): 205-214.
- Nuraeni, L., Suhendri, H., & Masrurroh, A. (2020). Analysis of problem solving abilities mathematics for class VIII junior high school students. *Lebesgue Journal: Scientific Journal of Education Mathematics, Mathematics and Statistics* , 1 (3), 159-171.
- Syahril, R. F., Maimunah, M., & Rosa, Y. (2021). Analysis Ability Solution Problem Mathematical Student SENIOR HIGH SCHOOL Class XI PUBLIC HIGH SCHOOL 1 Bangkinang City Reviewed from Style Study. *Edumatica: Journal Education Mathematics* , 11 (03), 78-90.

- Suryani, M., Jufri, L. H., & Daughter, Q. A. (2020). Analysis Ability Solution Problem Students Based on Initial Mathematics Ability. *Mosharafa: Journal of Education Mathematics*, 9(1), 119-130. ISO 690
- Wilujeng, H., & Novita Sari, N. (2018). Analysis Ability Solution Math Problems Student JUNIOR HIGH SCHOOL Country 10 Tangerang. *Prime: Journal Education Mathematics*, 2(2), 137-147.