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Analysis Of Mathematical Problem-Solving Ability In View Of Mathematical Disposition

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ABSTRACT

Solving problem is one-skills most importantly no could separated adri learning math. In the process of solving problems, students will not be separated from their positive attitude towards mathematics (mathematical disposition). On the other hand, the results of tests and observations during the pandemic show that the mathematical problem-solving ability of class X students of Gondang Vocational School is relatively low. Moment solve-problem math, students not enough motivated for solve it. Besides that, students feel less confident and unable to solve math problems. Goal writing article is to describe the mathematical problem-solving abilities of class X students of SMK Gondang in terms of mathematical dispositions. The research method used in article this is qualitative method. Class X TKR 4 has 26 students. Subjects are selected using *purposive sample* technique based on the results questionnaire categorization, taking into account learning activities students in learning mathematics. Data collection techniques include questionnaires, tests, and interviews. The data analysis techniques include data reduction, data presentation, and withdrawal conclusions referring to data processing Milles and Huberman. The research results show that position students dominant have a moderate level of disposition, and students who have the same level of disposition have different problem-solving abilities. This is because students have their own difficulties and mistakes in solving mathematics. Skills problem solving is based on the level of deep mathematical disposition post-pandemic learning, namely: students with a high disposition can fulfill four indicators of Polya problem solving, students with a moderate disposition are able to fulfill three indicators without re-examining the results and students with a low disposition can only fulfill one indicator that is understanding the problem.
Keywords : Mathematical Problem-Solving Ability, Polya Steps, Mathematical Disposition

ABSTRAK

Pemecahan masalah merupakan salah satu ketrampilan terpenting yang tidak dapat dipisahkan adri pembelajaran matematika. Dalam proses pemecahan masalah, siswa tidak akan lepas dari sikap positifnya terhadap matematika (disposisi matematis). Di sisi lain, hasil tes dan observasi selama pandemi menunjukkan bahwa kemampuan pemecahan masalah matematis siswa kelas X SMK Gondang relative rendah. Saat memecahkan masalah matematika, siswa kurang termotivasi untuk memecahkannya. Selain itu, siswa merasa kurang percaya diri dan tidak mampu menyelesaikan soal matematika. Tujuan penulisan artikel adalah untuk mendeskripsikan kemampuan pemecahan masalah matematis siswa kelas X SMK Gondang ditinjau dari disposisi matematis. Metode penelitian yang digunakan dalam artikel ini adalah metode kualitatif. Kelas X TKR 4 berjumlah 26 siswa. Subjek dipilih dengan menggunakan teknik *purposive sample* berdasarkan hasil pengkategorian angket, dengan mempertimbangkan aktivitas belajar siswa dalam pembelajaran matematika. Teknik pengumpulan data meliputi angket, tes, dan wawancara. Adapun teknik analisis data meliputi reduksi data, penyajian data, dan penarikan kesimpulan yang mengacu pada pengolahan data Milles dan Huberman. Hasil penelitian menunjukkan bahwa siswa yang berada

pada posisi dominan memiliki tingkat disposisi sedang, dan siswa yang memiliki tingkat disposisi yang sama memiliki kemampuan pemecahan masalah yang berbeda. Hal ini dikarenakan siswa memiliki kesulitan dan kesalahan tersendiri dalam menyelesaikan matematika. Keterampila pemecahan masalah didasarkan pada tingkat disposisi matematis dalam pembelajaran pasca pandemi, yaitu: siswa berdisposisi tinggi dapat memenuhi empat indikator pemecahan masalah Polya, siswa berdisposisi sedang mampu memenuhi tiga indikator tanpa memeriksa kembali hasil dan siswa berdisposisi rendah hanya dapat memenuhi satu indikator yakni memahami masalah.
Kata kunci: Kemampuan Pemecahan Masalah Matematis, Langkah Polya, Disposisi Matematis.

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PRELIMINARY

The quality of education can be seen how students can have the ability to apply their knowledge. In the world of education, mathematics is not a foreign thing anymore. Mathematics is one of the important-knowledge given from an early age. Like statement (Nabillah & Abadi, 2019) regarding the important role of mathematics in the world of education as a basis for the advancement of modern technology and knowledge. Mathematics is used as a tool to find a solution to a problem by applying mathematical thinking in problem solving. Can not be denied that mathematics is also needed in daily activities, starting from simple activities so that mathematical skills need to be instilled from an early age. However, (Marhamah, 2018) state that mathematics still Becomes specter for students and considered as hard lesson, one-factor that is characteristics abstract mathematics. (Wulandari et al., 2020) add from results his research that mathematics is eye lessons that don't liked by students because confusing and too many-formula also requires many-time. Even though mathematics is very important for students. With learn math, students obtain Skills math. Student perfect his thoughts use the logic myself, then train work same for find solution and do analysis for solve problem math. This in accordance with statement (Rachmantika & Wardono, 2019) that students will have the ability to work collaboratively, analytically, logically and systematically through mathematical processes obtained in learning. because it, Skills mathematics is very important prerequisite for learn eye other lessons and in life everyday.

One of the mathematical skills that students must master in the mathematical process is problem solving (Nurfauziyah & Sylviana Zhanthy, 2019) .According to (Setia Meita Sari et al., 2020) , problem math that is n't could with easy resolved with procedure routine considered as problem math. Skills solving problem no only used for look for

solution from problem math, but also used for hone power think student as well as develop ability analytical and critical in solving-problem. Ability the support enhancement quality source power student so that capable compete with development of the times. In accordance with this (Rosita & Abadi, 2019) it is said that if a student masters the level of mathematical solving ability, then he can easily solve various problems, including questions that require critical thinking. According to Haylock (Asfar & Nur, 2018) shows that students' thinking skills can be recognized through a problem-solving approach.

Chairun Nissa (2015:65) defines problem-solving as a mental activity in which solutions to the problems encountered are found by using existing knowledge. According to Asfar & Nur (2018: 26) problems in mathematics are in the form of word problems, proving, creating, or looking for a mathematical pattern. (Pangesti & Soro, 2021) states that problem-solving questions are generally presented in the form of stories that are contextual in nature, that is, in accordance with real life. Pehkonen in (Asfar & Nur, 2018: 30) states that there are four categories of reasons for teaching problem solving abilities, namely 1) developing cognitive skills in general, 2) encouraging creativity, 3) problem solving is part of the application of mathematics, and 4) problem solving motivates students to study mathematics. In addition, Russefendi in (Yuwono et al., 2018) states that problem solving abilities are very important for those who will apply them in other fields of study and in everyday life. According to (Asfar & Nur, 2018:28) problem-solving is a unique skill of each individual, the solution varies according to real events. Davita & Pujiastuti (2020) also shows that the ability to solve mathematical problems is a student's effort to use skills and knowledge to find solutions to mathematical problems.

One problem-solving steps used to help students think in the problem-solving process are problem-solving steps according to Polya in (Pradani & Nafi'an, 2019) namely understanding the problem, making a problem-solving plan, completing the problem plan, and re-examining the results obtained. Solving process problem according to Polya presented in Figure 1 following.

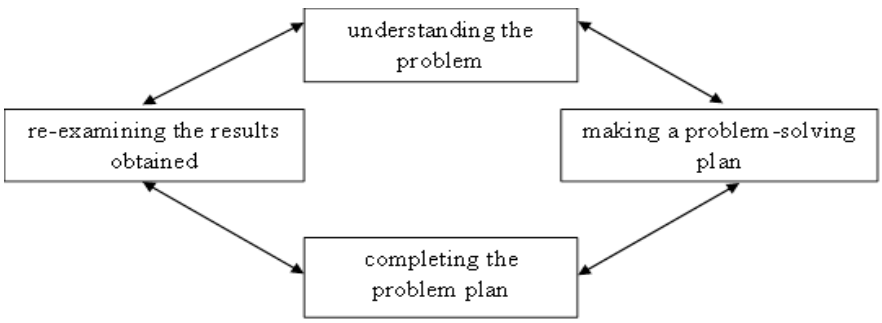


Figure 1. Splitting Process Problem According to Polya

In Figure 1 Solving steps problem according to Polya consists from understand problem, create plan solving-problem, solve plan solving problem, and check return results obtained. Where is the fourth step the related one each other for reach solution from problem math. Hendriana and Soemarmo in (Aini & Mukhlis, 2020) explain stages solving-problem according to Polya as following. At the stage of understanding the problem, students understand the problem and see what they want by identifying what is known and asked and ignoring things that are not relevant to what they are looking for. After understanding the problem, on stage make plan solving-problem, students see how their knowledge relates to data to generate ideas for making plans and problem-solving strategies. After creating settlement plan, the plan is implemented according to the mathematical calculations at the final stage of the problem-solving plan. In the last step, students review the results, interpret the answers and check if there are other methods that can be used.

In the process of solving mathematical problems, the student's ability cannot be separated from his positive attitude towards mathematics which is known as a mathematical disposition. Klipatrick, Swafford & Findel define the mathematical disposition cited by (Fadillah et al., 2020) as the attitude of students who tend to view mathematics as something that can be learned, provides benefits, so that they are encouraged to carry out mathematical activities by themselves. Sumarmo in (Hakim, 2019) also revealed the definition of a mathematical disposition is a desire that arises strongly from within students and is aware of mathematics so that they are compelled to think and do things related to mathematics as a form of dedication to mathematics. If students have even succeeded in understanding mathematics or mastering mathematics, a positive attitude of students towards mathematics will emerge. In line with the results of research (Nuraidah et al., 2018) and (Yustiana et al., 2021) that there is an effect of mathematical disposition on problem solving abilities, when students' mathematical dispositions are high, their abilities will also be high. student problem solving, as well as in the medium and low categories.

results of observations with the mathematics teacher, students have been given questions in the form of problem solving at the time online learning, but the results have not been maximized and most students have not been able to properly describe the steps for solving the problem. As a result, data was obtained that the average grade X grade was 31.42 with 1.875% completing KKM 75. Based on results test the show that students' ability to solve math problems is still relatively low, especially when online learning takes

place. Where students' ability to solve math problems is used as a means to get the right answer. The math teacher added that students were less motivated to solve math problems because they couldn't solve math problems.

Given the importance of the role of mathematical problem solving and mathematical abilities in learning mathematics related to existing problems, the researcher is encouraged to analyze students' mathematical problem-solving abilities in terms of mathematical dispositions which will be classified into high, medium, and low categories to be re-evaluated. Similar research was also conducted by Yustiana et al (2021) with the results of the research showing that mathematical disposition influences the ability to solve mathematical problems when working on problems. Each disposition category mathematical have different abilities in solving mathematical problems. In study (Yuliani et al., 2021) and (Muflihatusubriyah et al., 2021) states that students with high dispositions have the best problem-solving abilities.

METHODS

Method research used includes study qualitative. Study this analyzed for understand phenomenon or incident ability solving-problem mathematical students in terms of their mathematical disposition and describe it. Study this implemented at SMK Gondang Wonopringgo in the even semester year lesson 2021/2022. Subject study this is student class X TKR 4 totaling 26 people. The method of taking research subjects in this study was selected by *purposive sample* with consider categorization disposition mathematical students are also active student during the learning process.

Three technique data collection included questionnaires, tests and interviews used in study this for obtain data. Questionnaires were used to obtain information related to data at the level of students' mathematical dispositions. Tests were carried out to obtain information related to students' problem-solving abilities, and interviews were also conducted to obtain in-depth information regarding students' answers in solving problem-solving questions that had been done, so that it can be known how the subject think and make it possible to find solutions in solving problems based on the ideas and opinions of the subject. In study In this case , the aspects measured in the mathematical disposition questionnaire according to Wardani in (Hakim, 2019) are self-confidence, curiosity, perseverance, flexibility, reflective. After that done the scoring and results of the questionnaire were processed to classify the questionnaire into three categories, namely high, medium and low. The researcher determines the level of disposition based on the

mathematical disposition classification used by (Herutomo & Masrianingsih, 2019) . Grid questionnaire disposition mathematical presented in Table 1 as following.

Table 1. Grid Questionnaire Disposition Mathematical

No	Aspect	Indicator	Item No. Question		Amount
			Positive	Negative	
1	Trust self	Believe self to abilities / beliefs	10, 14	2, 23	4
2	Curiosity	a. Submit question	19	11	8
		b. Do investigation			
		c. Enthusiasm / passion in study mathematics	15	3	
		d. Lots of reading / searching another source	4	25	
			8	20	
3	Perseverance	Persistence / assiduous / caring / earnest	16, 22	5, 9	4
4	Flexibility	a. Collaboration/ sharing knowledge	1	21	6
		b. Value different opinion _	12	17	
		c. Try look for other solutions /strategies	24	7	
5	reflective	a. Act and relate with mathematics	18	6	4
		b. Liking / pleasure to mathematics			
			26	13	
		Amount			26

The tests given to students are based problem-solving skills consisting of three questions related to trigonometry material. The test format is in the form of a description which includes the four stages of solving Polya questions. Each question-load problem-solving indicators according to Polya, is understand the problem, make a problem-solving plan, implement the problem-solving plan and review the results obtained. test used made by existing researchers adapted and refers to the material taught by the teacher. The researchers carried out the development based on the steps for developing the instrument according to Retnawati (2016: 3-6) . By using the Aiken V index formula, it is found that the test instrument is in the high validity category with an Aiken V index value of 0.838. The reliability of the test instrument with an Alpha coefficient value of 0.851 is classified as high, so the test instrument is said to be reliable. Following served results analysis instrument test in Table 2.

Table 2. Analysis Instrument Test

No	Validity	Difficulty Level	Power differentiator	Reliability	Conclusion
1	Valid	Currently	Enough (≥0.3)	Reliable	Accepted
2					Accepted
3					Accepted
4		Hard			Deleted

The problem-solving ability test questions given to students of class X TKR 4 are presented in Table 3 following.

Table 3. Problem-Solving Ability Test Questions

No. About	Indicator About	Grain About
1	Shiva capable finish problem related ratio trigonometry	Hanif will measure tall his house is far away $2\sqrt{3}\ meter$from where he stood. When Hanif looked at the roof of his house, an elevation angle was formed $60°$from Hanif's point of view. If Hanif's height $175\ cm$. How tall is Hanif's house?
2	Student capable finish problem related rule cosine	Yusuf rode motorcycle running _ from his house to the place Aas far $20\ km$as direction $35°$. From the place A, the motorcycle went as far as $30\ km$the place $B$with the direction $155°$. How far is Yusuf's house to where B?
3	Student capable finish problem related sine rule	The harbor $B$is north of the harbor $A$with polar coordinates$(45,30°)$ from harbor A. The port $C$is just east of the port A. Daniel is now in the harbor $C$and if Daniel turns his eyes $60°$to the north from the west, then Daniel can see the harbor $B$from a distance using binoculars. If Daniel wants sail from harbor $C$to B, how far will Daniel travel?

In determining the research subject, two students were selected to represent each category, namely high, medium, and low, so that six research subjects were obtained. Student activities during the learning process are also used as material for consideration in selecting subjects. The selection of two students at one level of disposition was also carried out so that it could be used as a comparison between subjects, because there was a possibility that students who had the same level of disposition might have differences in problem solving. After 6 subject selected, then a semi-structured interview was conducted.

In qualitative research, the researcher checks the validity of the data for ensure accuracy. The validity of this research data through triangulation. There are several triangulation techniques, namely sources, techniques and time (Sidiq & Choiri, 2019:94) . Triangulation technique used in study this. Technical triangulation, namely testing the credibility of data by checking data from the same source using different techniques (Sidiq & Choiri, 2019:

95) . In this study the data obtained from the results of tests and questionnaires were then confirmed through interviews. The analytical technique used is related with Step Qualitative data processing according to Milles and Huberman in (Siregar, 2012 : 213) includes data reduction, data presentation, and drawing conclusions. In the data reduction step, things are done after the data collection process begins with corrected results questionnaire then evaluate and classify student in three category level according to (Herutomo & Masrianingsih, 2019) and the scoring of the results of the test according to the scoring guidelines for determining research subjects. Test results of students' problem-solving abilities used as material for interviews. The results of the interviews were processed and arranged in good and standard language. Furthermore, the presentation of data is carried out by compiling and presenting it in an orderly manner clear so that easy understood by others. Data presented in form tables and figures results profession student in finish about test ability solving necessary problem studied, as well be equipped with with explanation from presented image. Next is done conclusion based on results research and findings obtained from research.

RESULTS AND DISCUSSION

The results of the mathematical disposition questionnaire data that have been analyzed, the student mapping levels obtained, namely high, medium, and low mathematical dispositions are presented in **Table 4** following.

Table 4. Mapping Results of Mathematical Disposition Levels

Category Disposition Mathematical	Amount Student
High	4
Medium	19
Low	3

From Table 4. it is known that the majority of students are in the category of medium level of mathematical disposition. From the mapping of the categories of mathematical disposition levels, six subjects were selected to represent each disposition category by considering students' activities during mathematics learning in class. Then students are given problem solving ability test questions which consist of three questions related with trigonometry. subject selected from the test results of the six subjects used as interview material to obtain additional information about the stages solution to problem. The following is a description of students' mathematical problem-solving abilities in terms of mathematical dispositions.

Mathematical Problem-Solving Ability of Students with High Disposition

Subjects representing the category of high levels of mathematical disposition are ST1 and ST2. Based on test results it was found that ST1 and ST2 were able to fulfill the first indicator, namely understanding the problem, being able to identify important points that were known and asked in all test questions. For the second indicator, making a problem-solving plan, ST1 is able to link the knowledge possessed with the information in the problem, so that you get ideas for drawing up a plan correct resolution. Interview result emphasized that ST1 and ST2 were able to explain the meaning of the questions and represent them with pictures, making it easier to prepare the required plans. Like-wise with ST2, but in test number 3, ST2 was unable to plan according to what was needed. The results of the answers to test number 3 ST2 is shown on Figure 2 as follows.

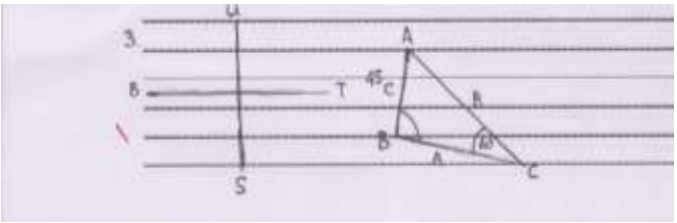


Figure 2. ST2 Answers to Question Number 3

Figure 2 shows that ST2 is unable to make the plan needed in question number 3. Based on the interview results, ST2 has difficulty in representing the questions in the form of pictures so they are unable to make plans. This is because students do not understand material about polar coordinates in trigonometry and forgot to apply them, so student made a mistake when representing the problem in the form of an image. This caused ST2 to be unable to meet the problem-solving indicators according to Polya then on test question number 3. In addition, ST1 and ST2 were able to fulfill the third indicator, namely completing the problem-solving plan by applying the solving algorithm skills and calculations according to the plan that had been prepared. In the last indicator, re-checking the results obtained, ST1 and ST2 were able to write conclusions and re- check the results obtained in the interviews, but ST2 did not matter the for-question number 2. Next is the result of ST2's answer to test number 2 shown on Figure 3 below this.

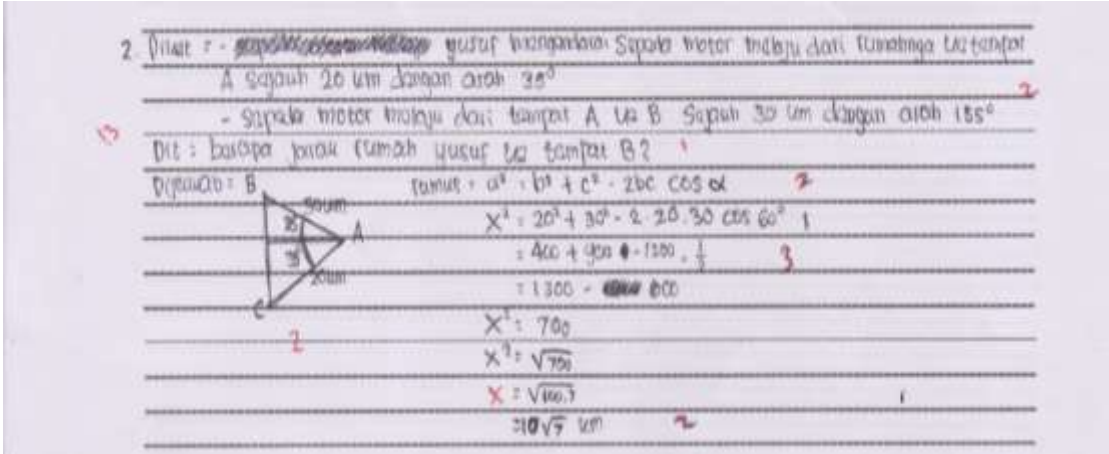


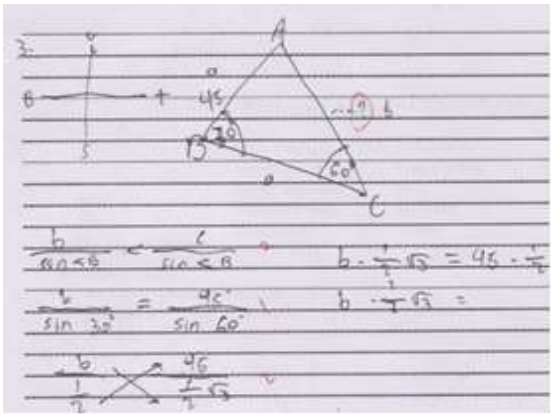
Figure 3. ST2 Answers to Question Number 2

In Figure 3 It can be seen that ST2 did not write conclusions for test number 2. Based on the interview results it can be seen that ST2 was not used to writing conclusions and was not careful enough, because he did not re- check the results obtained on question number 2. This was because ST2 ran out of time in solving problem number 2, so he focused to solve-problem in question number 3.

The results that have been described, students with a high level of disposition show the fulfillment of the four indicators of Polya problem-solving in accordance with the criteria presented by Hendriana and Soemarmo in (Aini & Mukhlis, 2020) including understanding the problem, making a problem solving plan, completing a problem solving plan, and recheck the results obtained. This supported by research findings (Muflihatusubriyah et al., 2021) that students with high disposition can do all the steps of solving the Polya problem and feel confident with the results that have been obtained. This is supported by research findings (Hamidah & Prabawati, 2019) that students with high dispositions still try to understand and work on the questions even though about it's difficult. Even though students who both have high dispositions have differences in the achievement of problem-solving indicators on wrong one question item. This is because the material has not fully understood so it will an error occurred while representing the question. (Farahhadi & Wardono, 2019) argues that representation is an important part of determining problem-solving solutions that are in accordance with the problem- solving process. This is supported by research (Akbar et al., 2018) which shows that lack of understanding students about how to interpret the information on the problem becomes one of the factors of student errors in solving student problem solving questions.

Mathematical Problem-Solving Ability of Students with Moderate Disposition

Subjects that represent the category of medium level of mathematical disposition are SS1 and SS2. Based on the research results, it can be seen that SS1 and SS2 can fulfill the first indicator, namely understanding the problem, being able to identify important points that are known and asked in all test questions. For the second indicator, namely making a problem-solving plan, SS1 and SS2 were able to link their knowledge with information in the problem, get ideas for making the right plan on test questions number 1 and 2. Interview results indicated that SS1 and SS2 were able to explain the purpose of the questions and represent them with pictures, making it easier to prepare the required plans. However for this second indicator, SS1 and SS2 can not find the right problem-solving plan on test question number 3. The following are the results of the answers test questions number 3 SS1 and SS2 like Figure 4 and Figure 5 as follows.



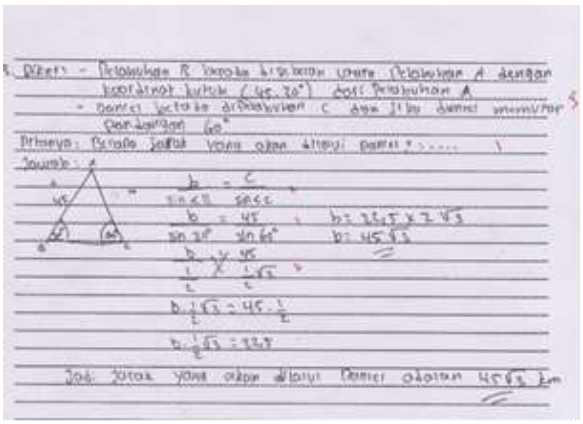


Figure 4. SS1 Answers to Question Number 3 **Figure 5. SS2 Answers to Question Number 3**

From Figure 4 and Figure 5 it can be seen that SS1 and SS2 were unable to make the plan required for question number 3. Based on the results of the interviews SS1 and SS2 found it difficult to represent the questions in the form of pictures. SS1 and SS2 tried to make a plan by writing down the formula to be used, but the plan was not in accordance required. There is an error in the resulting image from discrepancies interpret the question, resulting in an error in making a problem-solving plan. SS1 and SS2 don't understand application of material related to polar coordinates in trigonometry, thus making mistakes in representing the problem in the form of an image. SS1 and SS2 are also less thorough, it is suspected that the written plan does not solve the problem according to the question. This caused SS1 and SS2 to fail on the next indicator in solving test questions number 3. In addition, SS2 was able to fulfill the third indicator, namely completing the problem-solving plan, being able to apply the solving algorithm skills and calculations according to the plan that had been prepared. The same thing happened to SS1, but SS1 failed on this third

indicator on item number 2. Following are the results of SS1's answers on item question number 2, look on Figure 6 as follows.

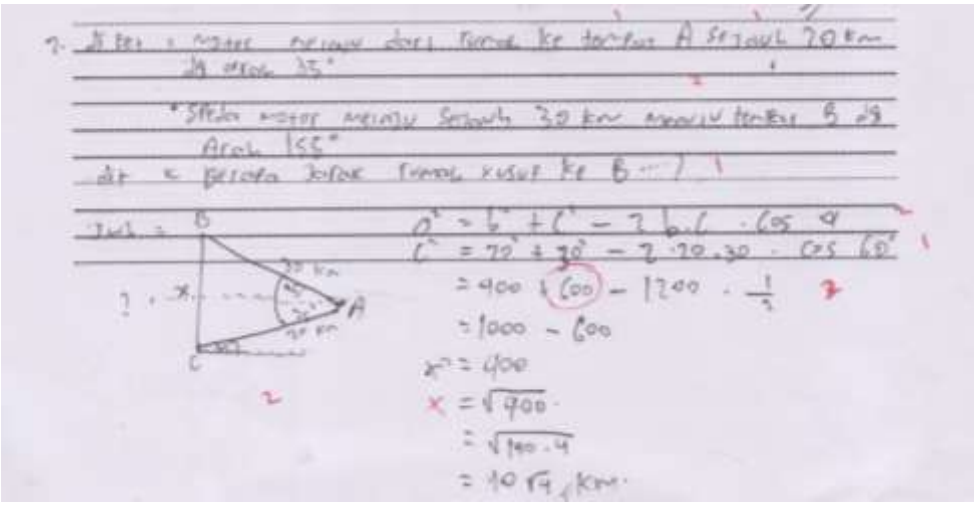


Figure 6. SS1 Answers to Question Number 2

In Figure 6. Seen that SS1 made an error in solving test questions number 2. SS1 made an error in calculating and applying the strategy due to lack of it-application of the basic mathematical concepts used in the solving algorithm. This error is preceded by an inner error apply concept of calculating squares, which leads to another error and doesn't reach the desired solution. In the last indicator, re-examining the results of SS1 and SS2, they did not write conclusions correctly, nor did they re- examine the results obtained in the interviews. It can be seen that SS1 and SS2 do not meet the indicators of re-examining the results obtained.

The results are presented for students with moderate dispositions show the fulfillment of the three indicators of Polya's problem solving without re-examining the results according to the solving stage criteria presented in Hendriana and Soemarmo's publication in (Aini & Mukhlis, 2020) . Students with a disposition do not re-examine the results obtained because students are not used to it. The results are related to research conducted by (Pangesti & Soro, 2021) , which found that Re-checking the results obtained is a problem-solving step that is not carried out by students with moderate dispositions. Students who have a moderate disposition have differences in the achievement of problem-solving indicators on each question item. This because students experience difficulties and errors made on each item are different questions. This is in accordance with research by (Yuliani et al., 2021) that students with a current disposition experience difficulties in making mathematical models, choosing and implementing strategies, as well as calculating

accuracy. In addition , (Hajar, Yuni & Sari, 2018) states that students with a disposition are experiencing difficulties in solving problems caused by factors that cause these difficulties.

Mathematical Problem-Solving Ability of Students with Low Disposition

Subjects representing categories of mathematical dispositions low levels are SR1 and SR2. Based on the results of the study, SR1 and SR2 were able to fulfill the first indicator, namely understanding the problem, by being able to identify important points that were known and asked in test questions number 1. Meanwhile, in test questions numbers 2 and 3, they did not there is no one can understand the problem. Following are the answers of SR1 and SR2 for question number 3 in Figure 7 and Figure 8 as follows.

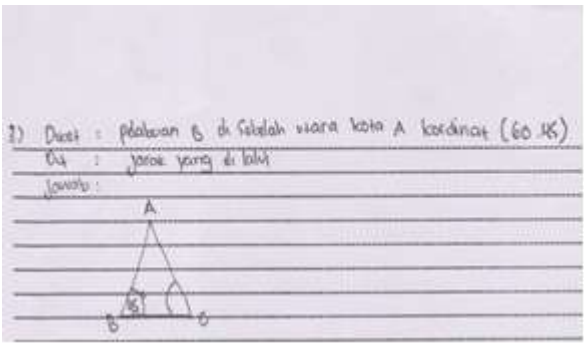


Figure 7.
SR1 Answers to Question Number 3

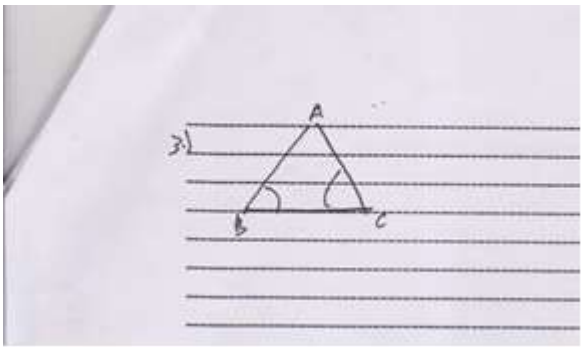


Figure 8.
SR2 Answers to Question Number 3

In Figure 7 and Figure 8 It can be seen that SR1 and SR2 can not understand the problem. Confirmed from the interview results, both admitted that they did not study, were not motivated to try, so that from the beginning they felt inferior and were unable to complete test questions. The answer to question number 3 is written such shape so it 's not empty and it's not there is no one knows the meaning of what is written. This resulted in SR1 and SR2 not being able to complete the steps in solving the problem of test questions number 2 and 3 next. In the second indicator, making a problem-solving plan, SR1 is able to combine the information it has with the information in question number 1 for get inside ideas plan. In contrast to SR2 who could not explain the drawings and reasons for the plans written during the interview. For the third indicator, completing the plan, SR1 and SR2 can not implement the written plan and are unable to explain the steps outlined in answer. SR1 and SR2 admitted that they received answers on the answer sheets from friends. It can be seen that SR1 and SR2 can not complete the next step in solving the problem.

From the results presented it can be seen that students with low dispositions indicate that the problem solving indicator is Polya no fully fulfilled and students have not

been able to complete test questions such as the Polya solving criteria conveyed by Hendriana and Soemarmo in (Aini & Mukhlis, 2020) . Students with a low disposition only meet the indicators of understanding the problem, some even do not meet the problem-solving indicators because they feel the difficulties they are facing and finally give up. Findings this related to research by (Yuliani et al., 2021) , who found that students with low dispositions still have difficulty understanding the problem. This also applies to research (Hasanah, 2021) that shows that students with low dispositions focus on one indicator and only understand the problem.

The results of this study refer to conditions where students have experienced online learning during the pandemic and students have experienced full face-to-face learning for one semester after the pandemic. Based on the analysis of the data obtained from the research results, it can be seen that the mathematical problem-solving abilities of students with high dispositions have the ability to solve mathematical problems by being able to apply and fulfill the four indicators completely, and students with moderate dispositions are able to complete and fulfill the three indicators of Polya problem-solving without checking the results. which is obtained. Meanwhile that, students with low disposition can only fulfills one indicator of solving problems Polya yes that understands the problem. In addition, based on the results of the study it can be stated that tilapia the average student is 48.35 with 7.7% of students who complete the KKM with a score of 75. This means that the average and percentage of students increase the result, although not much. Could-it was concluded that online learning that had been experienced by students for quite a long time did not have much effect on students' mathematical problem-solving abilities.

CONCLUSION

Student dominant have level disposition medium and students with level same disposition have ability solving different problem. This because student have difficulties and mistakes each in finish problem math. Skills solving problem based on level disposition mathematical in learning post pandemic, namely: students who have a disposition tall have ability solving problem mathematical with capable implement and fulfill four indicator solving-problem Polya that covers understand problem, create plan solving-problem, solve plan solving-problem and check return results obtained. Then Disposed students currently capable implement and fulfill three indicator solving-problem Polya without check return results obtained. Whereas disposed students low only capable carry out one indicator solving-problem Polya is understand problem.

Regarding suggestions that can be conveyed to teachers, namely 1) teachers should pay attention to students' mathematical dispositions by implementing innovative learning models that can improve mathematical dispositions, given that students are dominant be in a disposition medium , meanwhile student those who have a high disposition towards mathematics tend to have better problem-solving abilities 2) the teacher should get used to giving problems to student in form questions solving problem to train students in solving mathematical problems.

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