

Analysis of Students' Critical Thinking Errors in Solving Algebra Material Problems

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Keywords

Analisis, Berpikir Kritis, Facione, Newman, Aljabar

Analysis, Critical Thinking, Facione, Newman, Algebra

ABSTRACT

Tujuan penelitian ini adalah menganalisis kemampuan berpikir kritis peserta didik menyelesaikan soal aljabar menggunakan indikator gabungan berpikir kritis Facione dan tahapan Newman. Subjek terdiri dari 29 peserta didik dan hanya 6 peserta didik yang diwawancara serta di analisis berdasarkan kategori berpikir kritis tingkat tinggi, sedang, dan rendah. Pengumpulan data yang digunakan dalam penelitian ini meliputi tes, wawancara, dan catatan lapangan. Triangulasi metode digunakan untuk pengecekan keabsahan data. Hasil penelitian menunjukkan bahwa pencapaian indikator gabungan kemampuan berpikir kritis dan tahapan Newman yang diperoleh dari peserta didik yang paling tinggi yaitu indikator menginterpretasi, membaca, dan memahami sebesar 89%. Sedangkan indikator yang paling rendah adalah menginferensi dan penulisan 46%.

The purpose of this study was to analyze students' critical thinking skills in solving algebraic problems using the combined indicators of Facione's critical thinking and Newman's stages. The subjects consisted of 29 students and only 6 students were interviewed and analyzed based on high, medium and low critical thinking categories. The collection of data used in this study includes tests, interviews, and field notes. Triangulation method is used to check the validity of the data. The results of the study showed that the combined indicator achievement of critical thinking skills and Newman's stage was obtained from the highest students, namely interpretation, reading and understanding indicators of 89%. While the lowest indicators are inference and writing 46%.



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INTRODUCTION

Mathematics is an educational program that can improve critical thinking. (Suryanti, Sari, & Kristiani, 2020) argues that mathematics is needed in all fields to increase the predictive power and control of this science. Mathematics plays an important role in the growth of knowledge and becomes a skill that is needed by humans (Murtiyasa & Wulandari, 2020). Preferably, in learning mathematics, it begins with problems related to life to improve critical thinking skills. (Ketut & Rahmawati, 2019).

According to (Oktaviana & Abdillah, 2021) the way of thinking influences the ease with which they solve problems with strategies that are by the knowledge they have. Critical thinking skills are considered very meaningful to be applied in the educational process. The existence of critical thinking can ensure appropriate solutions and options or sources are selected on the data obtained (Kurniasih, 2019). Knowing the abilities and skills of critical thinking should use a written test by linking one of the materials in learning (Farida & Ferdiani, 2021). According to Maulana (2017), the development of critical thinking skills is becoming increasingly

important in this modern era because individuals are required to be able to find, select, and process information effectively in life. Like algebraic mathematics lessons, critical thinking skills are needed by students.

Algebra material for class VII odd semester independent curriculum. Algebra itself is an important topic for students' mathematics education. Algebraic concepts have a role in life, math skills must often be used, especially for those who have studied. However, in reality in learning algebra, the results are often unsatisfactory (Maghfiroh & Prayitno, 2023).

According to (Anggreni, Puspawati, & Noviyanti, 2020) At the Newman stage, there are five types of errors, namely errors in reading (reading), understanding (comprehension), carrying out transformation (transformation), process skills (process skills), and writing answers (encoding).). This is very important in this study with Newman's stages to facilitate the process of analyzing students' critical thinking skills (Jun et. al., 2022). Steps can be taken to identify the location of the error are students by analyzing the results of the work done by students (Lestari & Fiangga,

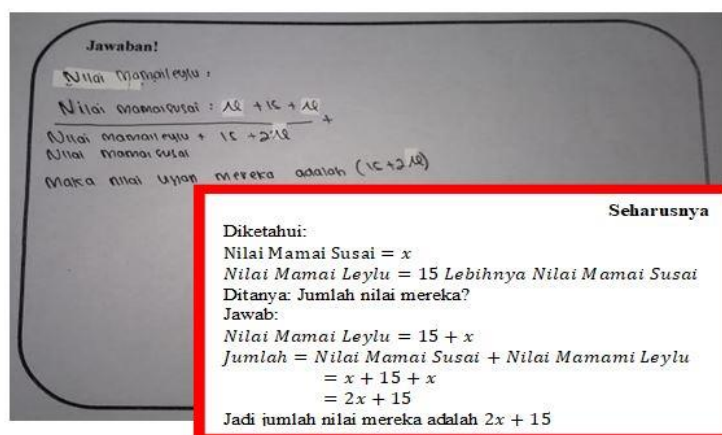


Figure 1 Student Observation Results

2021). Newman's stages were used in this study.

Observation Saturday, October 1, 2022, at SMP Negeri 1 Gondanglegi, Malang Regency in class VII A. The results show that students are not careful or not accurate in solving problems, in addition, students in this class are also not precise in writing information.

Previous research related to critical thinking, namely: 1). Ramdani, Jufri, & Setiadi, (2020) stated that according to this study, according to this study, some students had high criterion critical thinking abilities, mastery indicators made it further explained that these points received higher scores compared to other indicators. 2). Fitriana, Marsitin, & Ferdiani, (2019) some students tend to be low because they make workmanship errors and have difficulty deducing the right answers to questions. 3).

Benyamin, Qohar, & Sulandra, (2021) stated that the ability to think critically consists of several aspects. Based on the assessment, students get low scores on these four aspects. However, in the evaluation aspect, students get moderate scores.

METHODS

This study uses a qualitative descriptive method to describe students' critical thinking skills in working on algebraic problems using Newman's stages. The descriptive method was chosen because the researcher wanted to provide an overview of critical thinking. Qualitative research tends to be inductive and emphasizes process, according to (Arikunto, 2010)

This study used tests, interviews, and field notes as data collection procedures. The test questions in Table 1 and the interview guidelines have been validated by experts and before data collection was attempted, the researchers sorted the data that matched the illustrative criteria and built a trusting relationship with the informants. Tests are used to obtain information about critical

thinking skills in solving math problems which include algebraic material, while interviews are used to support students' work results and field notes are used to fulfill the results of gathering information and record significant events during research. The subjects in this study were 29 students and only 6 students were interviewed.

Table 1. Critical Thinking Test Question

Tingkatan	Soal
Mudah	<i>Kak Marju</i> memiliki $6\frac{8}{4}kg$ tepung untuk digunakan membuat <i>Risol Marju</i> , karena dirasa kurang maka <i>Kak Marju</i> membeli tepung kembali $1\frac{6}{2}kg$. Nyatakan bentuk aljabar sederhana seluruh jumlah tepung yang dimiliki <i>Kak Marju</i> ?
Sedang	Rumah mewah (mepet sawah) milik <i>Dilan Cenil</i> bentuk persegi dengan lebar $(x - 2) hm$ dan lebar $(x + 7) hm$, Jika $(x = 4)$ berapakah luas rumah mewah (mepet sawah) milik <i>Dilan Cenil</i> tersebut dalam satuan cm^2 ?
Sulit	<i>Reyhan sipaling baik</i> memberi 575 koin kepada ketiga kawannya untuk membeli skincare kulit sapi peliharaan mereka. Kawan pertama bernama <i>Inkan Lelembut</i> , kawan kedua bernama <i>Kurmu Citiyim</i> , dan kawan ketiga bernama <i>Juju Slempret</i> . <i>Kurmu Citiyim</i> diberi 25 koin lebih banyak dari pada <i>Juju Slempret</i> . <i>Inkan</i> mendapatkan tiga kali dari <i>Kurmu Citiyim</i> . Banyak koin yang diterima <i>Juju Slempret</i> adalah?

Test results were assessed using a modified evaluation guide from Facione and Newman's stages. Analyzing students' work in solving problems with data

reduction. The results of the data are compared to get accurate conclusions about their critical thinking abilities.

Table 2. Critical Thinking Ability Evaluation Guide

Komponen	Penilaian	Skor
Interpretasi Membaca Memahami	Siswa memaknai arti kata dalam soal materi aljabar serta menuliskan hal diketahui dan ditanyakan dengan lengkap dan tepat.	4
	Siswa memaknai arti kata dalam soal materi aljabar serta menuliskan hal diketahui dan ditanyakan tetapi kurang lengkap	3
	Siswa memaknai arti kata dalam soal materi aljabar serta menuliskan hal diketahui dan ditanyakan saja dengan tepat	2
	Siswa memaknai arti kata dalam soal materi aljabar serta menuliskan hal diketahui dan ditanyakan dalam dengan tidak tepat	1
	Siswa tidak menulis yang diketahui dan yang ditanyakan	0
Analisis Transformasi	Siswa membuat model matematika dari soal materi aljabar yang diberikan dengan tepat dan memberi penjelasan yang benar dan lengkap.	4
	Siswa membuat model matematika dari soal materi aljabar yang diberikan dengan tepat tetapi ada kesalahan pada saat memberi penjelasan	3
	Siswa membuat model matematika dari soal materi aljabar yang diberikan dengan tepat tanpa memberi penjelasan	2
	Siswa membuat model matematika dari soal materi aljabar yang diberikan tetapi tidak tepat	1
	Siswa tidak membuat model matematika dari soal materi aljabar yang diberikan	0
Evaluasi Keterampilan Proses	Siswa menggunakan strategi serta prosedur dengan tepat dalam menyelesaikan soal pada materi aljabar, lengkap dan benar dalam melakukan perhitungan atau penjelasan	4
	Siswa menggunakan strategi serta prosedur dengan tepat dalam menyelesaikan soal materi aljabar tetapi melakukan kesalahan dalam perhitungan atau penjelasan	3
	Siswa menggunakan strategi serta prosedur yang tidak tepat dalam menyelesaikan soal pada materi aljabar, tetapi tidak lengkap atau sebaliknya	2
	Siswa menggunakan strategi dan prosedur yang tidak tepat dan tidak lengkap dalam menyelesaikan soal pada materi aljabar	1
	Siswa tidak menggunakan strategi dalam menyelesaikan soal pada materi aljabar	0

Komponen	Penilaian	Skor
Inferensi Penulisan	Siswa menuliskan jawaban akhir serta membuat kesimpulan yang tepat, sesuai dengan konteks soal materi aljabar dan lengkap	4
	Siswa menuliskan jawaban akhir serta membuat kesimpulan dengan tepat, sesuai dengan konteks tetapi tidak lengkap	3
	Siswa menuliskan jawaban akhir serta membuat kesimpulan yang tidak tepat meskipun disesuaikan dengan konteks soal pada materi aljabar	2
	Siswa menuliskan jawaban akhir serta membuat kesimpulan yang tidak tepat dan tidak sesuai dengan konteks soal pada materi aljabar	1
	Siswa tidak membuat kesimpulan	0

After data analysis, data validity was checked using triangulation as a checking

technique. This involves comparing data from different sources.

Table 3. Student Results Level

Nilai Berpikir Kritis	Tingkatan	Kode Peserta didik	Jumlah
$0 < N \leq 60$	Rendah	AP,SDR,FF,ARYF,MNAA,RAS,VMF,DYS,MAN,AAS,ARP,BKA,YKBC	13
$60 < N \leq 75$	Sedang	KIU,MARZ,DPYAS,RAW,DYS	5
$75 < N \leq 100$	Tinggi	FDA,NKS,SNM,LMA,OAP,ADKS,FBW,ALZ,AES,CM,MDS	11

RESULT AND DISCUSSION

On the first day, tests were conducted on 29 students, the test results were grouped into three categories. At the second meeting, interviews were

conducted with 6 students choosing from each category. Categories are listed in Table 3. Table 3 shows the number of students with 11 high abilities, 5 medium abilities, and 13 low abilities. A more detailed analysis is provided in table 4.

Table 4. Percentage Per Indicator Combined

Indikator Kemampuan Berpikir Kritis Dengan Tahapan Newman	Rata-Rata Skor	Skor Maks per Indikator	Persentase per Indikator
Interpretasi, Membaca, dan Memahami	10,7	12	89%
Analisis dan Transformasi	8,4	12	70%
Evaluasi dan Keterampilan Proses	6,5	12	54%
Inferensi dan Penulisan	5,5	12	46%
Rata-Rata Total			64,75%

Based on table 4, shows that the percentage of critical thinking skills and Newman's combination generally results in achievement of 64.75% (average calculation). For the percentage results based on indicators of critical thinking and Newman's stages, it can be shown that indicators of interpretation, reading, and understanding are the highest factors for students reaching a percentage of 89%. While the second highest indicator is analysis and transformation with a percentage of 70%. The next indicator is evaluation and process skills with a percentage of 54%. The lowest indicator is shown in inference and writing with a percentage of 46%.

The following is a description of the analysis based on the combined indicators of Facione's critical thinking skills and Newman's stages:

Interpreting, Reading Stage, and Understanding Stage

Based on Table 4, shows that the percentage of ability to interpret, read, and understand questions reaches 89%, which is the first highest indicator of the other four indicators. FDA, OAP, and KIU students were able to answer question number 1 correctly, while DYS and SDA students could not answer because they were unable to, and YKBC students could not answer completely. The ability to interpret in the stages of reading and understanding is very important for students to develop and

easily solve problems. This is in line with the research of Rahmadana, Fadly, & Ekapti (2021) which suggests that improving interpretation skills is very necessary to get students who have good critical thinking skills. The reading stage is very necessary for solving questions so that students do not make mistakes and mistakes in understanding the meaning of the words in the problem. In line with the opinion of Sunardingsih, Haryani, & Fayeldi (2019) that in the reading stage, students are facilitated to recognize the symbols in the problem. At the understanding stage, they can write down and understand what

information is given and know the questions asked in the problem so they can continue the next process without making mistakes. In the opinion of Kalengkongan, Regar, & Manglep (2021) at the understanding stage, students experience difficulties because they cannot find and understand important information in the problem so they cannot solve the problem properly. The following will show the results of the work of students who did the work with the right steps and results as well as those that were not quite right in the ability to interpret, read, and understand.

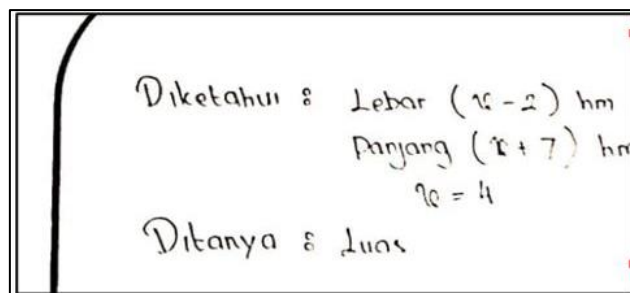


Figure 2. Answer OAP Number 2

Based on Figure 2, AOP students cannot interpret, read, and understand questions, while OAP students can understand and write down what is known and asked correctly. The results of the interviews show that OAP students can explain and respond well to their work.

P : *Apakah soal nomor 2 ini mudah untuk kamu pahami?*

OAP : *Saya bisa pak*

P : *Apakah kamu bisa menyebutkan yang diketahui pada soal ini?*

OAP : *Lebar nya $(x-2)$ panjang nya $(x+7)$ sama x nya = 4*

P : *Apakah yang ditanyakan pada soal ini?*

OAP : *Luas nya pak*

P : *Bagaimana hasil akhir yang kamu peroleh?*

OAP : *Hasil nya 22.000.000m² pak*

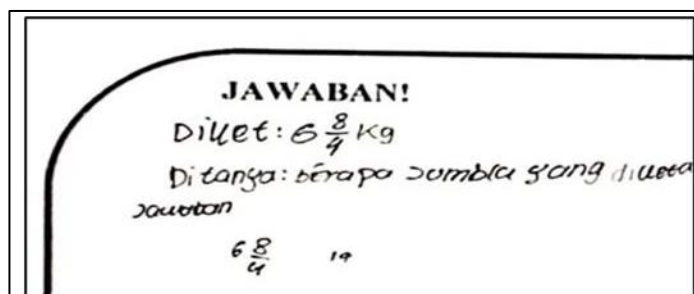
P : *Apakah kamu bisa menjelaskan lagi langkah saat mengerjakan soal?*

OAP : Panjang sama lebarnya dikalikan,
karena itu masih hm^2 jadi harus
dirubah ke m^2

saat mengerjakan soal?
YKBC : Tambah gak bisa saya pak

Analyze and Transformation Stage

Based on Table 4, the ability of



Figurer 3. Anwer YKBC Number 1

Based on Figure 3 YKBC is not quite right in interpreting, reading, and understanding the questions in that section. They do not mention what is known and asked correctly. In the interview results, YKBC students also showed an inability to explain what was known, asked, and the results of the final work.

- P : Apakah soal nomor 1 ini mudah untuk kamu pahami?
YKBC : Sulit ini pak, saya tidak bisa
P : Apa kamu bisa menyebutkan yang diketahui pada soal ini?
YKBC : Tidak tahu saya pak
P : Apa yang ditanyakan pada soal ini?
YKBC : Jumlah yang dimiliki
P : Bagaimana hasil akhir yang kamu peroleh?
YKBC : Tidak bisa saya pak, sulit itu
P : Apakah kamu bisa untuk menjelaskan lagi langkah

students to analyze and transform questions becomes a percentage of 70%, which is the second highest indicator of the other indicators. In this indicator, students are expected to be able to write down and explain mathematical models accurately and completely. FDA students can do analysis and transformation correctly. In question number 1, the OAP made a mistake in the calculation but managed to write a complete mathematical model. KIU students did not write the model because they forgot. SDA and YKBC students wrote down the model but it was inaccurate and incomplete. In question number 2, only the FDA and SDA succeeded in writing a complete and precise mathematical model. OAP students made mistakes in calculations, while KIU, DYS, and YKBC students were incorrect and incomplete in determining mathematical models. In

question number 3, only SDA and YKBC students failed to write a mathematical model. According to Kurniasih (2019) through analyzing activities by identifying the relationship between statements and concepts and then writing a mathematical model and providing an appropriate explanation, it is very useful to make it easier to solve a problem in mathematics.

Regarding transformation ability, Pratami et al. (2006) stated that this stage is the stage where students change the problem into an easy form. The following will show the results of the work of students who carry out work with the right steps and results as well as those that are not precise in the ability to analyze and transform.

dit = juju Stempref?
 dyawab = Misal juju = u
 = kurmu = $25 + u$
 = Inkan = $3 \times (25 + u)$

Figure 4. Answer KIU Number 3

Based on Figure 4, KIU students have good skills in analyzing and carrying out the transformation stage. They can determine the model well. In addition, the results of the interviews showed that KIU students were able to explain clearly how to work on the mathematical models that had been made.

- P : *Apa kamu bisa menyebutkan yang diketahui pada soal ini?*
 KIU : *Koin Reyhan 575, koin kurmu 25 lebih banyak dari koin juju, koin Inkan 3 kali koin kurmu.*
 P : *Apa yang ditanyakan pada soal ini?*
 KIU : *Koin Juju*
 P : *Bagaimana hasil akhir yang kamu peroleh?*
 KIU : *Hasil akhirnya koin 575*
 P : *Apakah kamu bisa untuk*

di jawab: $L(4-2)hm$ $p(4+2)hm$
 = $2hm$ $11 hm$
 = $2hm \times 11 hm = 22hm$

Figure 5. Answer DYS Number 1

- P : *Apakah soal ini mudah untuk kamu pahami?*
 KIU : *Ini sulit pak, tapi kemarin saya bisa*

menjelaskan lagi langkah saat mengerjakan soal?

KIU : *Ini dimisalkan x pak terus x nya dimasukkan di kurmu sama juju, terus koin reyhan dibagi sama*

jumlah kurmu inkan sama juju jadi ketemu koin Juju 95

$$\begin{aligned}
 \text{Reyhan} &= \text{Inka} + \text{Kurmu} + \text{juju} \\
 575 &= 3 \times (25 + 2x) + 25 + 2x + 2x \\
 575 &= 75 + 3 \cdot 2x + 25 + 2 \cdot 2x \\
 575 &= 100 + 5 \cdot 2x \\
 575 - 100 &= 5 \cdot 2x \\
 475 &= 5 \cdot 2x \\
 \frac{475}{5} &= 2x \\
 95 &= 2x
 \end{aligned}$$

Figure 6. Answer FDA Number 3

Based on Figure 5, the DYS students in this section show that the analyzing indicators and the transformation stage are not quite right. In this section, DYS students can correctly transform the problem into a mathematical form but are incomplete. The results of the interviews conducted with DYS showed that DYS was less able to explain the model of how to work on the results of his work.

P : *Apakah soal nomor 1 ini mudah untuk kamu pahami?*

DYS : *Bisa pak*

P : *Apa kamu bisa menyebutkan yang diketahui pada soal ini?*

DYS : *Tepung dimiliki dan dibeli*

P : *Apa yang ditanyakan pada soal ini?*

DYS : *Nyatakan dalam bentuk sederhana bentuk aljabar dari jumlah tepung*

P : *Bagaimana hasil akhir yang kamu peroleh?*

DYS : *Hasil akhirnya $12x$ pak, tapi ini saya lupa nulis ditambahnya*

P : *Apakah ka mu bisa untuk*

menjelaskan lagi langkah saat mengerjakan soal?

DYS : *Tepungnya ditambah semua terus ditulis lagi tapi kg di ubah x pak*

Evaluate Stage and Process Skills

The evaluation ability and process skills of students in solving test questions affect the final result and reach a percentage of 54%. This indicator is the third-highest. FDA students can do evaluation and process skills well on all numbers. However, other students such as OAP, KIU, DYS, SDA, and YKBC made mistakes in calculations or were careless in writing procedures and calculations for several numbers. Therefore, accuracy in conducting evaluations and process skills are very important in carrying out tests. Carson (in Ndahawali, Haryani, & Farida, 2019) In the evaluation process, sometimes students who already understand the

concepts given are not necessarily able to solve the questions correctly.

The following will show the results of the work of students who carry out work

Based on Figure 6, it can be concluded that FDA students in this section show the evaluation indicators and process skills. In this section, FDA students use complete strategies and procedures and perform calculations correctly. The results of the interviews showed that the FDA students were able to explain the final results and state how to do their work.

- P : Apakah soal ini mudah untuk kamu pahami?
 FDA: Bisa tapi agak sulit
 P : Apa kamu bisa menyebutkan yang diketahui pada soal ini?

with the right steps and results as well as those that are not precise in evaluating abilities and process skills.

- FDA : Reyhan ada koin 575, dikasihkan ke kurmu 25 lebih banyak juju, dikasihkan Inkan 3 kali koin kurmu.
 P : Apa yang ditanyakan pada soal ini?
 FDA: Koin Juju
 P : Bagaimana hasil akhir yang kamu peroleh?
 FDA: Dapat 95 koin pak
 P : Apakah kamu bisa untuk menjelaskan lagi langkah saat mengerjakan soal?
 FDA : Ini saya misalkan dulu punya Juju jadi x karena itu yang mau di cari pak, terus di koin kurmu yang ada Juju nya saya masukan x juga, punya Inka juga gitu pak di ganti juga, itukan yang dicari koin Juju jadi koin Reyhan dibagi sama jumlah koin Inka sama Kurmu pak, ketemu 95 koinya Juju.

$$\begin{aligned}
 &= (4 + 7) \text{ km} \times (4 - 2 \text{ km}) \\
 &= (11 \text{ km}) \times (2 \text{ km}) \\
 &= 22 \text{ km} \times 10.000 \\
 &= 220.000 \text{ cm}^2
 \end{aligned}$$

Figure 7. Answer KIU Number 2

Based on Figure 7, it can be concluded that the KIU in this section shows that the evaluation indicators and process skills are not quite right. In this

section, KIU students use the appropriate strategies and procedures but make mistakes in calculating changing units. The

interviews conducted with KIU found that KIU realized because of forgetting.

- P : *Apakah soal ini mudah untuk kamu pahami?*
- KIU : *Ini sulit pak, tapi kemarin saya bisa*
- P : *Apakah kamu bisa menyebutkan yang diketahui pada soal ini?*
- KIU : *Koin Reyhan 575, koin kurmu 25 lebih banyak dari koin juju, koin Inkan 3 kali koin kurmu.*
- P : *Apa yang ditanyakan pada soal ini?*
- KIU : *Koin Juju*
- P : *Bagaimana hasil akhir yang kamu peroleh?*
- KIU : *Hasil yang dimiliki Juju 575*
- P : *Apakah kamu bisa untuk menjelaskan lagi langkah saat mengerjakan soal?*
- KIU : *Ini dimisalkan x pak terus x nya dimasukan ke kurmu sama juju, terus koin reyhan dibagi sama jumlah kurmu inkan sama juju jadi ketemu koin Juju 95*

Inferring and Writing Stage

The ability to infer and compile final answers to test questions only reached the lowest percentage of 46%. Only FDA students are capable of making inferences

and compiling final answers completely and accurately on all numbers. However, other students such as OAP, KIU, DYS, SDA, and YKBC made mistakes in compiling final answers such as calculation errors, not being precise in changing units, and not being complete and precise in writing the final results and conclusions on several numbers. At the inference and research stages, students can solve problems, but not a few students are less thorough, causing inaccuracies in answers. In line with (Facione, 2015) the inference aspect is needed by students to be able to conclude correctly. The lack of writing conclusions on answers is also a factor in students making mistakes in researching the final answer. (Zaidy & Lutfianto, 2018) this error occurs due to a lack of conformity with the context in the conclusion. The following will show the results of the work of students who did the work with the right steps and results as well as those that were not precise in the ability to make inferences and write the final answer.

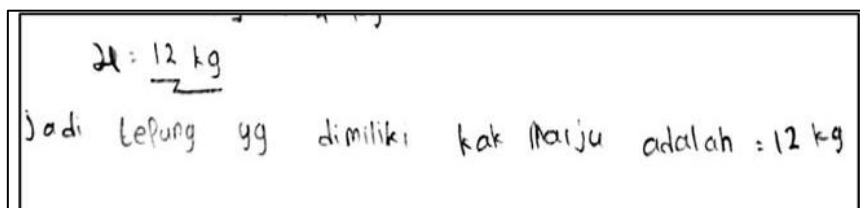


Figure 8. Answer FDA Number 1

Based on Figure 8, the FDA shows that on inference and writing indicators. In this section, FDA students write down their final answers and conclude according to the context. The results of the interview that the FDA re-explained the conclusions of the questions that were done.

- P : *Apakah soal nomor 1 ini mudah untuk kamu pahami?*
 FDA: *Alhamdulillah bisa pak*
 P : *Apa kamu bisa menyebutkan yang diketahui pada soal ini?*
 FDA: *Bisa pak, di soalnya ada tepung yang dimiliki $6\frac{8}{4}$ kg dan yang dibeli lagi $1\frac{6}{2}$ kg*
 P : *Apa yang ditanyakan pada soal ini?*
 FDA: *Yang ditanyakan jumlah seluruh*

tepung kak marju dalam bentuk aljabar

- P : *Bagaimana hasil akhir yang kamu peroleh?*
 FDA: *Untuk hasil akhirnya 12kg pak, jadi bentuk aljabarnya $12x$*
 P : *Apakah kamu bisa untuk menjelaskan lagi langkah saat mengerjakan soal?*
 FDA: *Pertama saya nulis yang diketahui sama yang ditanya, karena yang ditanya itu jumlah seluruhnya jadi tepung yang dimiliki ditambah sama yang dibeli lagi, terus saya sederhanakan sama saya hitung dulu sampai ketemu 12kg habis ketemu di tulis lagi tapi dalam bentuk aljabar kg nya itu diganti x , sama dikasih jadi itu pak*

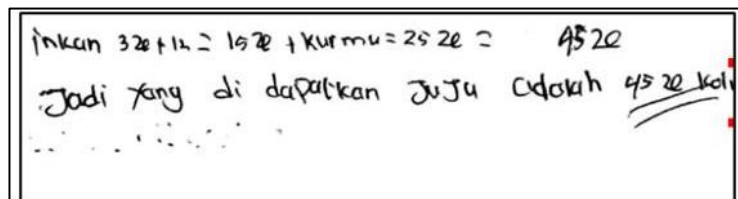


Figure 9. Answer DYS Number 3

Based on Figure 9 it can be concluded that the DYS students in this section show that the inference indicators and writing of the final answer are not quite right. In this section, DYS students write conclusions that are appropriate to the context but are not correct in the final results because they made a calculation error. The results of interviews conducted

with DYS found that DYS still wrote conclusions even though the answers were not quite right.

- P : *Apakah soal ini mudah untuk kamu pahami?*
 DYS: *Sulit pak*
 P : *Apa kamu bisa menyebutkan yang diketahui pada soal ini?*
 DYS: *Koin Reyhan 575, kurmu 25x, koin Inkan 3x*

P : *Apa yang ditanyakan pada soal ini?*

DYS : *Koin Juju*

P : *Bagaimana hasil akhir yang kamu peroleh?*

DYS : *Hasil akhirnya koin Juju 45x*

P : *Apakah kamu bisa untuk menjelaskan lagi langkah saat mengerjakan soal?*

DYS : *Saya gak bisa pak, itu saya ngawur*

KESIMPULAN

Based on the results of the research, the results were concluded. This study revealed that students were generally successful in interpreting, reading, and understanding questions with a success rate of 89%. However, some students were not careful in recording the information requested in the problem. The ability of students to analyze and transform has a success rate of 70%, but there are still errors in analysis and the use of inappropriate strategies, especially in calculations. The ability to evaluate and use process skills in solving problems achieves a success rate of 54%. Even though some students used the correct strategies and calculations, there were still some who were not careful when working on the questions. The success rate in the ability to infer and write the final answer in problem-solving is low, namely 46%. Some students made calculation mistakes and did not include conclusions and final results. Therefore, it is necessary to

increase the accuracy, analysis, and evaluation skills to improve the quality of students' problem-solving.

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