



EXAMINATIONS AND ASSESSMENT CHIEF DIRECTOR

Home of Examinations and Assessment, Zone 6, Zwelitsha, 5600

REPUBLIC OF SOUTH AFRICA, Website: www.ecdoe.gov.za

2023 NSC CHIEF MARKER'S REPORT

SUBJECT	MATHEMATICAL LITERACY		
QUESTION PAPER	1	2 X	3
DURATION OF QUESTION PAPER	3Hrs		
PROVINCE	EASTERN CAPE		
DATES OF MARKING	07-12-2023 to 17-12-2023		

SECTION 1: (General overview of Learners Performance in the question paper as a whole)

Performance of learners varies from different centres with some performing extremely well and some with average performance. In most centres there is a combination of good and bad performance which is an indication that teaching occurred. The highest mark for this paper was 144 and the lowest mark 0. Learners were from full time schools where there was effective teaching and learning and some from private centres without attending classes and hence the big range between the highest mark and the lowest mark.

SECTION 2: Comment on candidates' performance in individual questions

QUESTION 1 (25)
(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?
This is the best performed question and in the 100 sampled scripts the total mark is 25 with an average mark of 19,35 and average % of 77%
This was expected as this question only has level 1 questions
The sub questions below were poorly answered: 1.2
(b) Why the questions were poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.
1.1 Most learners performed well in this question but some of them did not follow instructions and instead of writing the letter they wrote the definition. For this year they were credited

1.2 This question had an unfamiliar strip chart and some learners were not able to correctly interpret it The last distance of 1 100m was mostly interpreted as the total distance and learners subtracted the other distances from it

Learners had difficulties in interpretation since some labels were vertical and some horizontal
1.3 This question was well performed

(c) Provide suggestions for improvement in relation to Teaching and Learning

Learners need to be exposed to different types of maps with different orientations
Learners to be exposed to different types of level 1 questions including matching columns when dealing with definitions

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

Learners do not read instructions In question 1.1 they were instructed to write the letter but some of them wrote the definition

In question 1,3 there were steps to assemble and components and in question 1.3.2 questions were from the steps and some learners did not use the steps

Learners do not know the correct definitions

Teachers to use the definition booklets from DBE

To expose learners to assemble diagrams and instructions

QUESTION 2 (35)

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?

Performance fairly good in some schools but there are learners within those schools who have poorly performed

Total mark for the question is 35 with an average mark of 14.9 and average% of 43% The least performed sub question is 2.2 at 35%

(b) Why were the questions poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

2.1.1 Learners have a problem with definitions and cannot differentiate between a floor plan and a layout plan. Most learners could not refer to the fact that the layout plan is about the view that shows the arrangement of structures within a facility

2.1.2 Well performed question with an average of 1,8 The question is 2 marks

2.1.3 Fairly performed question but lower performing learners had some difficulties in choosing the correct alternative

2.1.4 Level 4 questions (opinion questions) still challenging as some learners have a problem in expressing themselves using the language of teaching and learning(English)

2.1.5a Some learners cannot accurately measure using a ruler and some also don't know that you can only measure in mm or cm with a ruler and those learners were able to get a correct numerical value but if they used m as a unit lost the 2 marks

1.5b Application of the scale still a problem for learners and some learners though they were able to accurately measure the distance in 2.1.5a did not know how to calculate the scale used Once more the conversion , ratio, and simplification of a ratio which are basic mathematical literacy concepts appeared as challenges

2.2 Most of the learners were able to attempt the question but in the sampled scripts even the highest performing learner scored 6 marks out of the total of 8 marks The question had a key word maximum which needed learners to pack first using length on length and width on width and check the remaining space and then do width on length and length on width This was unfamiliar to both learners and teachers

There are learners who are still calculating area of package and area of the table and dividing and this is an unacceptable method for packaging and those learners got a zero for this question

The question indicated that the packed bottled water packs will occupy half of the length of the table but the learners did not divide by 2 to get half of the length

2.3.1 General direction still a challenge All learners are supposed to get full marks for this question but there are still learners who are confusing general direction with giving instructions to get to a certain destination

2.3.2 Definition once more still a problem for some of the learners

2.3.3 Learners were confused about the fact that 193 for Pretoria hotel is not in the key

2.3.4 Learners did not use the key to identify traffic lights thought that they were supposed to have

general knowledge of whether there are traffic lights or not at a circle

2.3.5 Only 12 % of the sampled learners got the two marks for the question indicating that even the highest performing learners were not able to answer the question according to the examiners expectation

2.3.6 Fairly answered question though there are still learners who are struggling with addition of time

(c) Provide suggestions for improvement in relation to Teaching and Learning

Teach definitions using the DBE booklet

Learners must practice to accurately use a ruler

Teach different types of scale and how to use them

Packaging must be taught using the length by length and width by width and the concept of rounding down mentioning the fact that if you round up you will pack more than the available space Teachers need to teach the meaning of maximum to be packed by considering if there is space left to be able to pack length on width and width on length on the remaining space

Maps to be taught explaining general direction and instructions to show how to get to a certain destination as these are common questions in an examinations

Time must be taught taking into consideration how to add and also how to convert time
Learners must be exposed to reasoning and opinion questions

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

Subject advisors to conduct content gap workshops for teachers

Teachers to have information sharing groups

Try to get assistance from other subject teachers like Geography teacher can be able to help a

Mathematical Literacy teacher who has a problem with scale

Monitor teachers to cover all the basic concepts prescribed for grade 10

QUESTION 3

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?

Question 3 was the least performed question The total for the question is 33 The average mark from the sampled 100 scripts is 11,02 and average % is 33,4%

Performance in this measurement question is a matter of concern as it has been the least performed in all the previous years With the top learners the question was well performed with some learners even scoring total marks

(b) Why the questions were poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Most learners have a problem of interpreting the question possibly due to language barriers

3.1.1 Though the question is a simple basic question of writing the number in full some learners just add six zeros indicating a million without removing the comma and ended up with an answer of 2,7 000 000

3.1.2 Learners still have a problem with conversions and could not convert 750g to kg and ended up adding different units which is totally wrong

3.2.1 Conversion again surfaced as a problem in this question as they could not convert cm to m

Learners could not understand the concept of a square (all sides equal)

Learners could not correctly substitute on a formula though depth was given and it was mentioned that the hole is a square

Some learners could not be able to use a calculator correctly because even though they correctly substituted could not get a correct answer

2.2.3 Some learners could not comprehend this question

3.2.3 From the sampled scripts this was the least performed question as most learners lack the concept of ratio application

3.3Learners had a problem of understanding multiple shapes example being in question 3,3 the shape is composed of a rectangle and a triangle Some learners used the four shapes as shown in the diagram in3.3 and could not associate the given information with the original one of 12 posts given in3.2.As a result most learners had a problem of correctly doing calculations in both 3.3.1 and 3.3.2 3.3.3 Most learners once more had a challenge with conversions as they were not able to convert cm^2 to m^2

The way the spread rate of paint was presented was unfamiliar to learners as it has been given as m^2/L in the previous years and most learners used division instead of multiplication

(c) Provide suggestions for improvement in relation to Teaching and Learning

Basic mathematical literacy concepts need to be taught in grade 10 that is number skills thousands millions billions etc and learners need to be given exercises.

Ratios also need to be introduced in grade 10 and application of ratios to be practiced in the form of exercises in grade 11 and 12

Shapes also need to be emphasized learners need not only be given dimensions on shapes they also need to be taught about properties of shapes (rectangle has 2 equal opposite sides square has all sides equal triangle has 3 sides and in a triangle the height is the perpendicular distance and so .forth) CONVERSIONS are basic in math lit paper 2 and need to be emphasized.

Learners can just not perform in math lit paper 2 if they cannot do conversions.

Correctly substituting in a formula is also a skill which needs attention as most learners do not perform well in measurement because of not being able to substitute in formulae Simplification marks are lost because of not being able to use a calculator

Learners need also to be taught not to round during the calculation steps but to round at the final answer and teachers need to teach learners about how to round and not take it for granted that learners know rounding from lower classes as they may lose marks if a question requires specific rounding

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

Learners not able to remember some basic mathematical concepts done in lower classes like different shapes. Questions from past examination papers need to be used to practice questions on measurement

QUESTION 4(30)**(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?**

Question 4 was fairly performed with a total mark of 30 average mark of 15.98 and a % of 53% Both sub questions were fairly performed 4.1 at 50% and 4.2 at 57%

(b) Why were the questions poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

4.1.1 Learners could not write ratio in correct order and also could not simplify

The average mark for the question is 0.92 which is less than 50% and this reflects poor performance more especially when considering that it is a basic ratio question

4.1.2 Performance on this question is an average of 60% but though it looks higher most learners got marks for only identifying 54 and could not be able to use the given conversion factor

4.1.3 a & b Both questions were opinion questions and on the pre marking consultations teachers felt that this was an unfamiliar context to most rural learners(fashion show)

4.1.4a Learners still have a problem in differentiating between diameter and radius

Learners are not able to correctly substitute on the formula and also do not square the radius

4.1.4b learners saw the formulas given and did not know which one to use in a and which one to use in b meaning that they cannot differentiate between area and circumference Learners could not associate the definition of length around the round table with perimeter which is circumference in a circle

4.2.1 Generally well performed question

4.2.2 Generally well performed question

4.2.3 Disappointing performance since most learners were expected to score full marks on this question but even though most of them substituted the values did not square the denominator

Learners have a challenge of not being able to use a calculator because some of them substituted 1,5 squared but could not get a correct answer

4.2.4 Learners could not understand that the sample was of the 50kg (mass) wearing XS and some did not give the answer as a percentage

4.2.5 This generally was a poorly performed question with an average percent of 23,75%

Most learners could not interpret the question correctly and did not understand the bold key word equal number in the information box Most learners used the whole information in the table and had a sample of either 66 OR 77 and got 2 out of 4 marks only 8% of the sampled learners got full marks

(c) Provide suggestions for improvement in relation to Teaching and Learning

Ratios need to be taught in grade 10

Conversions using conversion factors need to be practiced

Higher order questions with conclusions and opinions need to be practiced

Different seating arrangements need to be downloaded and practiced

Give learners more exercises on substitution in formulas and simplification using BODMAS

Interpretation of given tables need to be practiced

More exercises on probability to be done

--

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.
<p>Workshops on measurement need to be given priority</p> <p>Subject advisors to compile question banks using past examination papers on each topic New teachers to be mentored</p> <p>Schools at close proximity to be encouraged to work together in as far as sharing information and how I teach a certain topic</p>

QUESTION 5 (27)
(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?
<p>Question 5 was fairly performed by some learners across all centres in the province Centres have a mixture of good performing learners and poor performing learners This question has a total mark of 27 with an average mark of 11.5 and an average % of 43% The best performed sub question is 5.1 at 69%</p>
(b) Why the questions were poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.
<p>5.1 Most learners were able to substitute the values in the formula but could not get full marks as they did not square 4,5 These learners ended up with $6 \times 4,5 = 27\text{cm}^2$ and lost a mark for not squaring Some learners did not square and also left out the unit and those learners lost 2 marks and only got 1 mark out of 3 marks</p> <p>5.2.1 Once more learners had a problem of using the given conversion factor Learners did not read the given information that each big block of ice weighs 2 tons and as such did not multiply 60 by 2</p> <p>5.2.2 Learners cannot substitute in a given formula and correctly simplify by solving for the volume of ice Learners multiplied 38 500 by 0,92 instead of dividing</p> <p>5.3.1 Learners lost marks by not being able to read correct values from the Annexure D</p> <p>5.3.2 Learners cannot use the conversion factors Most learners thought that they can directly convert</p> <p>by dividing the value 3 950 by 0,6215 without first multiplying by 1,151 and lost all the marks</p> <p>5.3.3a Substituting the correct values a challenge to some learners Conversion of time a serious challenge since learners could not understand that they need to work in hours so as to be able to get speed in nautical miles per hour Could not change 10 days 4 hours to hours Learners cannot do simplification by changing the subject of the formula</p> <p>Some learners could not even round their answers to two decimals correctly</p> <p>5.3.3b Learners had a great challenge in this question Conversion of time to days and hours a challenge and also adding time to get the correct date was a challenge to most of the learner This was a poorly performed question</p>

(c) Provide suggestions for improvement in relation to Teaching and Learning

Conversions are a serious concern and need attention

The relationship between a ton and a kg is a conversion learners need to know even if it is not given as a conversion factor and that is stipulated in the CAPS document

Time conversion needs attention

Exercises involving time need to be given to learners starting from basics of 24 hour and a 12 hour concept morning afternoon and evening time adding and subtracting time and also conversions from years to weeks months days hours minutes and seconds

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

There are areas of concern right through the paper and what is concerning most is the fact that these areas remain the same every year Teachers and Subject advisors need to have strategies of trying to address the concerns as if these can be thoroughly addressed there can be great improvement in Math Lit paper 2

AREAS OF CONCERN

- Basic concepts like ratios and its application ,Proportion and its applications .All conversions and use of conversion factors ,rounding
- Shapes Concept of diameter and radius
- Substitution in formula and simplification making the unknown subject of the formula
- Use of different kinds of maps with basics like general directions and reading information from maps
- Types of scales and their application

Subject advisors to mentor and monitor new teachers and also teachers who have been teaching

Mathematics as skills needed in Mathematical Literacy are different from Mathematics

Encourage teachers at close proximity to work together

To have content and assessment workshops

To have common standard assessments

Use CAPS document and examination guidelines as some topics are not always asked and when asked seem like unfamiliar questions though they are prescribed like packaging using maximum space