Province of the
EASTERN CAPE
EDUCATION

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Assessment and Examinations, Bundy Park, Buffalo Road, Schornville, KWT
* Private Bag 4571*KWT * 5600* REPUBLIC OF SOUTH AFRICA
* Enquiries: Mr V A JOSEPH Tel: +27436047810/9 Fax:043 604 7789/08654664627
* Email:Varkeychan.Joseph@edu.ecprov.gov.za

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CHIEF MARKER'S REPORT

INSTRUCTIONS

1. The Chief Markers are required to complete this report during the marking session. The aim of the report is to provide a feed back and to help subject advisors and educators to improve teaching and learning.
2. The report should be informed by discussions between the **Chief Marker, moderator, senior markers and markers** of the particular subject. **NB: There should be one report per subject per paper.**
3. The report must be detailed, informative and indicate question by question performance of the candidates and mark distribution of centres.
4. Reference may be made to the topics identified below as well as any aspect the Examiner wishes to bring to the attention of the subject advisors and educators.
5. **The report must be submitted in hard copy and an electronic version to the centre manager at the marking centre**.
6. All markers reports must be handed in with the hard copy.
7. The electronic report should be emailed to varkchan.joseph@edu.ecprov.gov.za
6. The centre managers then forward the reports to the Directorate of Assessment and Examination (Att: Mr. V A Joseph) in King William's Town.

SUBJECT:	MATHEMATICAL LITERACY

GRADE:	12	PAPER:	1

DATE OF EXAMINATION:	06-11-2009	DURATION:	3 HOURS

1. **ANALYSIS OF QUESTION BY QUESTION PERFORMANCE OF THE CANDIDATES**

    Give a detailed account of how the candidates performed in each question. In doing this, the following steps should be followed:
    1.1   The aim/objective for setting the question (what skills, knowledge, values and attitudes were being tested by asking the question)
    1.2   Relevance or relation of the question to the Los and Ass.
          How did the candidates perform in the question?
    1.3   Where did candidates lack expertise or fail in giving an appropriate answer to score high marks in the question?

QUESTION 1

This question was of a good standard and appropriate for grade 12 learners and for paper 1.

The language used in this **Question** was not ambiguous and learners could easily have obtained good marks. The markers did however feel that the standard of language was appropriate for Grade 12 and that more emphasis must be put on reading in the lower grades to improve the use of language.

1.1.1   The learners battled to do the ratio and in other questions it is clear that simplification, substitution and rounding off should be emphasised by educators to improve the answering of this question.
LO1 was covered extensively in this question and the assessment standards related to LO1 was also covered appropriately.

1.**1.1 to 1.1.6**. were all direct questions which most learners managed to answer well.

1.2.1   Some learners were confused by the number and weight of the margarine bricks in the box.

The marking guidelines were very clear and all different/ possible ways of approaching and solving the problem were either given or discussed before marking started. Almost all learners managed complete the question except those who were struggling with the content knowledge.

1.1.3, 1.1.5, 1.2.3 the application of **BODMAS** seems to be problematic for most learners and they would often loose valuable marks.

It is noted that learners lack basic Mathematical operations and that this should be practiced more at school to allow learners to achieve higher marks for this question.
The learners make careless mistakes when copying the figures over.
The marking guideline was very good and the training method used was very good and will ensure better interpretation of the memo's at school level.

QUESTION 2

The question was fair and clear and all four cognitive levels of knowledge were catered for.

Coverage of LOs and ASs are fair and adequate. Number operations, algebra, graphs, shapes and measurements had been covered and integrated. All sub-questions were within the assessment guidelines. There was no specific language problem or ambiguous questions. Although the question itself was long (31 marks) all learners attempted the entire question.

2.1.3 & 2.1.4 Some learners seem to confuse between area and perimeter.
    Although formula for perimeter is given as 2(length + breadth), many learners multiplied instead of adding. Rural learners did not answer these simple questions like even though the questions were simple and easy.
2.2.1   Learners did not simplify the ratio to lowest integer

2.2.2   Very few answered this question correctly. The conceptual understanding of fractions is not at an appropriate level with our learners and this need to be addressed at a **district level** with **workshops** on how to teach fractions more creatively and with understanding.

2.2.3   Very few learners managed to answer Most failed to recognise that when 1 part of juice is mixed with 4 parts of water, the total volume becomes 4 + 1 = 5. Most learners got 20 litres for the answer and could not picture the situation in their minds to get the answer of 25 litres.

The awarding marks in this section was not balanced. In question **2.4.1 1** mark is awarded for reading from a graph and in **2.4.1, 2** marks are awarded. It is feeling that consistency has not been maintained.

2.4.2   Some learners confused by the 100% given in the formula, where they multiplied by 100/100 instead of by just 100 to find percentage profit. May be it was enough to give " +100 instead of giving x 100%.Rounding to one decimal place was not done as learners don't read the question properly and don't follow the instructions. Learners lack the fundamental knowledge to answer the questions related to area and many learners did not use the formulas that were given. They wrote their own formulas.

2.3 & 2.4 using the pie-charts on income and expense graph were fairly answered by many learners.

QUESTION 3.

This was a fair Question. The standard of the question was good and clear instructions with necessary formulae were given to learners.   The prescribed LO s and AS s were covered. Most learners managed to complete the question.

3.2.2   Some failed to complete the annexure in this section. Separate tally from frequency when awarding marks

3.3.1   Most learners got 52 x 1,6 m^2, however many don't simplify correctly and this is an indication that they don't use their calculators correctly.

3.3.2   Learners struggled to convert properly as they don't know when to multiply or divide. Mark distribution was unfair. More marks should have been allocated to the tallies, as this is very time consuming.

The marking guideline was adequate and gave all possible ways of solving each each sub-sections of the question. No specific problem with regard to language which was appropriate for the level of Grade 12 learners and clearly understood by all learners.

QUESTION 4

The standard of the question met with the NCS grade 12 requirements. Questions on working with formulae, comparing data and translating data into a graph were all up to the standard of grade 12.

This question very well tested the learner's ability to translate information into graphical form as well as using tables of values to collect info. And use it in other situations to solve problems.

No language problem and most learners answered this question because it was easy to understand.
The memo was clear and explicit and thoroughly discussed during the training programme.

4.1.2 Most learners wrote 09:00 and not 08:45 as 120 appeared at both times and was confusing for most learners.

4.1.3 Some learners struggled with the conversion of units and with changing the subject of the given formula and learners could not substitute correctly

The drawing of graph was answered by most learners correctly although some failed to recognise the starting point. Some learners redrew the graph on to the answer book which is indicating that they are not used to answering on annexure sheets or with data / graph sheets.

QUESTION 5

This question was of appropriate standard for Grade 12. It covered all expected LO s and AS s. The question was accurate and in simple language that could be understood by all learners.

Marking guideline was clear and showed all different possible ways of solving the problems.

All learners did complete the question except those who had problem with content knowledge.

The following problems were noted in marking:

5.1.1 Ascending order generally covered well, but some learners did it the wrong way around which could be due to language issues.

5.1.2 Learners have misconceptions about mode, mean and median and are using the wrong method of calculation in each aspect.

5.1.3 Some learners answered this question poorly and many of them calculated the mean value.

5.1.4 Conversion to cm = very poorly handled pupils have many misconceptions when converting and they don't know when to multiply and when to divide.

5.1.5	Median – the learners are confused and we refer to point 3 above as a reason for answering this question poorly.
5.1.6	Analysis – many learners just guessed and did not analyse the data given.
5.2	Volume – Substitution into the formula was fine, but the learners did not use their calculators properly and rounding off was problematic. Unit recognition in this question was also very bad.
5.3	Because of rounding many learners arrived at the correct answer more by luck that good mathematical management skills.

The marking guideline catered for all the alternative answers and responses. It was however felt that marks should have been given for recognising both the values recognised for calculating the median in Question **5.1.5**.

QUESTION 6

This Question covered all Los. However, interpretations caused trouble to learners and could capitalise full marks.

6.2.1 It seems to be not fair to deny a mark if learners wrote 1:32.

Marking guidelines catered for many alternate responses. It shouldn't have been very strict with rounding off because many learners lost marks for incorrect rounding off.
The annexure was not completed by some learners who didn't seem to have good knowledge of statistical graphs.

QUESTION 7

The last question which had map-reading and interpretation was appropriate and up to the standard of grade 12. It further tested learner's skills on reading maps and working with statistical data.

The language was fair and the marking guideline had all possible responses by learners. Being the last question it was not very well answered by some learners

7.1.1 a) The learners did fairly well in this section

7.1.1 b) This section was not answered well as substitution was a problem.

7.2.3	A general direction is North-South, South-North, East-West, West-East. The answer given in the memorandum is a specific direction and Geography students would not give that answer. Many learners answer North-South and although it was correct they did not get the marks.
7.2.4	The learners battled with this question as they battle with fractions. Conversions were a problem as learners don't know when to multiply and when to divide.

7. **ANY ADVICE THAT YOU COULD GIVE TO EDUCATORS TO HELP LEARNERS TO REACH THE EXPECTED LEVELS.**

Recommendations:

- Educators should insist Learners to read instructions on all types of assessments (controlled tests, projects, assignments, etc.) including the external Exam question papers.

- They must ensure that all LO s and AS s are covered and properly revised before the grade 12 final examination.

Statistics is an area generally not adequately taught at some schools and educators should ensure that it is completed well before the 4th term of the final year.

- Learners should get adequate practices on how to tackle an Exam Questions.

- In Mathematical Literacy, it is common to have annexure graphs to one or more questions. Learners should be made aware of this fact and practice them to attach these annexure to the answer book.

- Learners must be encouraged to revise with as many past exam papers and exemplar papers as possible to equip them with the skills of answering questions correctly.

- Fractions need to be taught in the earlier grades.

- Learners need to learn how to use their calculators as often the figures are right, but the answer is wrong.

- Language barriers must be addressed at school level and invigilators should read the instructions to rural learners and all the learners who use English as a second or third language. They should emphasise questions like **1.1.2** and **1.2.3** as these learners often don't understand English and although they can answer the question correctly they don't understand what they have to do and loose valuable marks.

- Contextual aspects of the question need to consider the fact that most kids are in rural areas and are not exposed to the same contexts as urban learners.

- Seemingly, Teachers are struggling with probability and this filters down to the learners.

- Teachers need to teach fractions and percentages with conceptual understanding as the learners did not perform well in questions, like **1.1.2, 1.1.5, 1.2.1, 1.3.1** as these questions deals with fractions and percentages and both are related to each other. Teachers should concentrate on teaching the basic operations in mathematics and appropriate use of

calculators.

- Fractions, rounding and percentage are major areas of concern and need urgent attention from Educators.

- The relation between radius and diameter should be practiced more in class to ensure learners know what it is and make less mistakes in easy questions like **2.1.1** which was answered very badly.

- Do more graph Questions in class especially, drawing of graphs as this will allow better interpretation of tables to be practiced at the same time.

- Rounding off and writing the figures from a calculator in the correct manner should be emphasised in class.

8.   ANY OTHER COMMENTS

✓ Questions from Simple and Compound interest were not tested in this paper.

✓ The department should formulate a booklet to distribute to the markers for the training. This will help the control and process of training and novice markers.

✓ The language barrier is still causing many misconceptions in questions.

✓ When using sporting codes, consideration is to be taken for the fact that some codes are not represented in all schools and learners don't always understand the context.

✓ Conduct workshops for those Educators lack Mathematical content knowledge.

✓ Train Educators how to award marks and how to interpret the memo properly.

✓ Conduct similar training exercise like the one done at marking centre at cluster level.

SIGNATURE OF EXAMINER: _____