DIAGNOSTIC ASSESSMENT

Setswana Mathematics

GRADE 3

education
Department of Education
REPUBLIC OF SOUTH AFRICA

Read to Lead
A Reading Nation is a Leading Nation

STAY HOME
SAVE SOUTH AFRICA

2030 NDP

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1. INTRODUCTION

The diagnostic resource bank of items aims to improve the relationship between assessment and classroom instruction. Assessment for learning is the process of gathering information about a learner's learning from a variety of sources, using a variety of approaches, or 'assessment tools', and interpreting that evidence to enable both the teacher and the learner to determine where the learner is in his or her learning; where the learner needs to go; and how best to get there. Teachers can adjust instructional strategies, resources, and environments effectively to help all learners achieve grade specific outcomes only if they have accurate and reliable information about what their learners know and are able to do at a given time.

When findings of assessment results are used to improve classroom practice, learner performance in general can improve. The diagnostic assessment questions are designed to fulfil three purposes of assessment: namely to,

- reveal the misconceptions learners bring as prior knowledge to a class;
- measure the conceptual gains of a class as a whole; and
- identify concepts that are weak areas of understanding for the individual learner or as a class/grade.

A traditional multiple-choice question (MCQ) provides little information about the learner's understanding of the concept/skill tested. The Department of Basic Education (DBE) has embarked on the design of diagnostic assessments using MCQs that are designed to assist teachers to diagnose learner misconceptions using the Pearson distractor rationale model as a basis for the classification of learner misconceptions. The diagnosis is also linked to the CAPS learning outcomes and skill acquisition. This does not mean that there are only MCQ items in the booklet.

MCQs designed for the diagnostic questions included in this booklet, include a breakdown of learners' understanding through the incorrect responses. All distractors are written not only to focus the attention of the teacher on those learners who are able to identify the correct response, but also to assist the teacher in identifying and understanding the misconceptions captured in the incorrect responses.

2. PURPOSE OF THE DIAGNOSTIC TEST ITEMS

This diagnostic resource should be used in conjunction with the requirements as stipulated in the CAPS document. It therefore does not replace the curriculum or the Annual Teaching Plans (ATP). The content therefore includes coverage from terms one to four and it focuses on certain selected topics and skills. However, there may be a need to align the topic or skills with the revised ATP to facilitate assessment for learning.

Once the teacher has identified the gaps in the conceptual knowledge/ skill acquisition it would be easier to design targeted intervention programmes to bring learners on par for the transition to subsequent topics.

These diagnostic items should be used as a tool for teachers to assess the strengths and weaknesses of learners for the purpose of designing teaching and learning strategies that will address the individual needs of the learner. This would also enable the teacher to zoom into the skills and sub-skills that are required by each topic content selected in order to narrow the knowledge gap or misconception identified and to assist learners in the development and mastery of content and skills.

This assessment should **not** be used for grading a learner; as the intended purpose is to facilitate learning. The use of the items should instead promote formative assessment.

3. THE STRUCTURE OF THE DIAGNOSTIC TEST ITEMS

Items are framed to direct teachers to possible misconceptions which could be as a result of an earlier grade knowledge deficit, erroneous conceptual knowledge or lack of comprehension.

MCQs are constructed in such a way that each distractor provides information on whether the learner has mastered the skill/concept or whether there is a misconception. The distractors are graded according to four levels of understanding. Levels one, two and three enlighten the teacher about the nature of the misconception. Level four is the correct response, see Table 1 for further clarity.

Short questions are constructed to assess mental computations, knowledge recall and application of rules or theorems.

Longer responses are constructed so that thought process, application of content areas and concepts across the subject are consolidated to arrive at the intended response.

4. PROPOSED USE OF THE MATHEMATICS ITEMS/QUESTIONS

4.1 A teacher may select certain items at different intervals i.e. as a revision activity, formative task, etc.

4.2 Items may also be used as a baseline assessment if administered prior to teaching a particular lesson. A teacher may want to establish whether learners meet the basic skills and knowledge acquired from the previous grades. This will assist the teacher to know learners' level of proficiency.

4.3 Items may be used at the beginning of a phase to establish whether learners meet the conceptual knowledge for the new grade/phase.

4.4 Certain items, *per skill assessed*, may be selected from a section to compile a shorter activity

4.5 Items may be selected according to *levels of difficulty* and can be used to support learning according to different cognitive demands

4.6 Diagnostic items can also be selected according to *cognitive levels*.

4.7 The teacher should decide when, where and how the assessment may be used to enhance teaching and learning

5. DESIGN

Table 1 lists and describes the types of errors that correspond to each of the four levels of understanding encapsulated in the Mathematics MCQs. The distractor rationale as advocated by Pearson, 2004, forms the basis for diagnosing misconceptions. The taxonomies and cognitive levels as stipulated in CAPS (for Grades 4-9) are incorporated into the levels of understandings to provide the teacher with holistic information about the level of performance.

A more detailed unpacking of the nature of the misconceptions is addressed in the marking guidelines of each diagnostic items.

Table 1: Levels of understanding (thought process)

Levels of understanding	Descriptors for the levels of understanding.
Level 1	Learners demonstrate (i.e. a combination but may not be all of the following) that they: - have no understanding of the question or a conceptual misunderstanding; - are unfamiliar with operational procedures but can compute basic straight forward operations; - are not able to implement (un)related strategies to solve a problem; - excessive depend on the information that is provided in the question and is incorrectly used/duplicated; - utilise unrelated vocabulary to the question. - Etc.
Level 2	Learners demonstrate (i.e. a combination but may not be all of the following) that they: - can apply some computational ability that may not necessarily relate to the question or that demonstrate inadequate conceptual knowledge and flawed reasoning to support conclusions/inferences; - can apply basic mathematical knowledge in straight forward situations; - demonstrate a limited knowledge of some concepts and some procedures; - Etc.
Level 3	Learners demonstrate (i.e. a combination but may not be all of the following) that they can: - apply some conceptual knowledge and ability to analyse but is inconsistent in computational and reasoning skills; - apply their knowledge and understanding to solve problems. - solve word problems involving operations with whole numbers and use division in a variety of problem solving situations. - interpret and use data to solve problems with minimal error of judgement; - use given information to complete various graphs; - Etc.
Level 4	Correct response.

Levels of understanding	Descriptors for the levels of understanding.
	Learners demonstrate (i.e. a combination but may not be all of the following) that they: - consistently apply/demonstrate correct computational and reasoning skills required in the question; - apply their understanding and knowledge in a variety of relatively complex situations and explain their reasoning; - solve a variety of multi-step word problems; - apply geometric knowledge of a range of two-and three-dimensional shapes in a variety of situations; - draw a conclusion from given data and justify their conclusion. - Etc.

Each level of understanding is captured in the distractors of all the multiple-choice questions. An item will include distractors that correspond to each level of understanding set out in the Table 1.

When learner responses are analysed the diagnostic distractors will reveal patterns in a learner's understanding of the content being tested. The teacher is thus guided towards instruction that specifically addresses a learner's understanding of a concept in the specific content.

6. MARKING GUIDELINES

6.1 Multiple Choice Questions (MCQs): One mark is allocated per item. However, the focus of these assessments is not on scoring the learner, but rather on what the learner is able to do or not do.

6.2 The marking guideline has columns indicating the item number, expected answer per item, the diagnosis or clarification, the level of understanding, the level of difficulty and the mark allocation. The mark allocation is merely a guide for the learner response and should not be the focus of the task

6.3 Open ended (OE) items (process items with steps): These items require application and a reason as a response. A scoring guide has been included to guide teachers in identifying scores of 0/1/2 or more. The teacher is assisted in identifying and understanding the misconception and the level of skill development required to improve cognition and performance.

6.4 In cases where learners are required to display multiple steps/procedures in order to solve a problem, apply the following techniques when marking:

a. where there is clear evidence of a misread/misinterpretation, a penalty of 1 mark is generally appropriate. A learner should not be penalised for the same error throughout the assessment;

b. if a learner has knowledge of the method but could not get the final correct answer, award a method (M) mark but not an accuracy (A) mark. If the method is incorrect but the answer is correct, award a mark for the answer only; and

c. consistent Accuracy mark is applied when an answer is correctly followed through from an incorrect previous answer.

E.g. Grade 3 question

What is the number that is 5 more than 20?

1.1 Write the number symbol for the number.

1.2 Write the number name for the same number you wrote in 1.1 above.

Learner response

1.1 25 (the answer is *incorrect*)

1.2 **Twenty-five**. (The number name is correct according to the number symbol provided by the learner in number 1.1 even though it was not the expected answer.)

In this instance do not award a mark for the 1st answer (in 1.1) but do award a mark for the 2nd answer (in 1.2) because it was correctly followed through from an incorrect answer. This is how to apply **consistent accuracy** (CA) marking.

6.5 The Cognitive levels are as prescribed in the CAPS for the Intermediate and Senior Phases and will now be introduced in the Foundation Phase. The cognitive levels, their descriptors and examples are indicated in Table 4.

Table 3: Example of the Marking Guideline (for a MCQ)

1. Complete: 2 + 2 + 2 + 2 =

No.		Expected answer	Level of understanding or error analysis	Cognitive level	Level of difficulty
2.	A	6	3 Added only the first 3 numbers	R	E
	B	4	2 Added the first two numbers only.		
	C	2	1 Thought it is a number pattern		
	D	8 ✓	4 Correct response		

Table 4: MATHEMATICS COGNITIVE LEVELS

LEVEL 1:	LEVEL 2:	LEVEL 3:	LEVEL 4:
KNOWLEDGE (K)	**ROUTINE PROCEDURES (R)**	**COMPLEX PROCEDURES (C)**	**PROBLEM-SOLVING (P)**
• **Knowing** • **Remember/Recall**	• **Applying routine procedures in familiar contexts** • **Understanding**	**Applying multi-step procedures in a variety of contexts (including word sums)**	**Reasoning and reflecting**
• Straight recall • Identification of correct formula • Know and use formulae such as the area of a rectangle, a triangle and a circle where each of the required dimensions is readily available. • Read information directly from a table (e.g. the time that bus number 1 234 departs • Use of mathematical facts • Appropriate use of mathematical vocabulary • Know appropriate vocabulary such as equation, formula, bar graph, pie chart, Cartesian plane, table of values, mean, median and mode. • Write the next three numbers in the sequence: 103; 105; 107… • Determine the factors of 64	• Perform well-known procedures. • Learners know what procedure is required from the way the problem is posed. • Simple applications and calculations using the basic operations including: ○ algorithms for +, -, ×, and ÷ ○ calculating a percentage of a given amount • Calculations which might involve many steps • Derivation from given information may be involved • All of the information required to solve the problem is immediately available to the student and where each of the required dimensions is readily available. • Estimation and appropriate rounding off of numbers	• Problems involving complex calculations and/or higher order reasoning • The required procedure is not immediately obvious from the way the problem is posed. • Learners will have to decide on the most appropriate procedure to solve the solution to the question and may have to perform one or more preliminary calculations before determining a solution. • Investigations to describe rules and relationships – • There is often not an obvious route to the solution • Problems not based on a real world context - could involve making significant connections between different representations • Conceptual understanding	• Unseen, non-routine problems (which are not necessarily difficult) • Higher order understanding and processes are often involved • Might require the ability to break the problem down into its constituent parts • Generalise patterns observed in situations, • Make predictions based on these patterns and/or other evidence and determine conditions that will lead to desired outcomes. • Pose and answer questions about what mathematics they require to solve a problem and then to select and use that mathematical content. • The sum of three consecutive whole numbers is 27. Find the numbers. • Sarah divided a certain number by 16. She found an answer of 246 with a remainder of 4. What is the number? • Busi has a bag containing three coloured balls: 1 blue, 2 red ball and 3

		• yellow balls. She puts her hand in the bag and draws a ball. What is the chance that she will draw a red ball? • Write the answer in simplest fractional form.
	• One or more preliminary calculations and/or higher order reasoning • Solve equations by means of trial and improvement or algebraic processes • Select the most appropriate data from options in a table of values to solve a problem. • Decide on the best way to represent data to create a particular impression. • Betty is 4 years old and Jabu is 8 years old. Determine the ratio between their ages. Write the ratio in simplest fractional form. • Investigate the properties rectangles and squares to identify similarities and differences. • There were 20 sweets in the packet. William and his friend ate $\frac{2}{5}$ of the sweets. How many sweets are left	
	• Measure dimensions such as length, weight and time using appropriate measuring instruments sensitive to levels of accuracy. • Draw data graphs from provided data. • Solve equations by means of trial and improvement or algebraic processes • Determine the value for if x + 4 = 10. • Use three different techniques of calculating 488 + 16 • Calculate: 115 + 31 012.	
• Write the prime numbers that are factors of 36		

7. MODERATION

Internal moderation is important in assuring that the marking criteria/guideline is consistently applied, and that there is a shared understanding of the academic standards learners are expected to achieve. There should be processes in place for assuring comparability of marks for alternative assessments. Schools may therefore determine the format for moderation as a standardisation and quality-assurance measure.

Moderation should focus on the following aspects amongst others:

a. Content coverage: The alignment of the to the revised ATP content for the subject,
b. Quality of individual items: The validity, fairness and practicability of each item within a test or task,
c. Clarity of the instructions for specific items,
d. Biasness and clarity of diagrams and pictures
e. *Ensuring that what is assessed is in line with what the learner has been exposed to*
f. The appropriateness of the language level of the learners for which it is designed,
g. Coverage of cognitive skills: The consistency of the level of development of the learner regarding the cognitive levels of the test or task.
h. Technical criteria: sufficient time allocation per item/test/task, layout, correct numbering, the memorandum/marking guideline matches the item, etc. must be considered.

8. DATA ANALYSIS AND UTILISATION

The teacher would be able to collect data on an individual learner, a class for the entire grade and report at each level. Further data can be collected per topic/skill/content area. The teacher is also able to use the class or grade test/task to identify the knowledge deficit is. Since this is an exercise in assessment for learning, targeted interventions can be designed to address

strengths and weaknesses. Teachers would be able to give feedback to parents on learning gaps, deficits and strengths per learner.

8.1 Purpose of the data analysis

After administering a test, the teacher can do his/her own diagnostic analysis to identify:

a. the overall level of performance of the class/grade or school;
b. individual learners or schools that need special intervention;
c. groups of learners or schools who need special support; and
d. topics that require priority attention in teaching and learning.

8.2 Use of basic statistics for analysis

Basic statistics that can be used to summarize the data from a test include the following:

a. mean (often called average) – calculated by adding the scores of all the learners and dividing the sum by the number of learners. The mean is one score that is used to summarize all the scores obtained by learners in a test. A high mean score represents high performance and a low mean score represents low performance. However, the mean score does not indicate how learner scores are spread from the highest to the lowest and thus is not adequate for identifying individuals who either over-perform or under-perform;

b. median (or middle score) – calculated by first arranging the scores from the highest to the lowest and then determining the score that divides the data into two equal halves. Half of the learners who wrote a test will have scores above the median score and the other half will have scores below the median score. If the number of learners is an odd number the median will be a real score that sits half-way between the extreme scores, e.g. 76, 57, 49, 45 and 39 have 49 as the median score. However, if the number of learners is an even number the median will be a score that may not belong to any of the learners calculated by adding the two

adjacent scores that are half-way between the extremes and dividing their sum by two (2), e.g. the median of 76, 57, 49 and 45 is calculated by adding 57 and 49 and dividing the sum by two, i.e. (57 + 49)/2 = 106/2 = 52. As can be observed, 52 is not one of the four given scores but it is the median score that sits half-way between the extreme scores, viz. 76 and 45. The median does not show what the extreme scores are, i.e. the highest and the lowest scores,

c. maximum is the highest score obtained by a learner in a test.
d. minimum is the lowest score obtained by a learner in a test.
e. range is the difference between the maximum and the minimum scores. The larger the range, the more diverse the ability levels of the test takers. A relatively small range indicates that the class of test takers has a relatively homogeneous ability profile.

8.3 Available tools for data analysis

Tools that are available for analysis of data include pre-programmed computer software such as the SA-SAMS in schools, the Microsoft Excel programme and even hand calculators. The Microsoft Excel programme, which comes with almost every computer software, is a reasonably easy-to-use tool for performing item-level diagnostic analysis of test data. An Excel spreadsheet is arranged in columns and rows.

8.4 Preparing data for analysis on Excel

Excel makes available useful formulae to calculate basic statistics. To prepare for analysis of data from an administered test, do the following:

a. mark the test and write the scores obtained by each learner next to the relevant question/item number in their books or scripts;
b. enter learner names and other particulars (e.g. the gender of each learner) in the rows, one after another;
c. enter test item numbers in the columns, one after another;
d. enter the score of each learner on each item in the correct cell (i.e.

where the relevant column and row meet);

e. check if all data has been entered correctly (i.e. do thorough data cleaning);

f. use correct formulae to calculate the statistics that you want to use to summarize and analyse the test data; and

g. interpret the statistics in terms of what they suggest about performance of individuals in your class, performance of identifiable groups of learners (e.g. boys and girls) and performance in specific content areas.

8.5 Analysis and interpretation

To summarise the data calculate the average percentage score, the median, maximum and minimum score percentages and you may do this separately for boys and girls. To make sense of the analysis it is recommended that different colour codes be used to mark specific observations (Excel provides a wide range of colour codes) and also represent findings with appropriate graphs to enhance visual impressions to aid decision-making on where to focus improvement interventions. For instance, the following observations can be made from the analysis that has been done:

a. Overall performance

Overall performance in this class, measured through the mean score, may be e.g. 54,4% which is relatively acceptable but still leaves room for improvement. The median score for the class may be 56% which means that half of the learners obtained scores above 56% and another half obtained scores below 56%.

b. Performance spread

Although the mean and median scores were both above 50%, learner scores may range between 8% and 100% which is a fairly wide range that suggests diverse abilities in this class. This implies

that intervention strategies will have to be diversified in order to meet the learning needs of different learners, i.e. a one-size-fits-all improvement strategy will not work in this class.

c. Individual learner differences in performance

Individual learners who were identified to be particularly at risk have been indicated with e.g. red colour coding. They obtained scores below 40% and thus fall within the “Not achieved” and “Elementary achievement” levels. They require special attention in terms of teaching strategies and learning opportunities.

d. Group differences in performance

Analysis was done at two group levels, viz. boys and girls. All the summary statistics indicate that the boys performed much lower than the girls. Their mean score was 49,3% against the 60% mean score obtained by girls. The median score for the boys was 4% lower than of the girls, viz. 52% as against 56%. Boys’ scores ranged between 8% and 88% while the lowest score for the girls was 32% and the highest was 100%. It is evident that in this class boys require a different or more focused intervention than the girls.

e. Performance in specific topics or skills

The percentage scores per item indicate the items and, therefore, the topic or skill where interventions must focus. The analysis and diagnosis (8.5a – e) identifies:

i. which learners need special attention; and

ii. which content areas require special focus;

The analysis also suggests what materials will be required to improve on the identified areas, what extra support the teacher will need (if necessary), whether additional time will be required, who else should be involved in the interventions

and a host of other possibilities that the data analyser may see fit in their context.

8.6 Diagnostic or error analysis

Error analysis is the study of errors in learners' responses with a view to look for possible explanations for these errors. It provides specific information about the relative skill proficiency or misconception a learner has in his/her response, in order to understand what the learner can or cannot do. It is a multifaceted activity, for the teacher, because it involves analysis of the correct, partially correct and incorrect thought processes of the learners' individual responses and thinking about possible remediating interventions that might work well.

Understanding the errors, a learner or a group of learners make will determine how learners are grouped in a certain subjects to enhance effective teaching.

9. HOW TO ANSWER MULTIPLE CHOICE QUESTIONS (MCQS)

9.1 The Structure of an MCQ

An example of the structure of the MCQ item is exemplified below.

What is the number symbol for six hundred and ninety-eight? STEM

A	60 098	
B	6 098	DISTRACTORS
C	968	
D	698	KEY

Explanation:

- A stem is the question or statement to respond to.
- Distractors are incorrect options that are plausible
- A key is the correct answer

9.2 Strategies for answering MCQs

9.2.1 Read the question carefully. Understand the question and be sure of what is expected of you. Underline the key words in the question. You may need to read the question more than once.

9.2.2 Try to answer the question before you check out the options. You may be required to work out the answer before you are able to choose the correct option.

9.2.3 Read each option cautiously. Delete the options that you are sure is incorrect, until you are left with the correct option.

9.2.4 Make sure that the option you have chosen matches what the question requires.

9.2.5 Often there will be an option that will obviously be wrong. Eliminate this option.

9.2.6 Two options may sound alike. However, one of the options may be partially correct; it may be a partial answer to the question. Re-read the question to make sure that the option fully answers the question.

9.2.7 If you are unsure of which options are incorrect, leave the question and move to the questions you are sure of. However, make sure that you come back to the question. Don't leave blanks. **Choose the most suitable option for every question.**

9.2.8 There will be only **ONE** correct option.

Note to the learner!

- *There is no pattern in which the answers are arranged.*
- *Check your work. If you made a mistake, strike out the incorrect option and circle the correct answer.*

SECTION

ASSESSEMENT

The test items are developed from two content areas namely; Numbers Operations and Relationships (NOR) and Measurement (M). The items are topic based. *Fractions and grouping and sharing* are the two topics selected under NOR and *time* is the topic selected under Measurement.

The teacher may select a particular skill from each of the topics to create a formative assessment activity or any type of assessment deemed fit.

Each item is attached to its characteristic (tag) above it. Please note the following keys used in the tag:

Cognitive levels		Levels of difficulty
K: Knowledge		E: Easy
R: Routine procedure		M: Moderate
C: Complex procedure		D: Difficult
P: Problem solving		

The tag provides the following information in this order: content area, topic, skill assessed, cognitive level and difficulty level e.g.:

Content area	Topic	Skill assessed	Cognitive level	Level of difficulty
NOR	Fractions	Recognise fractions in diagrammatic form	K	M

Fractions

NOR	Fractions	Recognise fractions in diagrammatic form	K	M

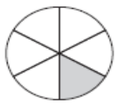
1. Ke phalophatlo efe ya karolo e e tshasitsweng?

   A 3 robeding
   B 5 robeding
   C 3 tlhanong
   D 5 tlhanong

NOR	Fractions	Recognise fractions in diagrammatic form	K	M

2. Ke taekeramo efe e e bontshang nngwe thatarong?

A 

B 

C 

D 

NOR	Fractions	Recognise fractions in diagrammatic form	K	M

3. Ke sediko sefe se se kgaogantsweng ka dikarolo di le 3 tse di lekanang?

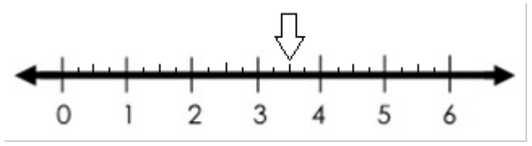
A 

B 

C 

D 

NOR	Fractions	Identify fractions on a number line	R	D



4. Motsu o supile go palo efe?

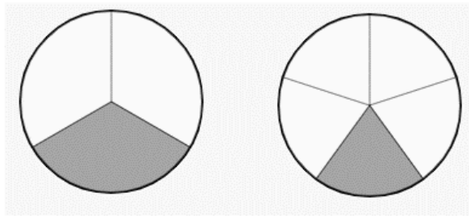
A 3 le dikotara di le 4

B 3 le dikotara di le 3

C 3 le dikotara di le 2

D 3 le kotara e le 1

NOR	Fractions	Comparing fractions in diagrammatic form	R	D



A B

5. Bapisa dikarolo tse di tshasitsweng tsa ditaekeramo A le B.

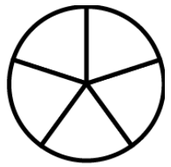
A 1 tharong e nnye go 3 tlhanong

B 3 tlhanong e lekana le 1 tharong

C 3 tlhanong e kgolo go 1 tharong

D 3 tlhanong e nnye go 1 tharong

NOR	Fractions	Recognize fractions in diagrammatic form	K	E



6. Ke palophatlho efe e sediko se kgaogantsweng ka yona?

A Borarong

B Botlhanong

C Dikotara/boneng

D Boratarong

NOR	Fractions	Sharing leading to fractions	C	D

Kgaoganya ditšhokolete di le 6 magareng ga ditsala di le 4.

7. Tsala e nngwe le e nngwe e tla amogela ditšhokolete di le kae?

A 2 le halofo

B 2 le kotara

C 1 le halofo

D 1 le kotara

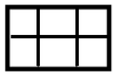
NOR	Fractions	Recognize fractions in diagrammatic form	K	E

8. Ke taekeramo efe e e kgaogantsweng ka dihalofo?

A 

B 

C 

D 

NOR	Fractions	Recognize fractions in diagrammatic form	K	E

9. Ke phiza efe e e kgaogantsweng ka dikarolwana di le 6 tse di lekanang?

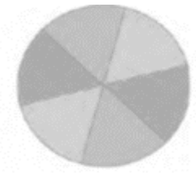
A 

B 

C 

D 

NOR	Fractions	Recognise fractions in diagrammatic form	K	E



10. Karolo e nngwe le e nngwe e emetse palophatlo efe?

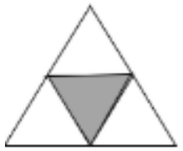
A Nngwe tharong

B Kotara

C Nngwe thatarong

D Halofo

NOR	Fractions	Recognise fractions in diagrammatic form	R	M



11. Ke phalophatlo efe ya popego e e tshasitsweng?

A halofo e le 1

B Kotara e le 1

C 1 tlhanong

D 1 tharong

NOR	Fractions	Recognise equivalent fractions	R	D

12. 2 Tharong ya digwagwa di le 15 ke eng?

A 10

B 15

C 5

D 2

NOR	Fractions	Recognise equivalent fractions	R	D

A B C D

13. Ke ditaekeramo dife di le pedi tse di nang le dikarolo tse di tshasitsweng ka go lekana?

A A and C

B A and B

C B and D

D C and D

NOR	Fractions	Sharing leading to fractions	R	D

14. Nngwe tharong ya 12 ke bokae?

A 4

B 9

C 3

D 12

NOR	Fractions	Recognise fractions in a diagrammatic form	K	E

15. Ke taekeramo efe e e bontshang 6 robeding?

A 

B 

C 

D 

NOR	Fractions	Recognise fractions in a diagrammatic form	R	M

Nna le Busi re kgaogana phiza ka go lekana.
Phiza e kgaogantswe ka dilae di le 13.

16. Ke amogela dilae di le kae tsa phiza?

A 7 le kotara

B 6 le kotara

C 6 le halofo

D 7 le halofo

NOR	Fractions	Recognise fractions in a diagrammatic form	K	E

17. Ke palophatlo efe ya popego e e tshasitsweng?

NOR	Fractions	Recognise fractions in a diagrammatic form	K	M

A B C D

18. Ke taekeramo efe e e emetseng 2 tharong?

NOR	Fractions	Counting of fraction pieces	K	E

19. Ke dikarolo di le kae tsa khutlonne e tse di tshasitsweng?

NOR	Fractions	Recognise and name fractions	K	E

Popego e kgaogantswe ka dikarolo di le 5 tse di lekanang.

20. Karolo e nngwe le e nngwe e emetse palophatlho efe?

NOR	Fractions	Recognise fractions in a diagrammatic form	K	M

21. Palophatlo e e tshasitsweng ke eng?

NOR	Fractions	Equal sharing leading to solutions that include unitary fractions	C	D

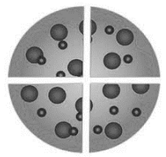
Thabo o ne a na le R24.
O ne a dirisa l tharong ya yona.

22. O setse ka bokae?

NOR	Fractions	Recognise fractions in diagrammatic form	K	E

23. Ke palophatlo efe ya khutlonne e e tshasitsweng?

NOR	Fractions	Equal sharing leading to solutions that include non-unitary fractions	P	M



Sara o segelela phiza go dilae di le 4 tse di lekanang.
O ja selae se le sengwe.

24. Palophatlo ya phiza e e setseng ke eng?

NOR	Fractions	Recognise equivalent fractions	K	M

25. I e e tletseng = ... tlhanong

NOR	Fractions	Sharing leading to fractions	K	M

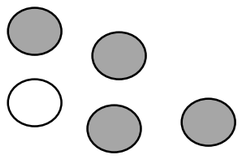
Steven o ja dikarolwana di le 2 tsa tšhokolete

26. Palophatlo ya tšhokolete e Steven a e jeleng ke eng?

NOR	Fractions	Sharing leading to fractions	R	M

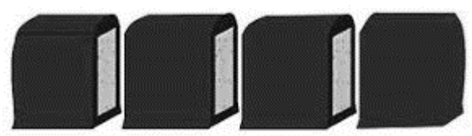
27. Halofo ya 5 ke eng?

NOR	Fractions	Recognise fractions in a diagrammatic form	K	D



28. Palophatlo e e tshasitsweng ke eng?

NOR	Fractions	Sharing leading to fractions	K	M



Tumi o ja kotara ya tšhokolete.

29. Tumi o jele dikarolwana di le kae?

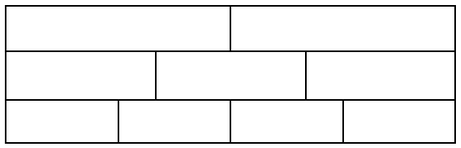
NOR	Fractions	Equivalent Fractions	R	M

30. Nngwe tharong = ... thatarong

NOR	Fractions	Recognise fractions in a diagrammatic form	K	M

31. Palophatlo e e tshasitsweng ke eng?

NOR	Fractions	Recognise fractions in a diagrammatic form	R	M



Dirisa lebota la dipalophatlo go araba potso.

32. Halofo e lenngwe = dikotara di le ...

Time

M	Time	Tell 12 hour time in hours	K	E

33. Ke nako mang?

A Metsotso e 25 morago ga ura ya bo 12

B Metsotso e 12 morago ga ura ya bo 5

C Ura ya bo 5

D Ura ya bo 12

M	Time	Tell 12 hour time on digital clock	K	D

34. 10:45 ke nako mang?

A Metsotso e 45 morago ga ura ya bolesomenngwe

B Metsotso e 15 pele ga ura ya bolesomenngwe

C Metsotso e 45 pele ga ura ya bolesome

D Metsotso e 15 morago ga ura ya bolesome

M	Time	Calculate elapsed time	R	C

Konsarete ya sekolo e simolola ka 9:30.
Konsarete e sebaka sa diura di le 2.

35. Konsarete e tla fela ka nako mang?

A 02:00

B 09:32

C 11:30

D 11:32

M	Time	Calculate elapsed time	R	C

Moletlo o ne wa fela ka 12:05.
O ne o le sebaka sa diura di le 2.

36. Moletlo o ne wa simolola ka nako mang?

A 10:05

B 14:05

C 12:07

D 10:00

M	Time	Converting between days and weeks	R	E

37. Go na le malatsi a le make mo dibekeng di le 4?

A 20

B 28

C 31

D 30

M	Time	Read dates on calendars	K	E

Mopitlwe						
Latshipi	Mosupologo	Labobedi	Laboraro	Labone	Labotlhano	Lamatlhatso
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Dikolo di tla tswalelwa ka Labotlhano wa bofelo wa Mopitlwe.

38. Letlha la go tswalela ke eng?

A 31

B 16

C 23

D 30

M	Time	Identify public holidays on calendars	K	E

Phatwe						
Mosupologo	Labobedi	Laboraro	Labone	Labotlhano	Lamatlhatso	Latshipi
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

39. Letsatsi la Bosetšhaba la Basadi le ketekwa ka letlha lefe?

A 1

B 9

C 16

D 24

M	Time	Read dates on calendars	R	E

Ferikgong						
Mosupologo	Labobedi	Laboraro	Labone	Labotlhano	Lamatlhatso	Latshipi
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Dikolo di bulwa ka Laboraro wa boraro wa Ferikgong.

40. Ke letlha lefe?

A 3

B 16

C 23

D 30

M	Time	Read dates on calendars	R	E

Phatwe						
Mosupologo	Labobedi	Laboraro	Labone	Labotlhano	Lamatlhatso	Latshipi
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

41. Go na le bo Labobedi ba le bakae ka Phatwe?

A 5

B 4

C 20

D 27

M	Time	Identify historical events on a calendar	K	M

Seetebosigo						
Mos	Lab	Lab	Lab	Lab	Lam	Lat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Sedimonthole						
Mos	Lab	Lab	Lab	Lab	Lam	Lat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

42. Letsatsi la Baswa le ketekwa leng mo Aforika Borwa?

A 6 Seetebosigo

B 16 Seetebosigo

C 16 Sedimonthole

D 25 Sedimonthole

M	Time	Calculating elapsed time	C	D

Jenny o tshotswe ka la 12 Phatwe.
Zanele o tshotswe dibeke di le 2 morago.

43. Letsatsi la matsalo la ga Zanele ke leng?

A 10 Phatwe

B 19 Phatwe

C 14 Phatwe

D 26 Phatwe

M	Time	Calculate the length of time	P	D

Bese e ne ya tloga kwa mo seteišeneng ka 7:05.
E gorogile kwa boema-fofane ka 8:40.

44. Bese e tsamaile sebaka se se kae?

A Ura e le 1 le metsotsotso e 45

B Ura e le 1 le metsotsotso e 35

C Diura di le 15 le metsotsotso e 45

D Diura di le 15 le metsotsotso e 35

M	Time	Tell 12 hour time in hours and minutes on digital clock	K	M

45. Ke nako mang?

A Metsotso e lesome pele ga ura ya borataro

B Metsotso e merataro pele ga ura ya bolesome

C Metsotso e merataro morago ga ura ya bolesome

D Metsotso e lesome morago ga ura ya borataro

M	Time	Calculating elapsed time	R	D

Terena e ne e tshwanetse go goroga ka 11:30.
E ne ya diega ka metsotso e 25.

46. Terena e ne ya goroga ka nako mang?

A 11:55

B 11:05

C 11:25

D 11:30

M	Time	Calculate the length of time	R	M

Betty o ne a obola peinapole sebaka sa metsotso e 4.

47. O tlhoka sebaka se se kae go obola dipaenapole di le 8?

A Metsotso e 2

B Metsotso e 4

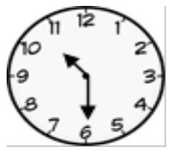
C Metsotso e 12

D Metsotso e 32

M	Time	Tell 12 hour time in quarters	K	M

48. Ke nako mang?

M	Time	Tell 12 hour time in minutes	K	M



49. Ke metsotso e le mekae morago ga ura ya bo 10?

M	Time	Tell 12 hour time in minutes	R	D

50. E ne e le nako mang metsotso e e 30 e e fetileng?

M	Time	Tell 12 hour time in digital	R	M

12:00

51. Go setse diura di le kae pele ga 3:00?

M	Time	Tell 12 hour time in digital	K	M

12:30

52. E ne e le nako mang ura pele ga fa?

M	Time	Calculate the length of time	R	D

Zodwa o buisa sebaka sa metsotso e 45.
O ne a fetsa ka 8:45.

53. O ne a simolola go buisa ka nako mang?

M	Time	Calculate the length of time	R	D

Zion o ne a robala ka at 09:15.
O ne a tsoga ka 12:00.

54. O ne a robala sebaka se se kae?

Grouping and sharing

NOR	Grouping and sharing	Sharing leading to division including remainders	P	M

Kgaoganya dimonamone di le 54 magareng ga ditsala di le 4.

55. O mongwe le o mongwe o amogela dimonamone di le kae?

A 11 sesala 1

B 13 sesala 2

C 13 sesala 1

D 13 sesala 0

NOR	Grouping and sharing	Sharing leading to division including remainders	P	D

Molemirui o na le mae a le 47.
O paka mae a le 6 ka mo lebokosong le lengwe le le lengwe.

56. O tlhoka mabokoso a mae a le makae go paka mae otlhe?

A 53

B 41

C 8

D 7

NOR	Grouping and sharing	Grouping leading to division	P	M

Ntate o batla go fetolela R100 go dikhoene/dipapetlana tsa R5.

57. O amogela dikhoene tsa R5 di le kae?

A 500

B 105

C 95

D 20

NOR	Grouping and sharing	Grouping leading to division	P	M

Morutabana o baya barutwana ba le 90 ka ditlhopha tsa bo 10.

58. Go na le ditlhopha di le kae?

A 100

B 80

C 10

D 9

NOR	Grouping and sharing	Grouping leading to division	P	M

Kgaoganya dinamune di le 65 ka go lekana magareng ga bana ba le 5.

59. Ngwana o mongwe le o mongwe o tla amogela dinamune di le kae?

A 70

B 60

C 13

D 12

NOR	Grouping and sharing	Grouping leading to division	P	D

Nina le bo ausi ba gagwe ba le 3 ba kgaogana R20,60.

60. O mongwe le o mongwe o a amogela bokae?

A R6,86

B R5,15

C R20,57

D R23,60

NOR	Grouping and sharing	Grouping leading to division	P	M

Mme o tlhoka dimonamone di le 95.
Pakete e nngwe le e nngwe e na le dimonamone di le 5.

61. O tshwanetse go reke dipakete di le kae?

A 18
B 19
C 90
D 100

NOR	Grouping and sharing	Grouping leading to division	P	D

Sipho o na le dinamune di le 168.
O tsenya di le 12 mo kgetsaneng e nngwe le e nngwe.

62. Ke dikgetsana di le kaetse a ka di tlatsang?

A 14
B 13
C 180
D 15

NOR	Grouping and sharing	Grouping leading to division	P	M

Koloi e ka pega barutwana ba le 4.

63. Go tlhokega dikoloi di le kae go pega barutwana ba le 92.

A 88
B 96
C 23
D 24

NOR	Grouping and sharing	Grouping leading to division	P	D

Go na le dikausu di le 74.

64. Go na le dipara tsa dikausu di le kae?

A 32
B 37
C 73
D 74

NOR	Grouping and sharing	Grouping leading to division	P	D

Thato o paka dibadisi di le 130 mo meleng e le 5 ka go lekana.

65. Go na le dibadisi di le kae mo moleng o mongwe le o mongwe?

A 26
B 62
C 130
D 135

NOR	Grouping and sharing	Grouping leading to division	P	M

Kellan o ne a ja dimonamone di le 96 mo malatsing a le 3.
O ne a ja palo e e lekanang ya dimonamone letsatsi le lengwe le le lengwe.

66. O ne a ja dimonamone di le kae ka letsatsi?

A 99
B 93
C 39
D 32

NOR	Grouping and sharing	Sharing leading to division and fractions	P	D

Kgaoganya ditšhokolete di le 78 ka go lekana magareng ga ditsala di le 4.

67. O mongwe le o mongwe o tla amogela ditšhokolete di le kae?

A 19 le nngwe tharong

B 19 le kotara

C 19 le halofo

D 19 le nngwe tlhanong

NOR	Grouping and sharing	Grouping leading to division	P	M

Go na le ditaere di le 84 ka mo karatšheng.

68. Ke dikoloi di le kae tse e nngwe le e nngwe e ka tsenngwang ditaere di le 4?

A 88

B 80

C 21

D 12

NOR	Grouping and sharing	Grouping leading to multiplication	P	D

Mme o ne naya o mongwe le o mongwe wa bana ba le ba 5 ba gagwe R19.

69. O ne a ba naya bokae gotlhelele?

A R14

B R24

C R95

D R100

NOR	Grouping and sharing	Grouping leading to division	P	M

Go na le batshameki ba le 28.
Mokatisi o tsenya batshameki ba le 4 mo setlhopheng se sengwe le se sengwe.

70. Ke ditlhopha di le kae tse a ka di dirang?

NOR	Grouping and sharing	Grouping leading to division	P	E

Kgaoganya dilae tsa borotho di le 18 ka go lekana magareng ga bana ba le 3.

71. Ngwana o mongwe le o mongwe o tla amogela dilae di le kae?

NOR	Grouping and sharing	Sharing leading to division including remainders	P	M

Kgaoganya R260 ka go lekana magareng ga ditsala di le 10.

72. Tsala e nngwe le e nngwe e tla amogela bokae?

NOR	Grouping and sharing	Sharing leading to division including remainders	P	M

Kgaoganya dikuku di le 225 ka go lekana magareng ga ditsala di le 25.

73. Tsala e nngwe le e nngwe e tla amogela dikuku di le kae?

NOR	Grouping and sharing	Grouping leading to division	P	M

Go na le dikheraeyone di le 550.
Lebokoso le tsenya dikherayone di le 50.

74. Go tlhokega mabokoso a le makae?

MARKING GUIDELINES
MATHEMATICS: SETSWANA
GRADE 3

Levels of understanding or error analysis
1: There are unrelated strategies or excessive dependence on the information that is provided in the question and is incorrectly used/is duplicated.
2: There is some computational ability that **may** not relate to the question/topic.
3: There is some conceptual knowledge and ability to analyse but is inconsistent in computational and/reasoning skills.
4: *Correct response.* The learner is able to consistently apply/demonstrate correct computational and reasoning skills required in the question.

Fractions

No.		Expected answer	Level of understanding or error analysis		Cognitive level	Level of difficulty
3.	A	3 robeding ✓	4	Karabo e e nepagetseng.	K	M
	B	5 robeding	3	O badile dikarolo tse di sa tshasiwang.		
	C	3 tlhanong	1	Ga a balela sentle.		
	D	5 tlhanong	1	Ga a balela sentle.		
4.	A		2	Ga a balela sentle.	K	M
	B	 ✓	4	Karabo e e nepagetseng.		
	C		2	Ga a lemoga gore dikarolwana ga di lekane.		
	D		2	Ga a lemoga gore dikarolwana ga di lekane		
5.	A		1	Ga a tlhaloganye dipalophatlo.	K	M
	B		1	Ga a tlhaloganye dipalophatlo.		
	C		1	O tlhophile dikarolo tse di sa lekaneng.		
	D	 ✓	4	Karabo e e nepagetseng.		
6.	A	3 le dikotara di le 4 ✓	4	Ga a kgone go tlhaola dipalophatlo mo molapalong.	R	D
	B	3 le dikotara di le 3	1	Ga a kgone go tlhaola dipalophatlo mo molapalong.		
	C	3 le dikotara di le 2	1	Karabo e e nepagetseng.		

No.		Expected answer	Level of understanding or error analysis		Cognitive level	Level of difficulty
	D	3 le kotara e le 1	1	Ga a kgone go tlhaola dipalophatlo mo molapalong.		
7.	A	1 tharong e nnye go 3 tlhanong	1	Ga a tlhaloganye dipalophatlo.	R	D
	B	3 tlhanong e lekana le 1 tharong	1	Ga a tlhaloganye dipalophatlo.		
	C	3 tlhanong e kgolo go 1 tharong ✓	4	Karabo e e nepagetseng.		
	D	3 tlhanong e nnye go 1 tharong	1	Ga a tlhaloganye dipalophatlo.		
8.	A	borarong	1	Ga a tlhaloganye dipalophatlo.	K	E
	B	botlhanong ✓	4	Karabo e e nepagetseng.		
	C	dikotara/boneng	1	Ga a tlhaloganye dipalophatlo.		
	D	boratarong	1	Ga a tlhaloganye dipalophatlo.		
9.	A	2 le halofo	1	Ga a kgaoganya sentle.	C	D
	B	2 le kotara	1	Ga a kgaoganya sentle.		
	C	1 le halofo ✓	4	Karabo e e nepagetseng.		
	D	1 le kotara	1	Ga a kgaoganya sentle.		
10.	A		1	Ga a tlhaloganye dipalophatlo.	K	E
	B	 ✓	4	Karabo e e nepagetseng.		
	C		1	Ga a tlhaloganye dipalophatlo.		
	D		1	Ga a tlhaloganye dipalophatlo.		
11.	A		1	Ga a bala dikarolwana sentle.	K	E
	B	 ✓	4	Karabo e e nepagetseng.		
	C		2	Ga a lemoga dikarolwana tse di sa lekaneng.		

No.		Expected answer	Level of understanding or error analysis		Cognitive level	Level of difficulty
	D		1	O badile dikarolwana tse di sa lekaneng.		
12.	A	Nngwe tharong	1	Ga a tlhaloganye dipalophatlo.	K	E
	B	Kotara	1	Ga a tlhaloganye dipalophatlo.		
	C	Nngwe thatarong ✓	4	Karabo e e nepagetseng.		
	D	Halofo	1	Ga a tlhaloganye dipalophatlo.		
13.	A	Halofo e le 1	1	Ga a tlhaloganye dipalophatlo.	R	M
	B	Kotare e le 1 ✓	4	Karabo e e nepagetseng.		
	C	1 tlhanong	1	Ga a tlhaloganye dipalophatlo.		
	D	1 tharong	1	Ga a tlhaloganye dipalophatlo.		
14.	A	10 ✓	4	Karabo e e nepagetseng.	R	D
	B	15	1	O kopolotse palo.		
	C	5	1	O baletse 1 tharong.		
	D	2	1	O kopolotse palo.		
15.	A	A le C	1	Ga a tlhaloganye dipalophatlo.	R	D
	B	A le B ✓	4	Karabo e e nepagtseng.		
	C	B le D	1	Ga a tlhaloganye dipalophatlo.		
	D	C le D	1	Ga a tlhaloganye dipalophatlo.		
16.	A	4 ✓	4	Karabo e e nepagetseng.	R	D
	B	9	1	O ntshitse 3 go 12.		
	C	3	1	O ntshitse 9 go 12.		
	D	12	1	O kopolotse palo 12.		
17.	A	 ✓	4	Karabo e e nepagetseng.	K	E
	B		3	Ga a tlhaloganye dipalophatlo.		

No.		Expected answer	Level of understanding or error analysis		Cognitive level	Level of difficulty
	C		1	Ga a tlhaloganye dipalophatlo.		
	D		3	Ga a tlhaloganye dipalophatlo.		
18.	A	7 le kotara	1	Ga a balela sentle.	R	M
	B	6 le kotara	3	Ga a balela sentle.		
	C	6 le halofo ✓	4	Karabo e e nepagetseng.		
	D	7 le halofo	3	Ga a balela sentle.		

Short Questions

	Items	Cognitive level	Level of difficulty
19.	3/tharo nneng ✓	K	E
20.	C ✓	K	M
21.	Dikarolo di le 2 ✓	K	E
22.	1/ nngwe tlhanong ✓	K	E
23.	2/pedi tlhanong ✓	K	M
24.	R 16 ✓	C	D
25.	1/nngwe nneng ✓	K	E
26.	3/tharo nneng ✓	P	M
27.	5/tlhano ✓	K	M
28.	2 nneng/1 peding/halofo e le 1✓	K	M
29.	2/pedi le halofo ✓	R	M
30.	4/nne tlhanong ✓	K	M
31.	1/nngwe ✓	K	D
32.	2/pedi ✓	R	M
33.	3/tharo nneng ✓	K	M
34.	2/pedi ✓	R	M

Time

No.		Expected answer	Level of understanding or error analysis		Cogniti ve level	Level of
35.	A	Metsotso e 25 morago ga ura ya bo 12	2	O fapaantse lenakana la ura le lenakana la metsotso.	K	E
	B	Metsotso e 12 morago ga ura ya bo 5	1	Ga a tlhaloganye nako.		
	C	Ura ya bo 5 ✓	4	Karabo e e nepagetseng.		
	D	Ura ya bo 12	1	Ga a tlhaloganye nako.		
36.	A	Metsotso e 45 morago ga ura ya bolesomenngwe/11	1	Ga a kgone go fetolela go tswa go dijitale go ya go ya manakana.	K	D
	B	Metsotso e 15 pele ga ura ya bo lesomenngwe/10 ✓	4	Karabo e e nepagetseng.		
	C	Metsotso e 45 pele ga ura ya bolesome/10	1	Ga a kgone go fetolela go tswa go dijitale go ya go ya manakana.		
	D	Metsotso e 15 morago ga ura ya bolesome/10	1	Ga a kgone go fetolela go tswa go dijitale go ya go ya manakana.		
37.	A	02:00	1	O tlhakatlhakantse sebaka le tsamao ya nako.	R	C
	B	09:32	1	O tlhakantse 2 ko metsotsong.		
	C	11:30 ✓	4	Karabo e e nepagetseng.		
	D	11:32	2	O tlhakantse 2 ko metsotsong le ko diureng.		
38.	A	10:05 ✓	4	Karabo e e nepagetseng.	R	C
	B	14:05	2	O tlhakantse le 2 ko diureng.		
	C	12:07	2	O tlhakantse le 2 ko metsotsong.		
	D	10:00	2	O ntshitse diura mme a ikgatholosa metsotso.		
39.	A	20	2	O badile malatsi a fa gare ga beke mme a ikgatholosa malatsi a bokhutlo jwa beke.	R	E
	B	28 ✓	4	Karabo e e nepagetseng.		
	C	31	1	O etse tlhoko malatsi a dikgwedi tse dingwe.		
	D	30	1	O etse tlhoko malatsi a dikgwedi tse dingwe.		
40.	A	31	1	O tlhophile letsatsi la bofelo la kgwedi.	K	E
	B	16	1	O tlhophile Labotlhano wa boraro wa kgwedi.		
	C	23	1	O tlhophile Labotlhano wa bone wa kgwedi		

	D	30 ✓	4	Karabo e e nepagetseng.		

No.		Expected answer	Level of understanding or error analysis		Cognitive level	Level of difficulty
41.	A	1	1	Ga a na kitso ya matlha a malatsi a a kgethegileng.	K	E
	B	9 ✓	4	Karabo e e nepagetseng.		
	C	16	1	Ga a na kitso ya matlha a malatsi a a kgethegileng.		
	D	24	1	Ga a na kitso ya matlha a malatsi a a kgethegileng.		
42.	A	3	1	O tlhophile letsatsi la boraro.	R	E
	B	16 ✓	4	Karabo e e nepagetseng.		
	C	23	1	O tlhophile Laboraro wa bone.		
	D	30	1	O tlhophile Laboraro wa botlhano.		
43.	A	5	2	O badile boloko e e senang sepe go kholomo ya Labobedi.	R	E
	B	4 ✓	4	Karabo e e nepagetseng.		
	C	20	1	O etse tlhoko letlha la Labobedi wa boraro.		
	D	27	1	O etse tlhoko letlha la Labobedi wa bone.		
44.	A	6 Seetebosigo	1	Ga a na kitso ya matlha a malatsi a a kgethegileng.	K	M
	B	16 Seetebosigo ✓	4	Karabo e e nepagetseng.		
	C	16 Sedimonthole	1	Ga a na kitso ya matlha a malatsi a a kgethegileng.		
	D	25 Sedimonthole	1	Ga a na kitso ya matlha a malatsi a a kgethegileng.		
45.	A	10 Phatwe	2	O ntshitse 2 go 12.	C	D
	B	19 Phatwe	3	O tsentshe beke e le 1 fela.		
	C	14 Phatwe	2	O tlhakantse 12 le 2.		
	D	26 Phatwe ✓	4	Karabo e e nepagetseng.		
46.	A	Ura e le 1 le metsotstso e 45	2	O ntshitse diurale go tlhakanya metsotso.	PS	D

	B	Ura e le 1 le metsotso e 35 ✓	4	Karabo e e nepagetseng.		
	C	Diura di le 15 le metsotso e 45	2	O tlhakantse diura le metsotso.		
	D	Diura di le 15 le metsotso e 35	2	O tlhakantse diura le go ntsha metsotso.		

47.	A	Metsotso e lesome pele ga ura ya borataro	1	Ga a kgona go buisa nako ya dijitale.	K	M
	B	Metsotso e thataro pele ga ura ya bolesome	1	Ga a kgona go buisa nako ya dijitale.		
	C	Metsotso e thataro morago ga ura ya bolesome	4	Karabo e e nepagetseng.		
	D	Metsotso e lesome morago ga ura ya borataro ✓	1	Ga a kgona go buisa nako ya dijitale.		
48.	A	11:55 ✓	4	Karabo e e nepagetseng.	R	D
	B	11:05	2	O ntshitse 25 go 30.		
	C	11:25	2	O kwadile metsotso ya nako ya go diega boemong jwa nako e e neng e beilwe.		
	D	11:30	1	O kopolotse nako e e neetsweng.		
49.	A	Metsotso e 2	2	O arotse 8 ka 4.	R	M
	B	Metsotso e 4	2	O ntshitse 4 go 8.		
	C	Metsotso e 12	2	O tlhakantse 4 le 8.		
	D	Metsotso e 32	4	Karabo e e nepagetseng.		

Short Questions

	Items	Cognitive level	Level of difficulty
50.	Kotara pele ga ura ya bo 5 **kgotsa** Metsotso e 15 pele ga ura ya bo 5 **kgotsa** 04:45 ✓	K	M
51.	Metsotso e 30✓	K	M
52.	7:20 **kgotsa** Metsotso e 20 morago ga ura ya bo 7. ✓	R	D
53.	Diura di le 3 ✓	R	M
54.	11:30 **kgotsa** Metsotso e 30 morago ga ura ya bo 11 ✓	K	M
55.	8:00/ura ya bo 8/robedi. ✓	R	D
56.	Diura di le 2 le metsotso e 45 ✓	R	D

Grouping and sharing

No.		Expected answer	Level of understanding or error analysis		Cognitive level	Level of difficulty
57.	A	11 sesala 1	1	O arotse go tswa kwa mojeng go ya kwa molemeng.	P	M
	B	13 sesala 2 ✓	4	Kararbo e e nepagetseng.		
	C	13 sesala 1	1	O arotse go tswa kwa mojeng go ya kwa molemeng mme a ikgatholosa sesala.		
	D	13 sesala 0	3	O arotse ka nepagalo mme a ikgatholosa sesala.		
58.	A	53	1	O tlhakantse dipalo di le pedi tse di neetsweng.	P	D
	B	41	1	O ntshitse 6 go 47.		
	C	8 ✓	4	Karabo e e nepagetseng.		
	D	7	3	O arotse ka mme a ikgatholosa mae a a setseng.		
59.	A	500	2	O atisitse 100 ka 5.	P	M
	B	105	2	O tlhakantse R100 le R5.		
	C	95	2	O ntshitse R5 go R100.		

No.		Expected answer		Level of understanding or error analysis	Cognitive level	Level of difficulty
	D	20 ✓	4	Karabo e e nepagetseng.		
60.	A	100	2	O tlhakantse 90 le 10.	P	D
	B	80	2	O ntshitse 10 go 90.		
	C	10	3	O arotse mme a bona karabo e e fosagetseng.		
	D	9 ✓	4	Karabo e e nepagetseng.		
61.	A	70	2	O tlhakantse 65 le 5.	P	M
	B	60	2	O ntshitse 5 go 65.		
	C	13 ✓	4	Karabo e e nepagetseng.		
	D	12	3	O arotse mme a bona karabo e e fosagetseng.		
62.	A	R6,86	3	O arotse ka 3 boemong jwa 4.	P	D
	B	R5,15 ✓	4	Karabo e e nepagetseng.		
	C	R20,57	2	O ntshitse 3 go R20,60.		
	D	R23,60	1	O tlhakantse 3 le R20,60.		
63.	A	18	3	Ga a balela sentle.	P	M
	B	19 ✓	4	Karabo e e nepagetseng.		
	C	90	2	O ntshitse 5 go 95.		
	D	100	2	O tlhakantse 95 le 5.		
64.	A	14 ✓	4	Karabo e e nepagetseng.	P	D
	B	13	3	O arotse mme a bona karabo e e fosagetseng.		
	C	180	2	O tlhakantse 168 le 12.		
	D	156	2	O ntshitse 12 go 168.		
65.	A	88	2	O ntshitse 4 go 92.	P	M
	B	96	2	O tlhakantse 92 le 4.		
	C	23 ✓	4	Karabo e e nepagetseng.		
	D	24	3	O dirile phoso fa a arola.		
66.	A	32	3	O arotse masome ka nepagalo mme a ikgatholosa lesome le le setseng.	P	D

No.		Expected answer		Level of understanding or error analysis	Cognitive level	Level of difficulty
	B	37 ✓	4	Karabo e e nepagetseng.		
	C	73	2	O fapaantse masome le metso.		
	D	74	1	O kopolotse palo 74.		
67.	A	26 ✓	4	Karabo e e nepagetseng.	P	D
	B	62	2	O fapaantse masome le metso.		
	C	130	1	O kopolotse palo 130.		
	D	135	1	O tlhakantse dipalo tse di neetswe		
68.	A	99	2	O tlhakantse 96 le 3.	P	M
	B	93	2	O ntshitse 3 go 96.		
	C	39	3	O arotse masome sentle mme a tlhakanya le metso.		
	D	32 ✓	4	Karabo e e nepagetseng.		
69.	A	19 le nngwe tharong	2	Ga a balela sentle.	P	D
	B	19 le kotara	2	Ga a balela sentle.		
	C	19 le halofo ✓	4	Karabo e e nepagetseng.		
	D	19 le nngwe tlhanong	2	Ga a balela sentle		
70.	A	88	2	O tlhakantse 84 le 4.	P	M
	B	80	2	O ntshitse 4 go 84.		
	C	21 ✓	4	Karabo e e nepagetseng.		
	D	12	2	O arotse go tswa kwa mojeng go ya kwa molemeng.		
71.	A	R14	1	O ntshitse 5 go R19.	P	D
	B	R24	3	O tlhakantse 5 le R19.		
	C	R95 ✓	4	Karabo e e nepagetseng.		
	D	R100	3	O atisitse 5 ka 20 mme a lebala go ntsha 5.		

Long questions

	Items	Cognitive level	Level of difficulty
72.	Palo ya ditlhopha =28 ÷ 4 ✓ = 7 ✓	P	M
73.	Palo ya dilae = 18 ÷ 3 ✓ = 6 ✓	P	E
74.	Tsala e nngwe le e nngwe e amogela = R260 ÷ 10 ✓	P	M
75.	Palo ya dikuku = 225 ÷ 25 ✓ = 9 ✓	P	M
76.	Ngwana o mongwe le o mongwe o amogela = 550 ÷ 50 ✓ = 11 ✓	P	M

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