Province of the
EASTERN CAPE
EDUCATION

O.R TAMBO
INLAND DISTRICT

GRADE 10

MATHEMATICAL LITERACY

CONTROLLED TEST

SEPTEMBER 2023

MARKS: 50

DURATION: 1 HOUR

This Question paper consists of 6 pages.

INSTRUCTIONS AND INFORMATION

1. This CONTROLLED TEST consists of FIVE questions. Answer ALL the questions.

2. Number the answers correctly according to the numbering system used in this question paper.

3. Start EACH question on a NEW page.

4. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.

5. Show ALL calculations clearly.

6. Round off ALL final answers appropriately according to the given context, unless stated otherwise.

7. Show all your workings on your answer sheet before answering directly the question asked.

8. Write neatly and legibly.

QUESTION 1

St Annes high school planned a school dance as a fundraising event. Tickets for the dance cost R150 per person. Their budget, income and expenditure statement for the dance are shown below.

Budget for St Annes High School Dance				
Income (R)		**Expenditure (R)**		
Ticket sales	31 500	Tickets – printing costs		250
Donations from parents	3 000	Decorations		900
Donations from business	5 000	Music and lighting		7 000
		Refreshments		6 000
		Security		900
Total	R39 500			R15 050

Income and Expenditure statement for St Annes High School Dance				
Income (R)		**Expenditure (R)**		
Ticket sales	30 000	Tickets – printing costs		00
Donations from parents	5 450	Decorations		580
Donations from business	**A**	Music and lighting		7 000
		Refreshments		4 215
		Security		900
		Gifts		430
Total	R40 000			**B**

Study the graph above and answer the questions that follow.

1.1	Explain the term *budget* in the given context	(2)
1.2	Determine how many tickets did the school expect to sell.	(2)
1.3	Calculate the amount **A** donated by business.	(2)
1.4	State the unexpected expenditure.	(2)
1.5	Determine the amount **B** the total expenditure.	(2)
1.6	Express decorations amount in the income and expenditure statement as a percentage of total expenses. Round off the answer to one decimal place.	(3)
1.7	Determine whether the school made a profit or loss from the school dance.	(3)

[16]

2

Mathematical literacy (ORTI Term 3 Controlled Test)

QUESTION 2

Study the images below showing how to insert a cell phone's sim card and battery.

Step 1 · Step 2 · Step 3 · Step 4

Write a description of each step based on the images. **[8]**

QUESTION 3

A shoe company packs their brand of shoes in a small box and then the small boxes will
be packed in a bigger box for transportation.

13cm

33.5cm

23cm

Small Box

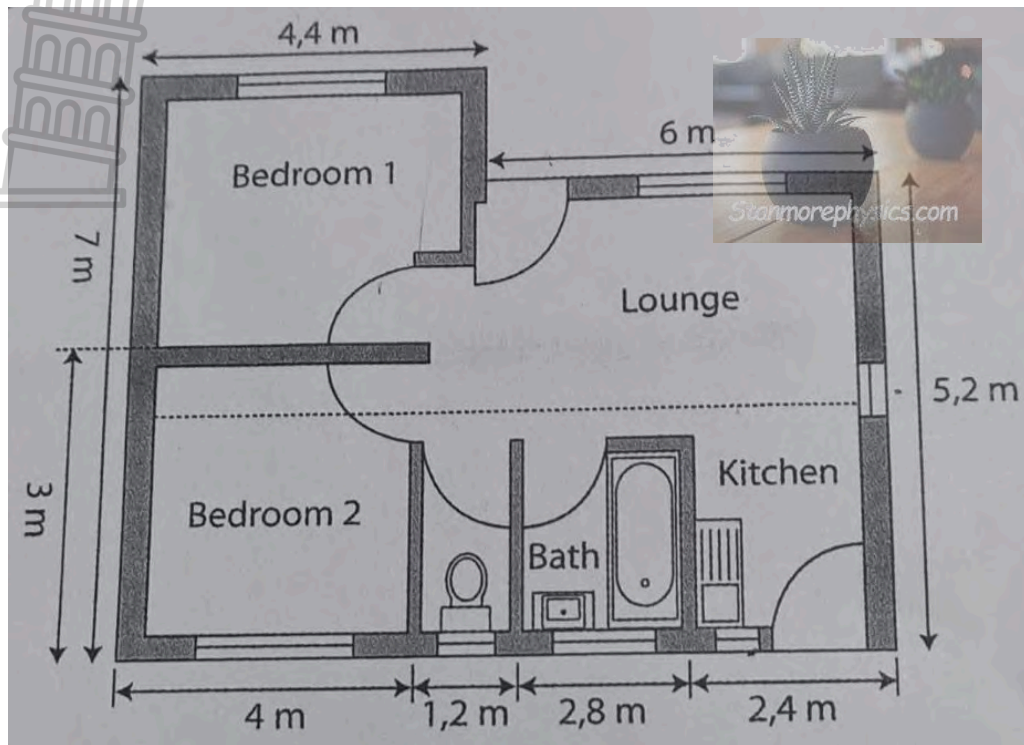l =2,01m, W = 0,69 m, h = 0,52 m

Big Box

The courier company claims that one big box will have 72 small boxes if the small boxes
are lengthwise in the big boxes. Verify if the company's claim is valid. **[7]**

Mathematical literacy (ORTI Term 3 Controlled Test)

QUESTION 4

The floor plan of a simple house is shown below.

4.1 Define the term *floor plan* in the given context (2)

4.2 Write the ratio of the number of windows to the number of inside doors in its simplified form (2)

4.3 Give the direction of bedroom 1 from the kitchen (2)
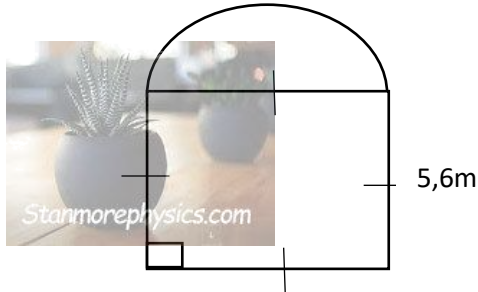
4.4 Calculate the area of bedroom 1 in m².

You may use the formula: **Area = length × breadth** (3)

[9]

Mathematical literacy (ORTI Term 3 Controlled Test)

QUESTION 5

Ms Nogaga is considering putting a fence around the swimming pool at the back of her house. The diagram of the swimming pool is drawn below.

5,6m

You may use the following formula:
Perimeter = 4 x side
Circumference = $2 \times \pi \times r$
Use $\pi = 3,142$

Use the diagram above to answer the questions that follow.

5.1   Calculate the length of the fence needed to fence around the pool.   (6)

5.2   Determine the cost of fencing the pool if the fence is sold in 5 m rolls for R2 750 per roll.   (4)

[10]

TOTAL MARKS   **[50]**

**Province of the
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OR TAMBO INLAND DISTRICT

NATIONAL SENIOR CERTIFICATE

GRADE 10

MATHEMATICAL LITERACY

CONTROLLED TEST - MARKING GUIDELINES

TERM 3 – SEPTEMBER 2023

TOTAL MARK 50

SYMBOL	EXPLANATION
M	Method
CA	Consistent Accuracy
A	Accuracy
C	Conversion
D	Define
J	Justification/Reason/Explain
S	Simplification
RD	Read from a table OR a graph OR a diagram OR a map OR a plan
F	Choosing the correct formula
SF	Substitution in a formula
O	Opinion
P	Penalty, e.g. for no units, incorrect rounding off , etc.
R	Rounding off
AO	Answer only
NPR	No penalty for rounding off OR omitting units

QSTN	Solution	Explanation	Level
QUESTION 1 [16]			
1.1	Budget is plan or list of expected income and expenditure✓✓	2 RT answer	L 1 (2)
1.2	$\frac{R31\,500}{R150}$✓ $= 210$✓	1 M division 1 A answer	L 1 (2)
1.3	$A + R30\,000 + R5\,450 = R40\,000$✓ $A = R40\,000 - R35450$ $A = R4\,550$✓	1 M addition 1 A answer	L 1 (2)
1.4	Gifts✓✓	2 A answer	L1 (2)
1.5	B = R580 + R7\,000 + R4\,215 + R900 + R430✓ $B = R13\,125$✓	1 M addition 1 A answer	L1 (2)
1.6	$\frac{580}{13\,125}$✓ $\times 100$✓ $= 4,4190$ $= 4,4\%$✓	1 M division 1 M multiplication by 100 1 A answer	L2 (3)
1.7	R40\,000 – R13\,125✓ $= R26\,875$✓ The school made a Profit✓	1 S subtraction 1 A answer 1 O opinion	L2 (3) **[16]**
QUESTION 2 [8]			
Step 1: Place your fingernail in the cover release opening, lift the back cover of the phone up (1) and pull it back (2) to remove it. ✓✓ Step 2: Lift out the battery by slipping your finger under the side and lifting it up (1) and out (2) of the phone. ✓✓ Step 3: Slide the sim card into the SIM card socket inside the phone. Make sure that the card's gold contacts face downwards. ✓✓ Step 4: Replace the battery by slipping it back into the phone (1) and pressing it down. ✓✓	8 A answer	L2 (8)
QUESTION 3 [7]			
Lengthwise $= \frac{2,01 \times 100✓}{33,5}$✓ $= 6$ ✓ Widthwise $= \frac{0,69 \times 100}{23} = 3$ ✓ Height-wise $= \frac{0,52 \times 100}{13} = 4$✓ No of small boxes $= 6 \times 3 \times 4$✓ $= 72$ Valid statement✓	1 C conversion 1 M division 1 A answer 1 A answer 1 A answer 1 M multiplication 1 O opinion	L4 (7)

QUESTION 4 [9]			
4.1	Shows the design and dimensions of the inside of the house from top view. ✓ ✓	2 D definition	L1 (2)
4.2	7: 4✓✓	2 A ratio	L1 (2)
4.3	NW✓✓	2 A answer	L1 (2)
4.4	Area **= length × breadth** $A = 7m \times 4{,}4m$✓✓ $A = 30{,}8m^2$✓	1 RT correct values 1 M multiplication 1 A answer	L2 (3)
			[9]
QUESTION 5 [10]			
5.1	$P = 3 \times 5{,}6$✓ $= 16{,}8m$✓ $c = \dfrac{1}{2} \times 2 \times 3{,}142 \times 2{,}8$✓✓ $= 8{,}7976m$✓ $total\ fence = 16{,}8m + 8{,}7976m = 25{,}9976m.$✓	1 M multiplication by 3 1 A answer 1 A radius 1 M multiplication 1 A answer 1 CA answer	L3 (6)
5.2	Number of rolls $\dfrac{25{,}5976m}{5m}$✓ $= 5{,}11952$ $\approx 6\ rolls$✓ $Cost = 6 \times R2750$✓ $= R16\ 500$✓	1 M division 1 A answer 1 M multiplication 1 A answer	L3 (4)
			[10]
	TOTAL MARK		**[50]**

QUESTION	LEVELS				TOTAL
	1	**2**	**3**	**4**	**TOTAL**
1.1	2				2
1.2	2				2
1.3	2				2
1.4	2				2
1.5	2				2
1.6		3			3
1.7		3			3
2		8			8
3				7	7
4.1	2				2
4.2	2				2
4.3	2				2
4.4		3			3
5.1			6		6
5.2			4		4
Marks	16	17	10	7	50
%	32	34	20	14	100%
Expected %	**30%**	**30%**	**20%**	**20%**	**100%**

G10 MATHEMATICAL LITERACY CONTROLLED TEST
TERM 3 ANALYSIS GRID