education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

PROVINCIAL ASSESSMENT

GRADE 10

MATHEMATICAL LITERACY P1

JUNE 2024

MARKS: 50

TIME: 1 hour

This question paper consists of 7 pages including two ANNEXURES.

INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Use the ANNEXURES in the ADDENDUM to answer the following questions:

   ANNEXURE A for QUESTION 2.3
   ANNEXURE B for QUESTION 3.2

   Remove the pages from the question paper and add it to your answer script.
3. Number the answers correctly according to the numbering system used in this question paper.
4. Start EACH question on a NEW page.
5. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
6. Show ALL calculations clearly.
7. Round off ALL final answers appropriately according to the given context, unless stated otherwise.
8. Indicate units of measurement, where applicable.
9. Diagrams are NOT necessarily drawn to scale, unless stated otherwise.
10. Write neatly and legibly.

QUESTION 1

Susan went to the local supermarket and bought a few items.
She received the following till slip from the dealer.

STAR GENERAL DEALER
Market street 54, Lichtenburg

Sugar 2 kg	R54,00
Coffee 750 g	R165,95
White bread	R17,95
Chips 150g Salt & vinegar	R15,95
Chips 150g Chutney	R15,95
TOTAL	**R269,80**
VAT (included)	**R35,19**
Cash	**R300,00**
Change	**R40,20**

17/03/2024 10:56
Cashier: Michael Jacobs
Thank you for shopping with us!

Use the above document to answer the questions that follow.

1.1 Write down the name of the supermarket where Susan bought the items. (2)

1.2 Calculate the price of 1 kg of sugar. (2)

1.3 Susan received a 20 cent coin as part of the change. The coin falls on the ground. What is the probability, as a fraction, that it lands on tails? (2)

1.4 Write, in words, the TOTAL amount Susan spent. (2)

1.5 Write the acronym VAT in full. (2)
[10]

QUESTION 2

Susan bought a new cell phone and she wanted to determine the cost of the calls. She found the following call rate from a service provider: 2 cents per second, including VAT.

TABLE 1: CALL RATE FROM A SERVICE PROVIDER.

Seconds	0	10	35	**A**	60
Cost in cents	**B**	20	**C**	80	120

Use the information and the table above to answer the questions that follow.

2.1 Write down the dependent variable shown in the table above. (2)

2.2 Calculate the value of **A, B** and **C**. (5)

2.3 Use ANNEXURE A to draw a line graph to show the cost per second for phone calls. (4)

2.4 Johnny, Susan's brother, claims that a call of 150 seconds will cost 265 cents, VAT exclusive. Verify, with calculations, if Johnny's statement is correct. (5)
[16]

QUESTION 3

Susan wants to investigate the shoe sizes of the learners in her school. She decided to collect the shoe sizes of 20 of the girls in her grade. The data (shoe sizes) collected is as follows:

TABLE 2: SHOE SIZES OF 20 GIRLS IN A GRADE

6	6	7	8	4	4	7	5	6	5
3	7	4	4	5	4	3	6	5	6

Use the information given above to answer the questions that follow.

3.1 Is the data given discrete or continuous? (2)

3.2 Complete the frequency table in the answer sheet (ANNEXURE B) provided, using the data given in Table 2. (3)

3.3 Calculate the mean of the data set. (3)

3.4 Susan's friend Ann, told her that the investigation is bias or not a true reflection of a real life situation. Give a motivation why her friend's claim is valid. (2)
[10]

QUESTION 4

4.1 Susan's family is planning to go on holiday and had to plan their finances accordingly. They drew up the following budget:

TABLE 3: SUSAN'S FAMILY BUDGET

INCOME	Rand	**EXPENSES**	Rand
Dad's salary	15 000	Rent	5 000
Mom's salary	12 000	Groceries	4 300
		Water and electricity	2 450
		Fuel	1 550
		School fees	2 850
		Insurance	950
		Savings	2 000
Total income		**Total expanses**	**19 100**

Use the information above to answer the questions that follow.

4.1.1 Susan wants to draw a graph to show how the different expenses contribute to the total expenses. She needs to determine the percentage of each expense in terms of the total expenses.

Which graph is suitable to represent the information above? (2)

4.1.2 Susan's dad will receive a 10% increase in his salary. Calculate the new surplus (after the increase) that the family will have. (4)

4.1.3 Susan claims that the savings are more than 10% of the expenses. Show by means of a calculation if her claim is valid or not. (3)

4.2 Susan's mother keeps record of the price of a 2 litre of milk over seven weeks. The prices are as follows:

3 095 cent	2 980 cent	3 115 cent	3 090 cent
3 255 cent	3 240 cent	3 245 cent	

Use the information above to answer the questions that follow.

4.2.1 Calculate the median, in Rand, for the above data. (3)

4.2.2 Round the answer in 4.2.1 to the nearest Rand. (2)
[14]

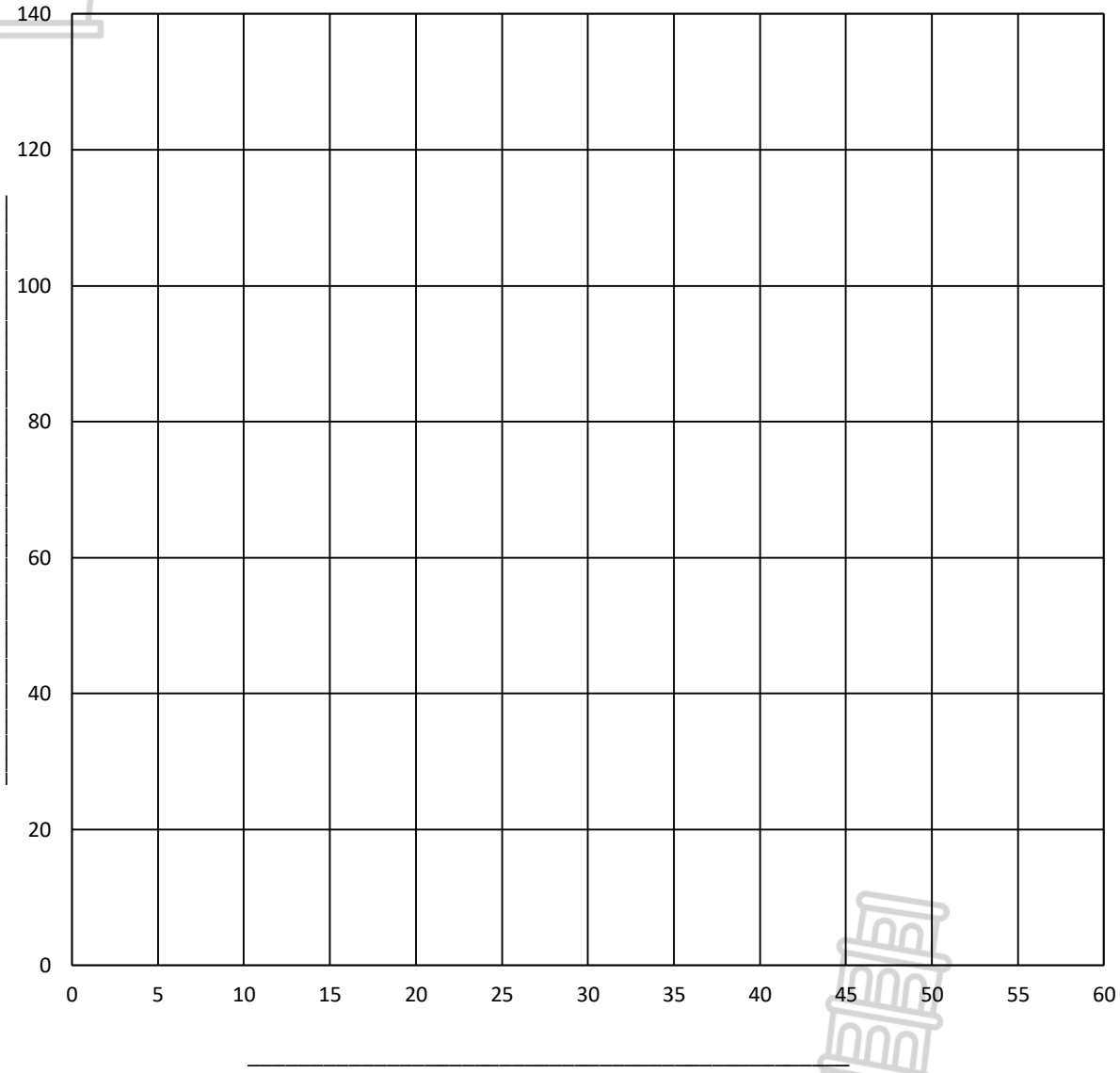
TOTAL: 50

NAME: _____ **GRADE: 10/_____**

ANNEXURE A

QUESTION 2.3

Cost per second for making a call



_____

NAME: _____ **GRADE: 10/_____**

ANNEXURE B

QUESTION 3.2

Shoe size	Tally	Frequency
3		
4		
5		
6		
7		
8		

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MARKING GUIDELINES

MARKS: 50

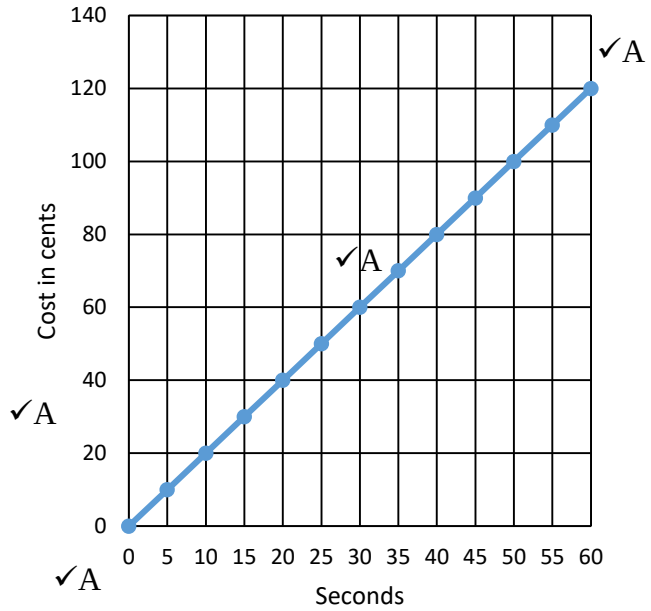
Symbol	Explanation
M	Method
MA	Method with accuracy
MCA	Method with consistent accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT	Reading from a table/a graph/document/diagram
SF	Correct substitution in a formula
O	Opinion/Explanation/Reasoning
P	Penalty, e.g. for no units, incorrect rounding off, etc
R	Rounding off
NPR	No penalty for correct rounding
AO	Answer only

These marking guidelines consists of 6 pages.

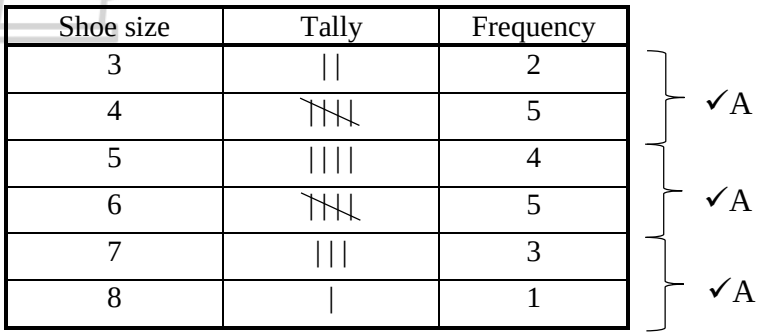
NOTE:

- If a candidate answers a question TWICE, only mark the FIRST attempt.
- If a candidate has crossed out (cancelled) an attempt to a question and NOT redone the solution, mark the crossed out (cancelled) version.
- Consistent accuracy (CA) applies in ALL aspects of the marking guidelines; however, it stops at the second calculation error.
- NOTE: consistent accuracy (CA) does not apply in cases of a breakdown.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalize for every extra item presented.
- As a general marking principle, if a candidate has incurred one mistake and there is evidence of sound mathematics thereafter, then that candidate should lose one mark only.
- Rounding is an independent mark.
- In opinion type questions marks will only be awarded if relevant calculations are shown.

QUESTION 1 [10 MARKS] Answer only AO – full marks			
Q	**Solution**	**Explanation**	**T &L**
1.1	Star General Dealer ✓✓RT	2RT reading from till slip (2)	F L1
1.2	54,00 ÷ 2 ✓M = R27,00 ✓A	1MA dividing correct values 1A correct answer **AO** (2)	F L1
1.3	$\frac{1}{2}$ ✓✓A	1A numerator 1A denominator (2)	P L1
1.4	Two hundred and sixty nine rand and eighty cents ✓✓A	2A correct words (2)	F L1
1.5	Value added tax ✓✓A	2A answer (2)	F L1
		[10]	

QUESTION 2 [16 MARKS]			
Q	**Solution**	**Explanation**	**T & L**
2.1	Cost in cents ✓✓A	2A correct answer (2)	F L1
2.2	✓MA A: 80 ÷ 2 = 40 ✓A B: 0 × 2 = 0 ✓A ✓MA C = 35 × 2 = 70 ✓A	1MA dividing correct values 1A correct answer 1A correct answer 1MA multiplying correct values 1A correct answer **AO** (5)	F L2
2.3	Cost per second for making a call  	1A labelling both axes 1A correct starting point 1A correct ending point 1A straight line (4)	F L2
2.4	Call cost = 150 × 2 ✓M = 300 cent ✓CA VAT excluded = 300 × $\frac{100}{115}$ ✓MCA = 260,87 cent ✓CA His statement is not correct ✓O	1M multiplying by 2 1CA answer 1MCA × $\frac{100}{115}$ 1CA answer 1O opinion (According to calculations and answer) (5)	F L4
		[16]	

QUESTION 3 [10 MARKS]

Q	Solution	Explanation	T & L
3.1	Discrete ✓✓A	2A answer (2)	D L1
3.2		1A correct answer per pair 1A correct answer per pair 1A correct answer per pair (3)	D L3
3.3	✓M $\frac{6+6+7+8+4+4+7+5+6+5+3+7+4+4+5+4+3+6+5+6}{20}$ ✓M $= \frac{105}{20}$ $= 5{,}25$ ≈ 5 ✓CA **OR/*OF*** ✓M $\frac{(3\times 2+(4\times 5)+(5\times 4)+(6\times 5)+(7\times 3)+8}{20}$ ✓M $= \frac{105}{20}$ $= 5{,}25$ ≈ 5 ✓CA	1M of adding values 1M dividing by 20 1CA answer NPR 1M adding values 1M dividing by 20 1CA answer NPR (3)	D L2
3.4	She used only the data of girls. ✓✓ O **OR** She used only the data of girls in her grade and not learners from other grades or ages. ✓✓ O **OR** The investigation is bias because it favours girls over boys. ✓✓ O	2O opinion (2)	D L4
		[10]	

QUESTION 4 [14 MARKS]			
Q	**Solution**	**Explanation**	**T & L**
4.1.1	Pie chart ✓✓A	2A correct answer (2)	D L1
4.1.2	New salary: 15 000 × 110% **OR** × 1,1 **OR** × $\frac{110}{100}$ ✓M = R16 500 ✓A Total income: 16 500 + 12 000 = R28 500 ✓MCA New surplus: 28 500 – 19 100 = R9 400 ✓CA **OR** 15 000 + (15 000 × 10%) ✓M = R16 500 ✓A Total income: 16 500 + 12 000 = R28 500 ✓MCA New surplus: 28 500 – 19 100 = R9 400 ✓CA **OR** Increase : 15 000 × $\frac{10}{100}$ = R1 500 ✓M New salary : 15 000 + 1 500 = R16 500 ✓A Total income: 16 500 + 12 000 = R28 500 ✓MCA New surplus: 28 500 – 19 100 = R9 400 ✓CA	1M 10% increase 1A correct answer 1MCA Adding 2 salaries 1CA answer 1M 10% increase 1A correct answer 1MCA Adding 2 salaries 1CA answer 1M 10% increase 1A correct answer 1MCA Adding 2 salaries 1CA answer (4)	F L3
4.1.3	$\frac{200}{19\,100}$ × 100 ✓MA = 10,47% ✓A Her claim is valid. ✓O	1MA of multiply correct values 1 A correct answer 1O opinion (3)	F L4

4.2.1	2 980; 3 090; 3 095; 3 115; 3 240; 3 245; 3 255 ✓M Median = 3 115 cent ✓M ∴ 3 115 ÷ 100 = R31,15 ✓CA	1M correct order 1M dividing by 100 1CA simplification (No arrangement – only conversion mark, if correctly converted) (3)	D L3
4.2.2	R31,00 ✓✓R	**CA from 4.2.1** 2R correct rounding (2)	F L1
		[14]	
		TOTAL: 50	