



education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

PROVINCIAL ASSESSMENT

GRADE 10

MATHEMATICAL LITERACY P1
NOVEMBER 2024

MARKS: 75

TIME: 1½ hours



This question paper consists of 7 pages and 1 annexure.

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 ANNEXURE A to answer QUESTION 2.1.
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

Jessica and her family are planning to go on holiday to a nearby holiday resort during the December holiday. The table below shows their budget presented to her dad.

JESSICA'S FAMILY BUDGET FOR DECEMBER 2024

INCOME		EXPENDITURE	
Items	Amount in Rand	Items	Amount in Rand
Dad income	28 000	Municipality account	3 600
Mom income (½ day = 4 hours per day)	5 500	Cell phone usage	850
Savings pay-out	24 000	Insurance	2 700
		Rent payment	5 500
		Car payment	4 700
		Christmas gifts	4 000
TOTAL INCOME	57 500	TOTAL EXPENDITURE	21 350

Use the above document to answer the questions that follow.

- 1.1 Define the term *budget*. (2)
- 1.2 Write down the amount of the total expenditure in words (without numerals). (2)
- 1.3 Name one item that is an occasional expenditure. (2)
- 1.4 Determine the mom's monthly salary if she works for 8 hours per day. (2)
- 1.5 Write down the name of the most expensive expenditure. (2)
- 1.6 Determine the minimum value (in rand) in the expenditure column. (2)
- 1.7 During the planning phase of the holiday, the family came across a document with questions which they had to complete. In this document a travel agency wanted to determine certain likes and dislikes of clients when traveling. (2)

Name the type of data collecting instrument described above.

(2)
[14]

QUESTION 2

- 2.1 Jessica's dad, Bernard, showed his bank statement for October 2024 to her (ANNEXURE A).

ANNEXURE A also show an extract of his bank's bank charges structure.

All bank charges will be debited at the end of the month.

Use the information above and ANNEXTURE A to answer the questions that follow.

2.1.1 Write down the branch number as indicated on the statement. (2)

2.1.2 Calculate the balance on the 2nd of October 2024. (4)

2.1.3 Calculate the total amount spent by paying with the debit card for October 2024. (3)

2.1.4 Calculate the bank charges as a percentage of the salary. (3)

2.1.5 By using the debit entries only, calculate the probability to randomly select a debit amount less than R2 500.

Give your answer as a decimal number. (3)

2.1.6 Bernard claims that his bank charge on the cash withdrawal will be less than R20,00.

Verify, showing ALL calculations, if his statement is VALID. (4)

- 2.2 Jessica is planning to save R2 000 for 18 months at a simple interest rate of 7,5% per year interest.

Calculate the amount that she will receive at the end of the 18 months period. (4)

- 2.3 The price of fishing gear is R2 400 VAT exclusive. It is expected that the fishing gear will increase by 10% this coming December. John wishes to buy the fishing gear in December after receiving his saving's pay-out of R3 000. He claims that he will have enough money to buy this fishing gear with his savings amount.

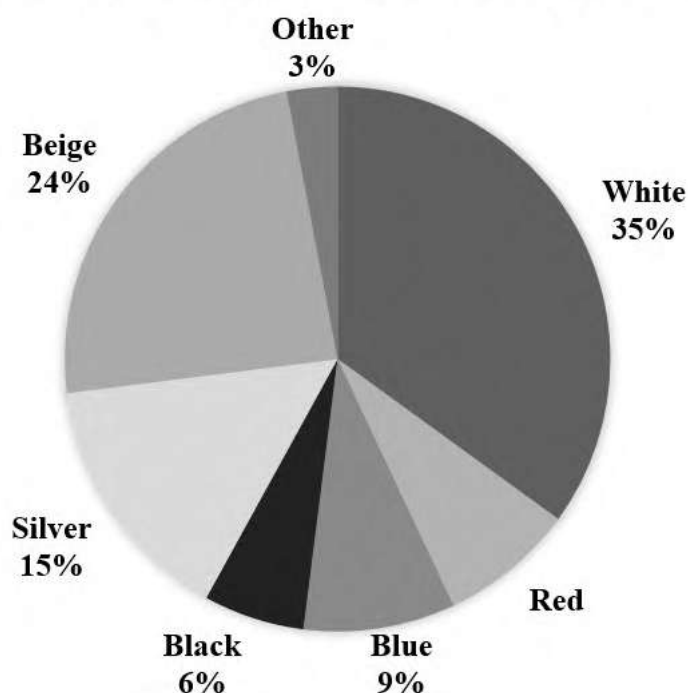
Verify, showing ALL calculations, weather his claim is VALID or NOT. (4)
[27]

QUESTION 3

- 3.1 Mr. Bernard planned to buy a new car. He is uncertain about the colour and the model of the car. He decided to do some research before he makes a decision.

He came across the following chart that showed the different colour cars sold in the previous month.

CAR SALES DURING A SPECIFIC MONTH



Use the information above to answer the questions that follow.

- 3.1.1 Name the type of chart shown above. (2)
- 3.1.2 State whether the above data is categorical or numerical. (2)
- 3.1.3 Calculate the percentage of red cars. (3)
- 3.1.4 During this specific month, 350 cars were sold.
Calculate the number of beige cars sold. (2)
- 3.1.5 Mr. Bernard claims that a white car doesn't attract dirt easily.
Give another valid reason why a white car might be a better option to buy. (2)

3.2

Mr. Bernard came across the different lengths of cars in South Africa.

The different lengths, in metres, are as follow:

4,1	4,3	5,8	4,1	2,9	5,1
3,6	2,5	4,7	4,4	4,2	5,0

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

3.2.1 Calculate the mean length of the given data in the set. (3)

3.2.2 Calculate the median of the data. (4)
[18]

QUESTION 4

Mr. Bernard compared the water tariffs of his own town to that of Matlosana. He got the following water tariffs for Matlosana for the 2023/2024 book year.

TABLE 1: WATER TARIFF FOR MATLOSANA FOR 2023/2024

CONSUMPTION	TARIFF IN RANDS (VAT INCLUDED)
0 kl – 6 kl	R27,80
6 kl – 20 kl	R34,06
20 kl – 50 kl	R35,14
50 kl – 100 kl	R36,34
100 kl – 200 kl	R38,34
200 kl – 300 kl	R40,62
300 kl +	R51,16

Adapted from: <https://www.matlosana.gov.za>

Use the information above to answer the questions that follow.

4.1.1 The amounts in Table 1 above included VAT.

What is the current VAT % in South Africa? (2)

4.1.2 The tariffs increased from 2022/2023 to 2023/2024 with 6%.

Calculate the previous tariff for the 0 kl – 6 kl category in 2022/2023. (3)

4.1.3 Mr. Bernard claims that 18 kl of water will cost more than R550 for 2023/2024.

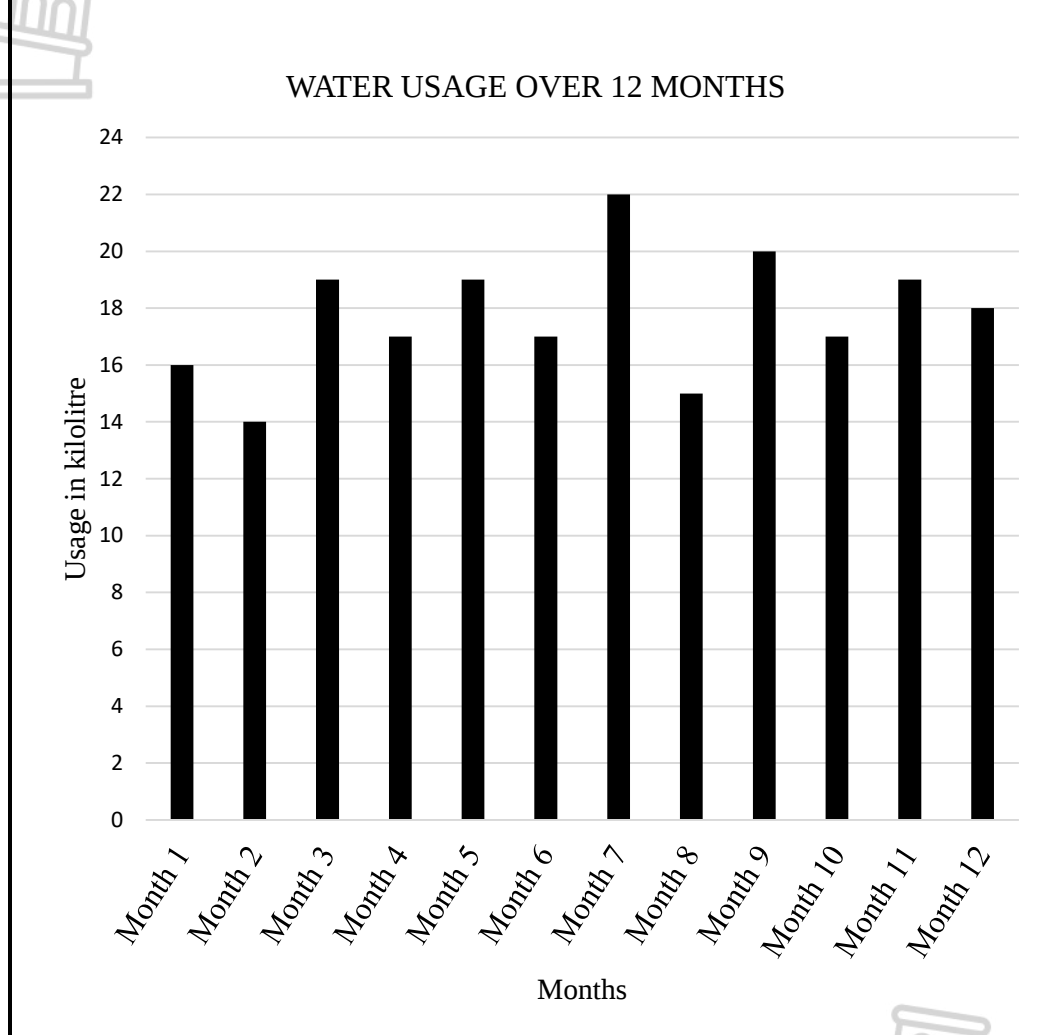
Verify, by calculating the cost of 18 kl, if his statement is CORRECT. (5)

4.2

Over a year's time Mr. Bernard keep record of his family's water usage.

He drew a graph of this records.

Note: The water usage is rounded each month to the nearest whole number.



Use the information above to answer the questions that follow.

4.2.1 Determine the probability of randomly selecting a month with a water usage of less than 12 kilolitre. (2)

4.2.2 List all the values for water usage over 12 months from the graph and then determine the mode of the data set. (4)
[16]

TOTAL: 75

ANNEXURE A

QUESTION 2.1

Jessica's dad, Bernard, showed his bank statement for October 2024 to her. He also gave her an extract of his bank's bank charges structure. All bank charges will be debited at the end of the month.

MR. BERNARD'S BANK STATEMENT FOR OCTOBER 2024

RSA BANK CURRENT ACCOUNT STATEMENT 				
Account name: Mr. B Jantjies		Statement date: 31 October 2024		
Account number: 236892389275		Frequency: Monthly		
Branch: Orkney (179462)		Statement period: 1 Oct 2024 to 31 Oct 2024		
Date	Transaction details	Debit	Credit	Balance
01/10/2024	Opening balance			R14 680,00
01/10/2024	Interest on credit balance		R57,00	
02/10/2024	Stop order – NW Insurance	R2 700,00		2.1.2
05/10/2024	PnP debit card purchase	R940,00		
10/10/2024	Debit order – Municipality	R3 860,00		
14/10/2024	Cash withdrawal (branch)	R1 300,00		
15/10/2024	Stop order – Toyota SA	R4 700,00		
17/10/2024	Checkers debit card purchase	R1 660,00		
20/10/2025	Stop order – NW properties	R5 500,00		
25/10/2024	Salary – EFT deposit		R28 000,00	
30/10/2024	Bank charges	R577,50		
	Closing balance			?

EXTRACT FROM RSA BANK TRANSACTION FEE STRUCTURE

TRANSACTION TYPE	
Payments	
Stop order (internal)	R6,50 + 1,2% of the amount
Stop order (external)	R7,50 + 1,35% of the amount
Debit order (internal)	R4,85
Debit order (external)	R16,75
Cash withdrawal	
Own bank ATM	R1,45 per R100 or part of
Other bank ATM	R6,80 + R2,60 per R100 or part of
Own bank branch	R3,50 + R1,50 per R100 or part of
Debit card payments	
Swipe at counter	R0,50 per R100 or part of



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MARKING GUIDELINES

MARKS: 75

Symbol	Explanation
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
NPU	No penalty for omitting the unit, but a wrong unit is penalised
AO	Answer only
RCA	Rounding consistent with accuracy

These marking guidelines consists of 7 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.
- General principle of marking, if a candidate makes one mistake one mark is deducted.
- Rounding is an independent mark.
- A conclusion mark can only be given if relevant calculations precedes it.

QUESTION 1 [14 MARKS] Answer only AO – full marks			
Q	Solution	Explanation	T/L
1.1	A budget is a summary of the expected income and expenditure for the month. ✓✓A	2A definition of budget (2)	F L1
1.2	Twenty one thousand three hundred and fifty ✓A rand ✓A	1A correct wording 1A rand (2)	F L1
1.3	Christmas gifts ✓✓A	2A correct answer (2)	P L1
1.4	$R5\ 500 \times 2$ ✓M $= R11\ 000$ ✓A OR $R5\ 500 + R5\ 500$ ✓M $= R11\ 000$ ✓A	1MA multiply by 2 1A correct answer OR 1MA adding the same amount 1A correct answer (2)	F L1
1.5	Rent payment ✓✓A	2A correct name If R5 500 is given, ONE mark (2)	F L1
1.6	R850 ✓✓A	2A correct answer (2)	D L1
1.7	Questionnaire ✓✓A	2A answer (2)	D L1
		[14]	

QUESTION 2 [27 MARKS]			
Q	Solution	Explanation	T/L
2.1.1	179462 ✓✓RT Accept: Orkney (179462) ✓✓RT	2RT correct answer If only Orkney is given, ONE mark (2)	F L1
2.1.2	✓MA ✓MA R14 680,00 + R57,00 – R2 700,00 ✓RT = R12 037,00 ✓CA	1RT correct values 1MA add R57,00 1MA subtract R2 700 1CA answer (4)	F L2
2.1.3	R940,00 + R1 660,00 ✓RT ✓M = R2 600 ✓A	1RT both correct values 1MA adding 1A answer (3)	F L2
2.1.4	✓RT $\frac{557,50}{28\,000} \times 100$ ✓M = 1,99% ✓CA = 2%	1RT correct values 1M concept of % 1CA answer NPR (3)	F L2
2.1.5	$\frac{4}{8}$ ✓A✓A = 0,5 ✓CA	1A numerator 1A denominator 1CA answer (3)	P L3
2.1.6	$R3,50 + (R1,50 \times \frac{1\,300}{100})$ ✓C ✓SF = R3,50 + R19,50 = R23,00 ✓CA His statement is NOT VALID/INVALID ✓O OR $R3,50 + (R1,50 \times 13)$ ✓C ✓SF = R3,50 + R19,50 = R23,00 ✓CA His statement is NOT VALID/INVALID ✓O	1C conversion (no. of R100's) 1SF correct substitution 1CA answer 1O Opinion OR 1C conversion (no. of R100's) 1SF correct substitution 1CA answer 1O Opinion (4)	F L4

2.2	1st year: $R2\ 000 \times 7,5\% \times 1$ ✓M = R150 Half year: $R2\ 000 \times 7,5\% \times 0,5$ ✓M = R75 Interest: $R150 + R75 = R225$ ✓S Total amount = $R2\ 000 + R225$ = R2 225 ✓CA OR $R2\ 000 \times 7,5\% \times 1,5$ ✓M ✓C = R225 ✓S Total amount = $R2\ 000 + R225$ = R2 225 ✓CA OR $R2\ 000 \times \frac{7,5\%}{12} \times 18 \text{ months}$ ✓M ✓C = R225 ✓S Total amount = $R2\ 000 + R225$ = R2 225 ✓CA	1M calculate 7,5% for the year 1M calculate 7,5% for a half year 1S simplify 1CA answer OR 1M calculate 7,5% for the year 1C conversion to 1,5 years 1S simplify 1CA answer OR 1M calculate 7,5% 1C conversion to 1,5 years 1S simplify 1CA answer (4)	F L3
2.3	VAT included: $R2\ 400 \times 115\%$ OR 1,15 OR $\frac{115}{100}$ ✓M = R2 760 Price increase: $R2\ 760 \times 110\%$ OR 1,1 OR $\frac{110}{100}$ ✓M = R3 036 ✓CA His claim is NOT VALID/INVALID. ✓O OR VAT included: $R2\ 400 \times 15\%$ OR 0,15 OR $\frac{15}{100}$ = R360 $\therefore R2\ 400 + R360 = R2\ 760$ ✓M Price increase: $R2\ 760 \times 110\%$ OR 1,1 OR $\frac{110}{100}$ ✓M = R3 036 ✓CA His claim is NOT VALID/INVALID. ✓O	1M adding VAT 1M adding price increase 1CA answer 1O opinion OR 1M adding VAT 1M adding price increase 1CA answer 1O opinion (4)	F L4
		[27]	

QUESTION 3 [18 MARKS]			
Q	Solution	Explanation	T/L
3.1.1	Pie chart ✓✓A	2A answer (2)	D L1
3.1.2	Categorical ✓✓A	2A correct answer (2)	D L1
3.1.3	$35\% + 9\% + 6\% + 15\% + 24\% + 3\%$ ✓MA $= 92\%$ $\therefore 100\% - 92\%$ ✓M $= 8\%$ ✓CA	1MA adding % 1M subtract from 100 1CA answer NPU (3)	D L2
3.1.4	$350 \times 24\%$ OR $\frac{24}{100}$ ✓MA $= 84$ cars ✓A	1MA multiply 1A correct answer (2)	D L2
3.1.5	More visible on the road/It could make you easier to spot ✓✓O OR It can hide imperfections well ✓✓O OR When re-paint after an accident, white colour matches more easily ✓✓O OR A white car can improve your car's resale value ✓✓O OR White paint can make your car cool (in terms of temperature) ✓✓O OR It can show off a car's lines (appearance) ✓✓O OR White car paint is cheaper than colourful ones ✓✓O Accept any other relevant ANSWER	2O reason  (2)	D L4

3.2.1	$\frac{4,1 + 4,3 + 5,8 + 4,1 + 2,9 + 5,1 + 3,6 + 2,5 + 4,7 + 4,4 + 4,2 + 5,0}{12} \quad \checkmark \text{MA}$ $\frac{50,7}{12} \quad \checkmark \text{MA}$ $= 4,225 / 4,23 / 4,2 / 4 \quad \checkmark \text{CA}$	1MA adding 1MA concept of mean 1CA answer NPR (3)	D L2
3.2.2	$2,5 ; 2,9 ; 3,6 ; 4,1 ; 4,1 ; \boxed{4,2 ; 4,3} ; 4,4 ; 4,7 ; 5,0 ; 5,1 ; 5,8 \quad \checkmark \text{RT} \quad \checkmark \text{MA}$ Middle value: $= \frac{4,2 + 4,3}{2} \quad \checkmark \text{MA}$ $= 4,25 \quad \checkmark \text{CA}$	1RT correct values 1MA correct order 1MA concept of median 1CA answer (4)	D L3
		[18]	



QUESTION 4 [16 MARKS]			
Q	Solution	Explanation	T/L
4.1.1	15% ✓✓ A	2A answer (2)	F L1
4.1.2	✓RT $R27,80 \times \frac{100}{106}$ ✓MA = R26,23 ✓CA OR ✓RT $R27,80 \div 1,06$ ✓MA = R26,23 ✓CA	1RT correct value 1MA multiply 1CA answer Check correct rounding OR 1RT correct value 1MA dividing 1CA answer Check correct rounding (3)	F L2
4.1.3	✓MA ✓MA ✓CA 0 to 6 = 6 kl: $6 \times R27,80 = R166,80$ 6 to 18 = 12 kl: $12 \times R34,06 = \underline{R408,72}$ Total R575,52 ✓CA His statement is TRUE/CORRECT ✓O	1MA multiply correct kl 1MA correct rates 1CA simplification 1CA answer 1O opinion (5)	F L4
4.2.1	0% / Zero / No chance / Impossible / $\frac{0}{12}$ ✓✓A Do not accept: No probability	2A correct answer (2)	P L2
4.2.2	16, 14, 19, 17, 19, 17, 22, 15, 20, 17, 19, 18 ✓✓RT OR 14, 15, 16, 17, 17, 17, 18, 19, 19, 19, 20, 22 ✓CA Mode = 17 & 19 ✓CA	2RT all values listed correct 1CA 17 1CA 19 (4)	D L3
		[16]	
		TOTAL: 75	