education

Department of
Education
FREE STATE PROVINCE

JUNE EXAMINATION

PAPER 1

GRADE 11

MATHEMATICAL LITERACY

JUNE 2025

MARKS: 75

TIME: $1\frac{1}{2}$ HOURS

This question paper consists of 9 pages

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR 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. Indicate units of measurement, where applicable.

8. Diagrams are NOT necessarily drawn to scale, unless stated otherwise.

9. Write neatly and legibly.

2

QUESTION 1

1.1 Below is a tax invoice for a cellphone contract.

TAX INVOICE

Invoice Number: 1534120458
Invoice Date: 01/04/2025

Cell C
CONNECT YOUR WAY

Mr Kane M.
3581 Botha Street
Vrede
9835

PACKAGE DETAIL

DESCRIPTION	FROM	TO	AMOUNT	TOTAL EXCL. VAT
Monthly Charges				R 134,78
Pinnacle 500MB	01/04/2025	30/04/2025	R 134,78	
Call Charges				R 11,22
Other Mobile Calls			R 4,75	
SmartData Internet			R 6,47	

INVOICE TOTALS

Amount (excluding VAT)	**A**
VAT @ 15%	**R 21,90**
Total (Including VAT)	**B**

[Source: adapted from www.cellc.com]

Use the information above to answer the questions that follow.

1.1.1 Identify the name of Mr Kane's cell phone network provider. (2)

1.1.2 State the date on which the invoice was issued. (2)

1.1.3 Calculate the value of the following:

    (a) **A** (2)

    (b) **B** (2)

1.1.4 Write down the ratio of Other Mobile Calls to SmartData Internet in the form:

    1 : … (3)

3

1.2 From 14 June to 14 July 2024, the Lejweleputswa Municipality hosted the Matjhabeng Championships that usually takes place every four years.

Below is the list of the top four teams after three games were played.

TABLE 1: TOP FOUR TEAMS RANKING AFTER THREE GAMES PLAYED MATJHABENG CHAMPIONSHIP 2024

TEAM AND POSITION		GAMES PLAYED	GOAL DIFFERENCE	POINTS
1	Tokologo	3	5	9
2	Masilo	3	0	4
3	Nala	3	-3	2
4	Matjhabeng	3	-2	1

[Source: adapted from matjhabengnews.net]

Note: The team with most points wins the Championship.

Use the information and TABLE 1 above to answer the questions that follow.

1.2.1 Identify the team with the highest goal difference. (2)

1.2.2 Write down the year in which the Matjhabeng Championships will be held again. (2)

[15]

QUESTION 2

2.1 Mr. Chakane received a quotation for a geyser at Mohammed hardware which provides materials and services for geysers installation.

Below is the quotation received from the hardware store.

Mohammed Hardware
27 Marie Street
Villiers
Telephone: 058 825 0201
Email: mohammed10@gmail.com

	QUOTATION	
QUOTE No.		**DATE**
2034		30/04/2025
CUSTOMER ID		**VALID UNTIL**
8506215369082		31/05/2025

CUSTOMER INFO

Mr Chakane M.D.
301 EXT 7
Villiers
Email: morechakane10@gmail.com

ITEM	QUANTITY	UNIT Price (R) VAT INCL.	AMOUNT (R) VAT INCL.
Service fee	1	200,00	200,00
Labour for 5 hours at R75 per hour (R/h)	5	75,00	375,00
Parts	7	12,35	86,45
New client discount			−50,00
Thank you for your business!!	**SUBTOTAL**		611,45
	TOTAL		611,45

This quotation is not a contract.

[Source: adapted from www.sjsu.edu.com]

Use the information above to answer the questions that follow.

2.1.1 Write down the starting date of the quotation. (2)

2.1.2 Calculate the total amount payable for labour if the person(s) installing the geyser extends the labour by 3 hours. (3)

2.1.3 Show, with a calculation, how the amount of R86,45 was determined. (2)

2.1.4 Determine the probability (as a percentage) that Mr Chakane will pay R210 for the service fee. (2)

5

Please turn over

2.2 Mr. Sethole is a resident at Mangaung Metropolitan (Metro) Municipality. The municipality uses the tariff table below to calculate the cost for water usage by customers.

TABLE 2: MANGAUNG METRO MUNICIPALITY WATER TARIFFS

Block	Tariff Structure	Tariff R/kℓ 2022/23	Tariff R/kℓ 2023/24
1	0 – 6 kℓ	10,86	11,40
2	7 – 15 kℓ	26,30	28,14
3	16 – 30 kℓ	29,84	32,23
4	31 – 60 kℓ	36,41	39,69
5	61 or more kℓ	43,58	48,37

[Source: adapted from www.mangaung.co.za]

Note:
- Tariffs above are excluding VAT at 15%.
- Charges are calculated monthly.

Use the information above and TABLE 2 to answer the questions that follow.

2.2.1 Determine the maximum kℓ that can be charged in Block 2. (2)

2.2.2 Mr. Sethole claimed that he will pay R814,68 for using 27 kℓ of water using the 2023/24 tariffs.

Verify, with calculations, whether his claim is valid. (7)

2.2.3 Calculate the percentage increase for Block 4 tariff from 2022/23 to 2023/24. (4)

[22]

Please turn over

QUESTION 3

3.1 Below, a frequency table are shown that indicates the frequency of workers per wage group of hourly wages at a construction company. The frequency table was used to draw the graph.

TABLE 3: NUMBER OF WORKERS PER HOURLY WAGE GROUP

HOURLY WAGE GROUP (IN RANDS)	FREQUENCY
30 – 40	10
40 – 50	20
50 – 60	…
60 – 70	16
Y – X	8
80 – 90	6

GRAPH: REPRESENTATION OF FREQUENCY TABLE RESULTS

WAGES OF CONSTRUCTION WORKERS
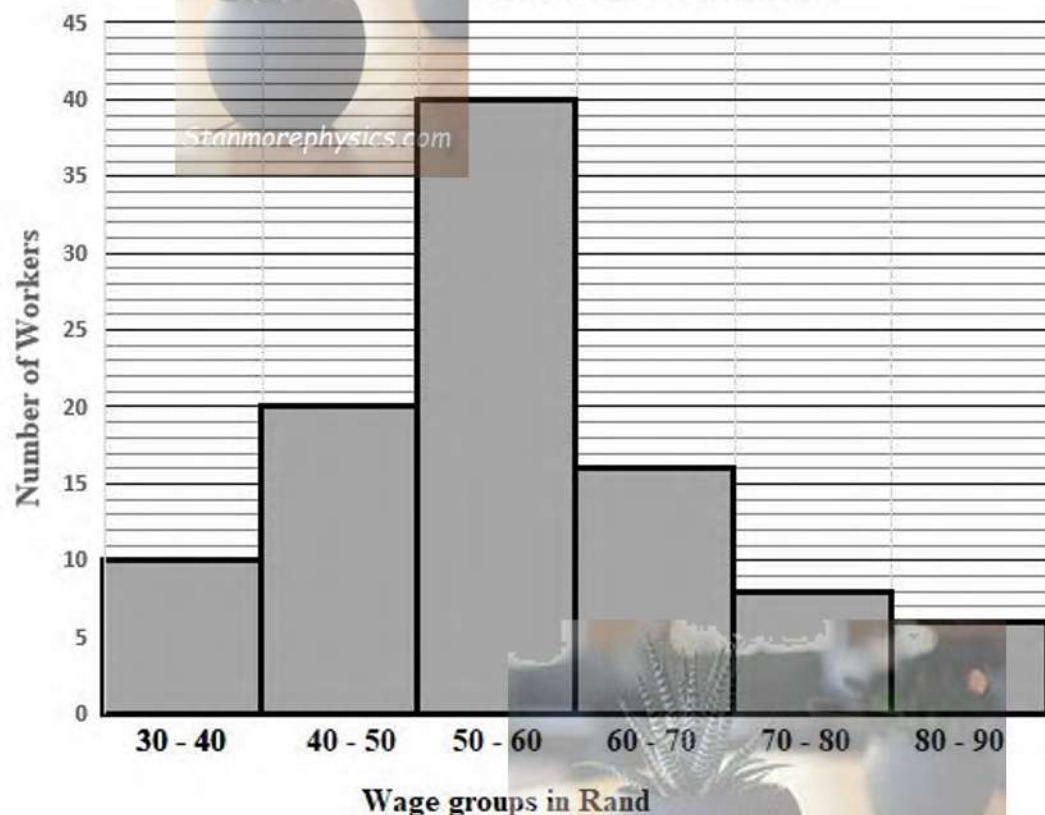
Use the graph above to answer the questions that follow.

3.1.1 Identify the type of graph. (2)

3.1.2 Calculate the total number of construction workers at this company. (3)

3.1.3 Identify the values of **Y** and **X** in the frequency table. (2)

3.1.4 Which class interval has the maximum frequency? (2)

3.2   The data below shows the shoe sizes of selected learners.

6	9	8	7	6	M	6	8	7	9
10	6	6	M						

Use the information above to answer the questions that follow.

3.2.1   If the mean of the shoe sizes is 7, calculate the value of M.   (5)

3.2.2   Identify the minimum value of the data.   (2)

[16]

QUESTION 4

4.1 Stephen's family drew up the following monthly budget.

INCOME		EXPENDITURE	
Mother's salary	R7 150	Bond instalment	R2 700
Father's salary	**A**	Car instalment	R1 950
Interest on investment	R534	Water and electricity	**C**
		Cell phones	R 400
		Food/entertainment	R3 000
		Clothing account	R1 200
		Petrol	R1 500
		Car and home Insurance	R 392
		School fees	**B**
		Savings	…
Total income	**R12 184**	**Total expenditure**	**R12 184**

[Source: adapted from www.idc.com]

NOTE:
- There are three schoolchildren including Stephen in this family.
- For EACH child school fee is R40 per month.
- The average cost for water and electricity per month for the family is R180.
- The family decided to save 10% of their father's salary per month.

Use the information above to answer the questions that follow.

4.1.1 Calculate:

(a) Stephen's father's monthly salary (**A**). (2)

(b) the total monthly school fees (**B**). (2)

(c) the value of **C** if it is 15% more than the average cost the family usually pay. (3)

4.1.2 Calculate the insurance amount as a percentage of the total income. (3)

4.2 Stephen recorded the number of goals scored per match by a soccer team he supports in the following table.

1	7	9	4	3	5	8	3	2	8

Use the information above to answer the questions that follow.

4.2.1 Give the total number of matches that the soccer team played. (2)

4.2.2 Identify the mode. (2)

4.2.3 Calculate the range. (2)

4.2.4 Determine the median. (3)

4.2.5 Determine the probability (as a decimal fraction) of getting a match with less than 5 goals out of all the matches played. (3)

[22]

TOTAL = [75 marks]

education

Department of Education
FREE STATE PROVINCE

ASSESSMENT TASK

GRADE 11

MATHEMATICAL LITERACY P1

JUNE EXAMINATION 2025

MARKING GUIDELINE

MARKS/*PUNTE*: 75

SYMBOL/*KODE*	EXPLANATION/*VERDUIDELIKING*
M	Method/*Metode*
MA	Method with accuracy/*Metode met akkuraatheid*
CA	Consistent accuracy/*Volgehoue akkuraatheid*
A	Accuracy/*Akkuraatheid*
C	Conversion/*Herleiding*
S	Simplification/*Vereenvoudiging*
RT	Reading from a table/graph/map/diagram/*Lees vanaf tabel/kaart/grafiek/diagram*
SF	Correct substitution in a formula/*Korrekte vervanging in formule*
O	Opinion/Explanation/Reasoning /*Opinie/Verduideliking/Redenasie*
P	Penalty, e.g. for no units, incorrect rounding off, etc./*Penalisering, bv. vir geen eenhede/verkeerde afronding, ens.*
R	Rounding off/*Afronding*
NPR	No penalty for rounding/*Geen penalisering vir afronding nie*
AO	Answer only/*Slegs antwoord*
MCA	Method with constant accuracy/*Metode met volgehoue akkuraatheid*

These marking guidelines consist of 6 pages.
Hierdie nasienriglyne bestaan uit 6 bladsye

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.
- 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

LET WEL:
- *As 'n kandidaat 'n vraag TWEE KEER beantwoord, merk slegs die EERSTE poging.*
- *As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, merk die doodgetrekte (gekanselleerde) poging.*
- *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas, dit hou op by die tweede berekeningsfout.*
- *Let wel: volgehoue akkuraatheid (CA) geld nie in die geval van 'n afbreuk nie.*
- *'n Algemene merkbeginsel is dat indien 'n kandidaat een fout maak en daarna voortgaan met korrekte wiskunde, dat die kandidaat slegs een punt verloor.*

QUESTION/*VRAAG* 1 [15 MARKS/*PUNTE*]		AO accepted	
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
1.1.1	Cell C ✓✓A	2A correct network provider (2)	F L1 E
1.1.2	01/04/2025 ✓✓ OR 1 April 2025	2A correct date **Accept:** 1/04 or 1 April (2)	F L1 E
1.1.3 (a)	A = R134,78 + R4,75 + R6,47 ✓ MA = R146, 00 ✓A OR A = 134,78 + R11,22 ✓MA = R146,00 ✓A	1MA Multiplying by 15% 1 A correct answer (2)	F L1 E
1.1.3 (b)	B = R21,90 + R146,00 ✓ MA = R167,90 ✓A	1S correct number added 1A value of A (2)	F L1 E
1.1.4	✓MA 4,75 : 6,47 ✓ RT 1 : 1, 36 ✓A	1 RT both correct value 1MA correct order 1 A simplification (3)	BS / F L1 E
1.2.1	Tokologo ✓A Goal difference = 5 ✓A	2A Tokologo 1A Five / 05 (2)	D L1 M
1.2.2	2024 + 4 = 2028 ✓✓A **Accept '28** ✓✓A	2A year 2028 (2)	D L1 M
	Accept: four years later (half a marks) ✓A	**[15]**	

QUESTION/*VRAAG* 2 [22 MARKS/*PUNTE*]

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
2.1.1	✓✓A 30 April 2025 OR ✓✓A 30/04/2025	2A correct date (2)	F L1 E
2.1.2	✓MA✓MA ✓CA Labour cost = 8 × R75 = R600 OR Labour cost = 5 hrs fee + Fee for additional hrs × R75 ✓MA = R375,00 + (3 × R75,00) ✓S = R375,00 + R225,00 ✓CA = R600,00	1MA total of 8 = (5 + 3) 1MA multiply by 3 1CA answer 1MA multiplying and adding Correct values 1S simplification of CA answer (3)	F L2 M
2.1.3	Amount for 7 parts = 7 × R12,35 ✓MA = R86,45 ✓CA	11MA multiply correct values 1CA answer (2)	F L1 M
2.1.4	✓✓A ✓✓A 0% OR Zero percent. **IMPOSSIBLE just 1 mark** ✓ A	2A correct percentage (2)	P L2 M
2.2.1	✓✓A ✓✓A 15 − 6 = 9 kℓ	1MA calculating difference 1CA answer (2)	F L1 E
2.2.2	Block 1 Block 2 Block 3 6 9 12 = 27 kℓ Cost for 1st 6 kℓ = 6 × 11,40 = R68,40 ✓CA Cost for 15 − 6kℓ = **9** × 28,14 = R253,26 ✓CA Cost for kℓ above 15 = **12** × 32,23 = R386,76 ✓CA ✓MCA Total excl. VAT =R68,40 + R253,26 + R386,76 = R708,42 ✓CA Total incl. VAT = R708,42 × $\frac{115}{100}$ = R814,68 ✓MCA Mr Sethole statement is valid. ✓O	**[6 + 9 + 12 = 27kℓ]** 1 CA amount in block 1 1CA amount in block 2 1CA amount in block 3 1 MCA adding totals 1CA total excluding VAT 1MCA calculating $\frac{115}{100}$ 1O Conclusion (7)	F L4 D

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
	OR		
	Cost for 1st 6 kℓ $= 6 \times 11,40 = R68,40$ ✓CA	1 CA amount in block 1	
	Cost for 15 – 6kℓ $= 9 \times 28,14 = R253,26$ ✓CA	1CA amount in block 2	
	Cost for kℓ above 15 $= 12 \times 32,23 = R386,76$ ✓CA	1CA amount in block 3	
	✓MCA		
	Total excl. VAT $= R68,40 + R253,26 + R386,76$	1 MCA adding totals	
	$= R708,42$ ✓CA	1CA total excluding VAT	
	Total incl. VAT $= R708,42 \times \dfrac{15}{100} + R708,42$		
	$= R106,263 + R708,42$		
	$= R814,683$ ✓MCA	1MCA adding 15%	
	✓O		
	$\approx R814,68$		
	Mr Sethole statement is valid.	1O Conclusion	
			(7)
2.2.3	% Increase $= \dfrac{\text{New amount -Old amount}}{\text{Old amount}} \times 100\%$		F L3 D
	$= \dfrac{39,69 - 36,41}{36,41} \times 100$ ✓MA ✓MA ✓MA	1MA numerator 1MA denominator 1MA Multiplying by 100 1CA answer	
	$= 9\%$ ✓ CA		
			(4)
		[22]	

QUESTION/*VRAAG* 3 [16 MARKS/*PUNTE*]

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
3.1.1	Histogram ✓✓A	2A histogram (2)	D L1 M
3.1.2	Total = 10 + 20 + **40** ✓RT + 16 + 8 + 6 ✓MA = 100 ✓CA	1RT 40 workers 1MA adding all correct values 1CA total number of workers (3)	D L2 M
3.1.3	Y = 70 ✓ RT and X = 80 ✓RT **OR** Y − X = 70 − 80 ✓RT ✓RT	1RT correct number of workers 1RT correct hourly range (2)	D L1 M
3.1.4	50 − 60 ✓✓A OR (50,60] ✓A	2A correct interval (2)	D L1 E
3.2.1.	$= \dfrac{(5\times 6)+(2\times 9)+(2\times 8)+(2\times 7)+10+M+M}{14}$ ✓MA ✓MA $7 = \dfrac{2\times M + 88}{14}$ $7 \times 14 = 2M + 88$ $\therefore\ 2M = 98 - 88$ ✓MA $2M = 10$ $M = \dfrac{10}{2}$ ✓M $\therefore M = 5$ ✓CA	1MA adding ALL values 1MA Concept of mean 1MA changing subject of the Formula 1M dividing by 2 1CA answer (5)	D L4 D
3.2.2	5 ✓✓A	**CA from 3.2.1** 2A correct minimum value (2)	D L1 E
		[16]	

QUESTION/*VRAAG* 4   [10 + = 22 MARKS/*PUNTE*]

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
4.1.1 (a)	A = R 12 184 – (R7 150 + R534) ✓MA = R4 500 ✓CA	1MA subtracting amounts 1CA salary of R4 500 (2)	F L2 E
4.1.1 (b)	B = R40 × 3 ✓MA = R120 ✓A	1MA multiply R40 by 3 1A amount (2)	F L2 E
4.1.1 (c)	C = R180 + (15% ×R180) ✓MA = R180 + R27 ✓M = R207 ✓CA	1MA calculating 15% 1M adding and increase 1CA answer (3)	F L2 D
4.1.2	Insurance as % of income = $\dfrac{R392}{R12\,184}$ ✓CA ✓MA × 100 = 3,22% ✓CA	1MA correct fraction 1MA calculating a percent 1CA answer (3)	F L3 M
4.2.1	Total matches played = 10 ✓✓A	2A number of matches played (2)	D L1 E
4.2.2	Mode = 3 ✓✓A	2A correct mode (2)	D L1 E
4.2.3	Range = 9 – 1 ✓MA = 8 ✓A	1MA subtracting correct values and order. 1A answer (2)	D L1 E
4.2.4	1; 2; 3; 3; 4; 5; 7; 8; 8; 9 ✓MA Median = $\dfrac{4+5}{2}$ ✓MA = $\dfrac{9}{2}$ = 4,5 ✓CA	1 arranged in ascending order 1MA concept of median 1CA median (3)	D L3 M
4.2.5	$\dfrac{5}{10}$ ✓A ✓A = 0,5 ✓A	1A numerator 1A denominator 1 A probability as a decimal (3)	P L2 E
		[22]	
		TOTAL/*TOTAAL***: 75**	