JOHANNESBURG WEST DISTRICT

PLC PAPER

MATHEMATICAL LITERACY

GRADE 11

JUNE EXAMINATION

PAPER 1

(2025)

TOTAL: 75

TIME: 1 hour, 30 minutes

This question paper consists of 9 pages, including 1 Annexure and 2 Answer Sheets

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Use ANNEXURE A and ANSWER SHEET 1 to answer Question 3.
3. Use ANSWER SHEET 2 to answer Question 4.1.
4. Number the answers correctly according to the numbering system used in this question paper.
5. You may use an approved calculator (non-programmable and non-graphing), unless otherwise stated.
6. Show ALL calculations clearly.
7. Round ALL final answers according to the given context, unless otherwise stated.
8. Write neatly and legibly.

QUESTION 1 **[14]**

Kevin works as a waiter at Cooper Burgers Restaurant. Study his pay slip below and use it to answer the questions that follow.

Employee: Kevin Edwards
Job number: 2345090401
Bank: ABSA
Savings account: 112563310
Pay slip No: 26
Payment date: April 30, 2025

EARNINGS/INCOME	**DEDUCTIONS**
Gross Salary: R16 500,00	Tax: R1 250,99 UIF: R165,00 Medical Aid: R985,90 Pension fund: R450,00 Christmas fund: R50,00
	Total deductions **(A)**----------
Net salary **(B)**----------	

1.1 On which date did Kevin receive his salary? (2)

1.2 Define the term **"gross salary"**. (2)

1.3 Write down the abbreviation UIF in full. (2)

1.4 Calculate the total amount of Kevin's deductions (A). (2)

1.5 Calculate his net salary (B). (2)

1.6 Arrange Kevin's deductions in descending order. (2)

1.7 Determine the range of Kevin's deductions. (2)

QUESTION 2 **[22]**

(2.1)
Mr. de Beer buys tennis balls at R15,50 each, excluding VAT. He would like to buy a container of tennis balls, which contains 150 balls per container.

Note: Mr. de Beer receives a discount of 6% if he buys a container of tennis balls.

2.1.1 Write down the abbreviation VAT in full. (2)

2.1.2 Determine the VAT exclusive amount. (2)

2.1.3 Calculate the VAT inclusive amount. (3)

2.1.4 Determine the discount that Mr. de Beer will receive. (2)

2.1.5 Hence, calculate the total amount payable by Mr. de Beer. (2)

(2.2)
A netball team that won a tournament received a total bonus of R8,1 million.

The 15 players (including reserves) in the team were placed into three groups, X, Y and Z, according to their performance in the tournament. Each group has an equal number of players.

The bonus was divided between the three groups in the ratio X **:** Y **:** Z = 2 : 3 : 4. Each player in each group received an equal amount of money.

2.2.1 Write the total bonus amount of R8,1 million as a number. (2)

2.2.2 Calculate the amount that a player in group Y received. Show ALL the calculations. (5)

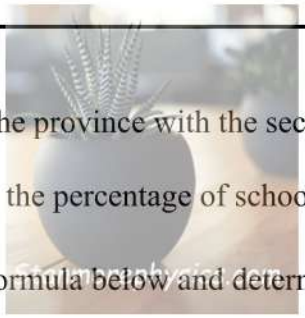
2.2.3 Name TWO benefits of participating in sport. (4)

QUESTION 3 **[20]**

A survey published by the Department of Education reported on the number of schools, learners and teachers in regular public schools and independent schools during 2024.

TABLE 1 in ANNEXURE A shows the number of learners, teachers and schools in South Africa.

NOTE: Some data have been omitted.



3.1 Identify the province with the second lowest number of learners. (2)

3.2 Calculate the percentage of schools found in KwaZulu-Natal. (3)

3.3 Use the formula below and determine the LSR (Learner-School Ratio) for Gauteng. (3)

Learner-School Ratio $= \frac{\textit{Total number of learners}}{\textit{Total number of schools}}$

3.4 Use the provincial LTR (Learner-Teacher Ratio) to determine the modal ratio. (2)

3.5 The Department of Education spokesperson claimed that the median LTR (Learner-Teacher Ratio) is 35,5. (4)

Verify, by showing ALL calculations, whether his statement is correct or not.

3.6 Use the TSR (Teacher-School Ratio) to complete the bar graph on the attached ANSWER SHEET 1. (6)

QUESTION 4 **[19]**

4.1

A random sample of ten Grade 11 learners participated in a research project, during which their gender, height and weight were recorded.

GENDER	LENGTH (m)	WEIGHT (kg)
Female	1.57	58
Male	1.87	98
Male	1.90	90
Female	1.61	53
Female	1.68	68
Male	1.88	71
Female	1.61	58
Female	1.75	50
Female	1.65	55
Female	1.51	48

4.1.1 Use the raw data in the table above to complete the frequency table on the attached ANSWER SHEET 2. (6)

4.1.2 Identify the shortest female participant. (2)

4.1.3 Determine the probability of selecting a male participant from this random sample. Write your final answer as a decimal. (3)

4.2

Jaydon can't decide whether to take a prepaid or contract cell phone plan. The prepaid plan costs R1,80 per minute, while the contract plan offers 60 free minutes; and costs R3,00 per minute after that. The contract plan charges a monthly subscription fee of R120,00.

4.2.1 Verify, showing ALL calculations, which cellphone tariff system Jaydon should choose if she makes an average of 1,5 hours of calls per month? (8)

TOTAL: 75

ANNEXURE A

Question 3

TABLE 1: NUMBER OF LEARNERS, TEACHERS AND SCHOOLS, AND LEARNER-TEACHER RATIO (LTR), LEARNER-SCHOOL RATIO (LSR) AND TEACHER-SCHOOL RATIO (TSR) IN PUBLIC SCHOOLS AND INDEPENDENT SCHOOLS, PER PROVINCE, DURING 2024.

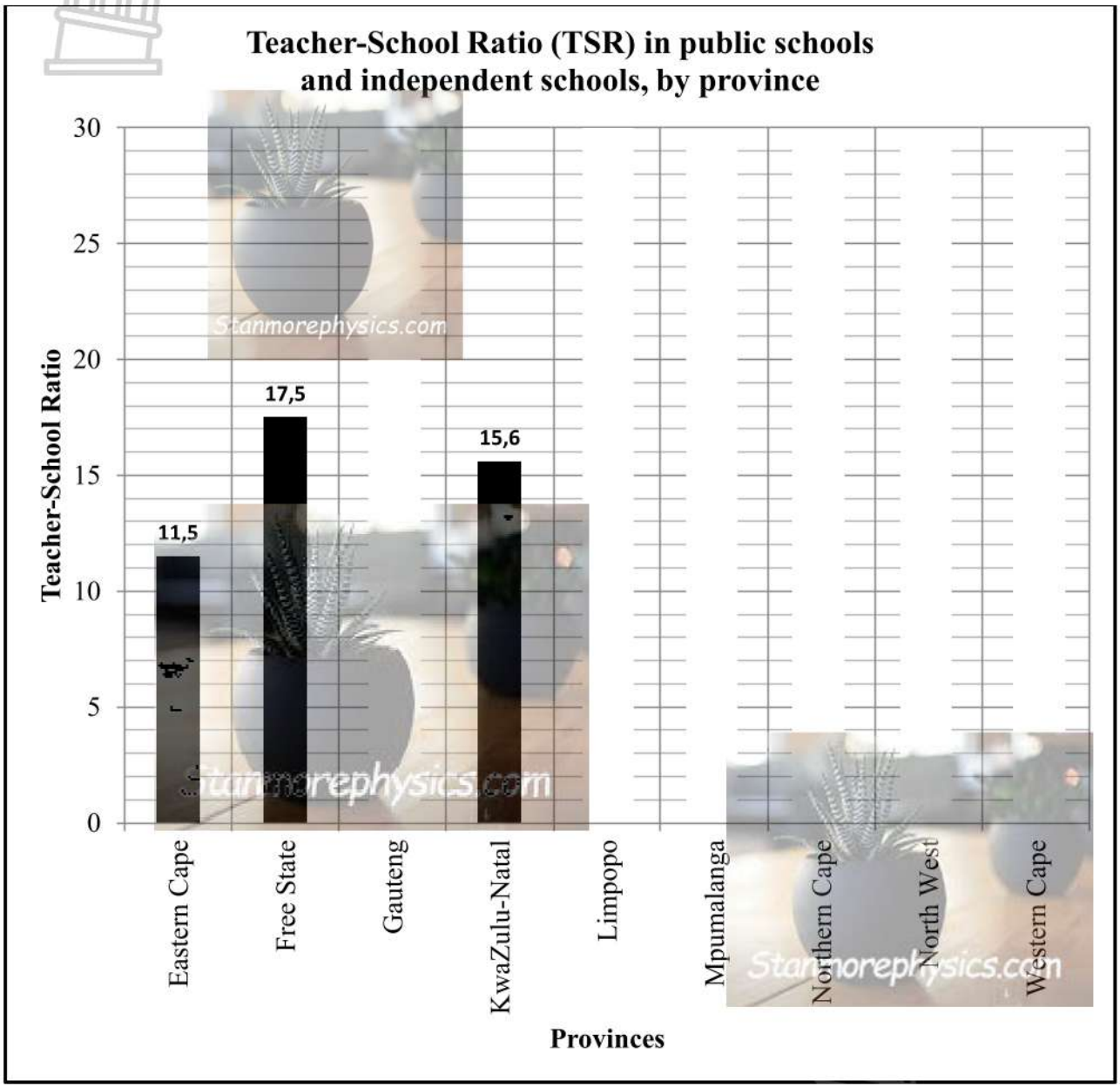
				RATIOS		
PROVINCE	**NUMBER OF LEARNERS**	**NUMBER OF TEACHERS**	**NUMBER OF SCHOOLS**	**LTR**	**LSR**	**TSR**
Eastern Cape	1 938 078	66 007	5,733	29.4	338	11.5
Free State	664 508	24 475	1,396	27.2	476	17.5
Gauteng	2 129 526	74 823	2,649	28.5		28.2
KwaZulu-Natal	2 866 570	96 057	6 156	29.8	466	15.6
Limpopo	1 714 832	57 108	4 067	30.0	422	14.0
Mpumalanga	1 052 807	34,936	1,885	30.1	559	18.5
Northern Cape	282 631	8,972	573	31.5	493	15.7
Northwest	788 261	26 194	1,606	30.1	491	16.3
Western Cape	1 052 435	36 451	1,655	28.9	636	22.0
Total	**12 489 648**		**25 720**	**29.4**	**486**	**16.5**

[Adapted from: Snap Survey 2024]

ANSWER SHEET 1

Name & Surname: _____

Question 3



(6)

ANSWER SHEET 2

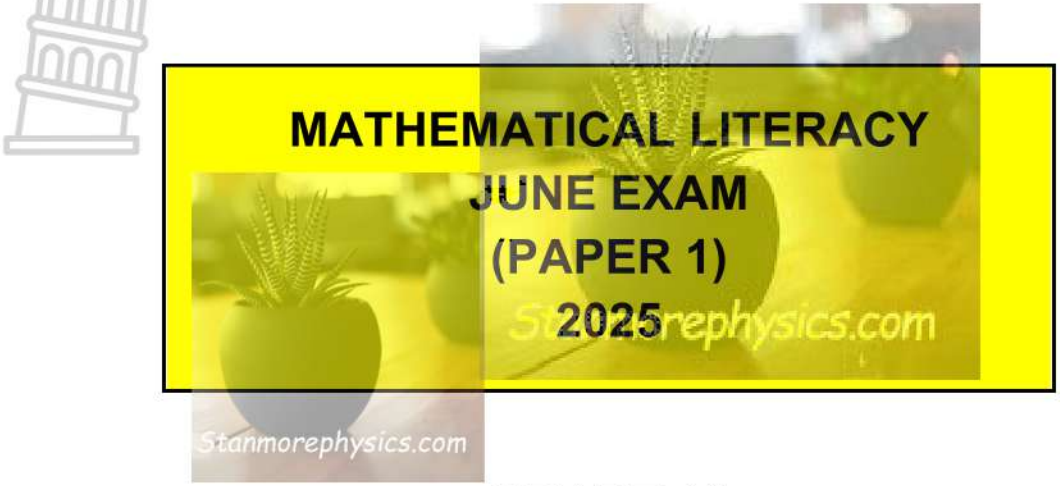
Name & Surname: _____

Question 4.1

FREQUENCY TABLE: WEIGHT DISTRIBUTION BY GENDER				
Weight category	**Male**		**Female**	
	Tally	**Number of participants (Frequency)**	**Tally**	**Number of participants (Frequency)**
40 – 49 kg				
50 – 59 kg				
60 – 69 kg				
70 – 79 kg				
80 – 89 kg				
≥ 90 kg				

(6)

JOHANNESBURG WEST DISTRICT



GRADE 11

PLC PAPER

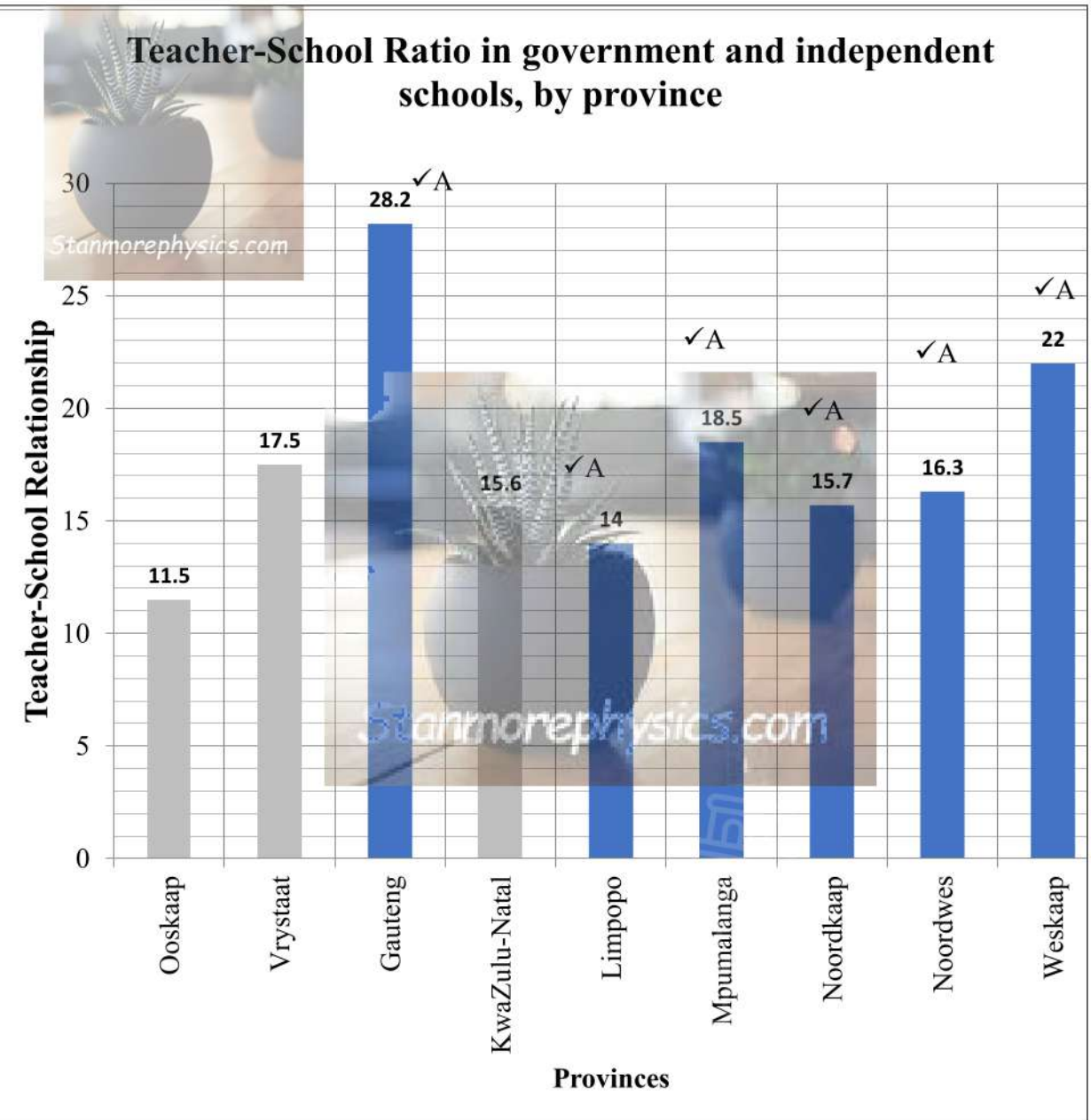
MARKING GUIDELINES

Codes	Explanation
M	Method
MA	Method with Accuracy
MCA	Method with constant accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
D	Definition
J	Justification/Reason/Explain
S	Simplification
RT/RD/RG	Reading from a table/graph/diagram/map/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
NP	No penalty for rounding-off **OR** omitting units

QUESTION 1 (AO – full marks)			
1.1	April 30, 2025 ✓✓A	2 A correct answer	(2)
1.2	The total amount of money an employee earns before any deductions are made. ✓✓A *(Accept any sensible/logical answer)*	2 A correct definition	(2)
1.3	Unemployment Insurance Fund ✓✓A	2 A correct answer	(2)
1.4	= R1 250,99 + R165,00 + R985,90 + R450,00 + R50,00 ✓MA = R2 901,89 ✓A	1 MA addition of correct amounts 1 A final answer	(2)
1.5	= R16 500,00 - R2 901,89 ✓MA = R13 598,11 ✓CA	**CA from Question 1.4** 1 MA subtraction 1 CA final answer	(2)
1.6	R1 250,99; R985,90; R450,00; R165,00; R50,00 ✓✓A	2 A correct arrangement	(2)
1.7	= R1 250,99 – R50,00 ✓MA = R1 200,99 ✓A	1 MA concept of range 1 A final answer	(2)
			[14]
QUESTION 2			
2.1.1	Value Added Tax ✓✓A	2 A correct answer	(2)
2.1.2	= R15,50 × 150 ✓MA = R2 325.00 ✓A	1 MA times by 150 1 A answer	(2)
2.1.3	= R2 325.00 × 1.15 ✓✓A = R2 673.75 ✓A	**CA from Q2.1.2** 2 MA times 1.15 1 CA answer	(3)
2.1.4	$= \frac{6}{100} \times$ R2 673.75 ✓MA = R160,43 ✓CA	**CA from Q2.1.3** 1 MA times 6% 1 CA answer	(4)
2.1.5	= R2 673,75 – R160,43 ✓MA = R2 513,32 ✓CA	**CA from Q2.1.3 and Q2.1.4** 1 MA subtraction 1 CA answer	(2)

2.2.1	R8 100 000 ✓✓A	2 A correct answer	(2)
2.2.2	Shared prize money: ✓A Group Y shares R8,1mil × $\frac{3}{9}$ ✓A = R2,7 mil ✓CA ✓MCA Each member of group Y receives = $\frac{R2,7\ mil}{5}$ = R0.54 million. ✓CA	1 A numerator 1 A denominator 1CA prize money to share 1MCA divided by 5 1CA each member's share	(5)
2.2.3	• Sport is not only beneficial for your physical health, but also for your mental health: ✓✓O • Sport teaches us about discipline. ✓✓O *(Accept any sensible/logical answer)*	2 A opinion 2 A opinion	(4)
			[22]

QUESTION 3			
3.1	Free State ✓✓A	2 A correct province	(2)
3.2	✓RT $\frac{6156}{25\,720} \times 100\%$ ✓M ≈ 23,93% ✓CA	1RT correct values 1M % calculation 1CA % schools	(3)
3.3	LSR = $\frac{Total\ number\ of\ learners}{Total\ number\ of\ schools}$ ✓SF = $\frac{2\,129\,526}{2\,649}$ ✓RT ≈ 803,898 ≈ 804 ✓CA	1 RT correct values 1 SF substitution 1 CA ratio	(3)
3.4	30.1 ✓✓A	2A mode	(2)

3.5	31.5; 30.1; 30.1; 30.0; 29.8; 29.4; 28.9; 28.5; 27.2 ✓✓A ∴ *Median* = 29,8 ✓CA ∴ *His statement is NOT VALID* ✓J	2 A correct arrangement 1 CA answer 1 J conclusion	(4)
3.6			
	6 × 1A for each correct bar		(6)

QUESTION 4

4.1.1 (6)

FREQUENCY TABLE: WEIGHT DISTRIBUTION BY GENDER

Weight Category	Males		Females	
	Tally	No. of people (Frequency)	Tally	No. of people (Frequency) ✓A
40 – 49 kg			1	1
50 – 59 kg			1111	5 ✓A
60 – 69 kg			1	1 ✓A
70 – 79 kg	1	1		✓A
80 – 89 kg				✓A
≥ 90 kg	11	2		✓A

4.1.2 1.51 m✓✓RT — 2 RT correct answer — (2)

4.1.3 $= \frac{3}{10}$ ✓A ✓A

= 0.3 ✓CA

1 A numerator
1 A denominator
1 CA answer as decimal

(3)

4.2.1 (8)

PREPAID:
C = R1.80 × 90 min ✓F ✓A
= R162.00 ✓CA

CONTRACTS: ✓F
C = R120 (R3.00 × [90 – 60]) ✓A
= R120 + (R3.00 × 30)
= R120 + R90✓S
= R210.00 ✓CA

✓J

∴ ***Jaydon must choose the prepaid option, it is cheaper.***

[19]

TOTAL: 75