basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/
NATIONAL SENIOR CERTIFICATE EXAMINATIONS

MATHEMATICAL LITERACY P1

MAY/JUNE 2026

MARKS: 150

TIME: 3 hours

This question paper consists of 15 pages and a SPECIAL ANSWER BOOK of 17 pages.

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of FIVE questions.
2. Answer ALL the questions ONLY in the SPECIAL ANSWER BOOK provided.
3. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
4. Show ALL calculations clearly.
5. Round off ALL final answers appropriately according to the given context, unless stated otherwise.
6. Indicate units of measurement, where applicable.
7. Diagrams are NOT necessarily drawn to scale, unless stated otherwise.
8. Write neatly and legibly.

QUESTION 1

1.1 TABLE 1 below gives definitions of terminology used in Mathematical Literacy.

TABLE 1: DEFINITIONS OF TERMINOLOGY IN MATHEMATICAL LITERACY

LETTER	DEFINITION
A	Collect data from a group of people by asking questions
B	The method of collecting data that involves watching, listening, touching and reading
C	This is an entry into an account that shows a payment made into the account
D	Diagram used to show the distribution of data along a number line divided into quartiles
E	The unit value of one currency relative to the value of another currency
F	Group values into classes, sort, arrange and organise
G	Raw information that has been collected, without any organisation or analysis
H	When someone or an organisation takes money from your account
I	The rate at which a commodity, such as water, electricity or fuel, is consumed

Use TABLE 1 above and match a definition with the terminology below. Write only the letter (A–I) next to the question numbers (1.1.1 to 1.1.5), e.g. 1.1.6 J.

1.1.1 Box and whisker plot (2)

1.1.2 Exchange rate (2)

1.1.3 Observation (2)

1.1.4 Data (2)

1.1.5 Debit (2)

1.2 Many parents make monthly contributions towards educational policies to assist with their children's future tertiary expenses.

TABLE 2 below shows the accumulated amounts for different monthly investment options for different time periods.

TABLE 2: ACCUMULATED AMOUNTS FOR DIFFERENT MONTHLY INVESTMENT OPTIONS FOR DIFFERENT TIME PERIODS

MONTHLY INVESTMENT AMOUNT	TIME PERIOD WITH ACCUMULATED AMOUNTS		
	15 years	10 years	8 years
R500	R475 054	R238 231	R175 067
R1 000	R950 109	R476 463	R350 134
R1 500	R1 425 163	R714 694	R525 202

NOTE: Accumulated amount includes interest over the period.

[Adapted from https://www.oldmutual.co.za]

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

1.2.1 Round off, to the nearest ten thousand, the accumulated amount if R1 500 is invested monthly for eight years. (2)

1.2.2 Determine the number of months for an investment to accumulate to R350 134. (3)

1.2.3 An 8-year-old child will need approximately R475 000 to study when he/she reaches the age of 18 years.

Write down the present monthly amount the parents should invest in an educational policy. (2)

1.2.4 Determine the difference in the accumulated amounts for an investment made over ten years if the parents invest R500 monthly compared to R1 500 monthly. (3)

1.3 Tourism South Africa keeps a record of tourists visiting South Africa. According to their records, the majority of tourists come from countries in the Southern African Development Community (SADC), while the remainder comes from other African and overseas countries.

TABLE 3 below shows the number of tourists of different age groups, from different countries, visiting South Africa during December 2024. Some values have been omitted.

TABLE 3: THE NUMBER OF TOURISTS OF DIFFERENT AGE GROUPS FROM DIFFERENT COUNTRIES FOR DECEMBER 2024

AGE GROUP	NUMBER OF TOURISTS			TOTAL
	OVERSEAS COUNTRIES	SADC COUNTRIES	OTHER AFRICAN COUNTRIES	
0–14	26 380	58 166	1 928	86 474
15–24	23 877	76 741	2 152	102 770
25–34	40 927	171 086	4 393	216 406
35–44	36 180	205 023	4 584	245 787
45–54	34 948	110 686	2 642	148 276
55–64	31 782	**A**	1 186	73 420
65+	28 069	17 250	575	45 894
TOTAL	222 163	679 404	17 460	919 027

[Adapted from www.statssa.gov.za]

Use TABLE 3 and the information above to answer the questions that follow.

1.3.1 State if the number of tourists from other African countries is *discrete data* or *continuous data*. (2)

1.3.2 Name the countries that have approximately twenty-four thousand tourists in the age group 15 to 24 years visiting South Africa. (2)

1.3.3 Determine the total number of tourists in the age group 25 to 44 years for December 2024. (2)

1.3.4 Calculate the missing value **A**, the number of tourists in the age group 55 to 64 years, from the SADC countries. (3)

[29]

QUESTION 2

2.1 Katleho is studying to become a chef. He ordered some products to be delivered to practise for his practical examination.

He received the tax invoice, shown on ANNEXURE A in the ANSWER BOOK, for his purchase.

Use ANNEXURE A to answer the questions that follow.

2.1.1 State what the number **130495399A** represents on the tax invoice. (2)

2.1.2 Calculate the missing value **A**, the savings amount on the pineapples. (2)

2.1.3 Determine the missing value **B**, the unit price of the yoghurt **before** the discount was applied. (3)

2.1.4 Calculate the missing value **C**, the total payment made. (4)

2.1.5 Katleho claims that the VAT amount was calculated incorrectly.

He performs the following calculation:

$$\text{R}396,98 \times \frac{15}{100}$$
$$= \text{R}59,55$$

∴ The VAT amount should be R59,55.

Explain why Katleho's VAT calculation is incorrect. (2)

2.2 Katleho's course at a food and beverage college is made up of two modules:

- A food-preparation module of one year
- A patisserie module of six months

The course can be paid using two options:

Option A: Total payment option
Option B: Payment plan option

Option A:

The total amount of R208 300 for the course is made up as follows:

- A deposit amount of R45 000
- A food-preparation module of R99 650
- The balance for the patisserie module

Option B:

TABLE 4 below shows the two payment plans if the two modules are not paid in full.

TABLE 4: PAYMENT PLAN FOR THE TWO MODULES

PAYMENT PLAN 1	**PAYMENT PLAN 2**
Food-preparation module	**Food-preparation module**
12 months instalment plan at R9 000 per month	R51 825 per semester ***
Patisserie module	**Patisserie module**
5 months instalment plan at R15 530 per month	10 months instalment plan at R7 765 per month

[Adapted from www.fbibfn.co.za]

NOTE:

- 'Patisserie' is a word that refers to French pastries.
- A 'semester' is a period of 6 months.

Use TABLE 4 and the information above to answer the questions that follow.

2.2.1 Write down the ratio of *the deposit amount* **:** *the total amount* for the course in the form 1 **:** … rounded off to TWO decimal places. (3)

2.2.2 Calculate the balance owing for the patisserie module if the total amount is paid in full. (2)

2.2.3 Determine the difference between *payment plan 1* and *payment plan 2* for the food-preparation module. (4)

2.2.4 Two years before the course started, Katleho's mother invested R39 500 at 7,15% interest, compounded annually, for the first year and at 7,85%, compounded annually, for the second year.

Calculate the total amount that she will receive at the end of the two years. (5)

2.3 The college requires the students to wear a chef's uniform, as shown in the pictures below.

CHEF'S JACKET	CHEF'S HAT
	

- A chef's jacket can be black (B), white (W) or red (R).
- A chef's hat can be black (b) or white (w).

TABLE 5 shows the different chef's uniform combinations.

TABLE 5: DIFFERENT CHEF'S UNIFORM COMBINATIONS

	BLACK JACKET (B)	**WHITE JACKET (W)**	**RED JACKET (R)**
BLACK HAT (b)	Bb	Wb	**(ii)**
WHITE HAT (w)	**(i)**	Ww	Rw

Use TABLE 5 and the information above to answer the questions that follow.

2.3.1 Determine the total number of chef's uniform outcomes. (2)

2.3.2 Write down, in the ANSWER BOOK, the missing chef's uniform combinations **(i)** and **(ii)** for the table above. (2)

2.3.3 Determine, as a decimal, the probability of randomly selecting a white chef's jacket. (3)
[34]

QUESTION 3

3.1 TABLE 6 below shows the average annual amount spent by the nine provinces per household on transport, housing and utilities, including the percentage of the household budget during 2023.

TABLE 6: AVERAGE ANNUAL AMOUNT SPENT BY THE NINE PROVINCES PER HOUSEHOLD ON TRANSPORT, HOUSING AND UTILITIES, INCLUDING THE PERCENTAGE OF THE BUDGET

PROVINCE	TRANSPORT		HOUSING AND UTILITIES	
	ACTUAL AMOUNT IN RAND	AS A %	ACTUAL AMOUNT IN RAND	AS A %
Western Cape (**WC**)	33 487	14,6	86 486	37,7
Eastern Cape (**EC**)	16 140	14,3	37 816	33,6
Northern Cape (**NC**)	20 850	16,5	36 351	28,7
Free State (**FS**)	13 982	12,5	34 131	30,4
KwaZulu-Natal (**KZN**)	15 834	12,9	44 046	35,8
North West (**NW**)	14 775	15,1	33 230	33,9
Gauteng (**GP**)	29 333	17,2	58 638	34,4
Mpumalanga (**MP**)	21 964	18,7	**P**	30,3
Limpopo (**LP**)	10 833	11,0	35 241	35,7

[Adapted from www.statssa.gov.za]

Use TABLE 6 above to answer the questions that follow.

3.1.1 Name ONE data collection instrument that can be used to collect the data above. (2)

3.1.2 Arrange the provinces in descending order, according to the amount spent on transport. (2)

3.1.3 Calculate the mean transport amount spent by the nine provinces. (3)

3.1.4 Determine the probability of randomly selecting a province that spent more than 20% of the budget on transport. (2)

3.1.5 A data analyst stated that the missing value **P**, spent on housing and utilities in Mpumalanga, is more than the amount spent on housing and utilities in the Free State.

Verify, showing ALL calculations, if the statement is VALID. (5)

3.1.6 Give a possible reason why the Western Cape spends the largest amount on transport, although its budget percentage spent on transport is not the highest. (2)

3.2 The graphs on ANNEXURE B in the ANSWER BOOK show the different reasons given by students for walking to educational institutions during 2020.

Use ANNEXURE B to answer the questions that follow.

3.2.1 Name the type of graphs drawn. (2)

3.2.2 Write down the second most popular reason why students walked to an educational institution in rural areas. (2)

3.2.3 Calculate the number of students walking to an educational institution because it is 'close enough' in urban areas. (5)

3.2.4 Give ONE reason why the percentage for 'public transport not available' is higher in the rural areas when compared to the urban areas. (2)

3.2.5 Calculate, as a fraction (with NO decimals), the probability of randomly selecting a student from a rural area who walked for 'health reasons'. (2)
[29]

QUESTION 4

4.1 The Road Accident Fund (RAF) is a government-run insurance scheme in South Africa that compensates victims who were involved in road accidents.

ANNEXURE C in the ANSWER BOOK shows an extract of an Income and Expenditure Statement of the Road Accident Fund (RAF) for the 2022/2023 period.

Use ANNEXURE C to answer the questions that follow.

4.1.1 The total estimated income for 2023 is R49 214 641 000.

Write this amount in words without using numerals. (2)

4.1.2 Calculate the actual amount collected in 2022 for the net RAF fuel levy. (3)

4.1.3 The average amount paid per claim during 2023 was R261 721,00.

Determine the number of claims paid during 2023. (4)

4.1.4 Give ONE possible example of an employee expenditure. (2)

4.2 Lindiwe is the chief financial officer for the Road Accident Fund (RAF). She travels to different centres and is paid per kilometre travelled for work purposes.

During October 2024, fuel claims were paid at a rate of 164,3c per km for work purposes.

TABLE 7 below shows the total number of kilometres she travelled for work purposes per month during 2023 and 2024.

TABLE 7: TOTAL NUMBER OF KILOMETRES TRAVELLED FOR WORK PURPOSES PER MONTH DURING 2023 AND 2024

	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.
2023	813	1 037	1 469	385	1 422	958	1 554	2 056	1 319	1 128	1 204	256
2024	918	356	56	1 586	2 096	524	836	1 070	836	2 590	1 682	450

[Adapted from actual log sheet]

Use TABLE 7 and the information above to answer the questions that follow.

4.2.1 Determine the range of the number of kilometres travelled during 2023. (3)

4.2.2 Give ONE valid reason why the number of kilometres travelled during December is much fewer than the number of kilometres travelled during November for both years. (2)

4.2.3 Lindiwe's employer stated that she was paid a total of R425 537 for travel purposes during October 2024.

Verify, showing ALL calculations, whether her statement is VALID. (5)

4.3 Lindiwe is 55 years old and earned a monthly taxable income of R101 027,08 during the 2024/2025 tax year.

Lindiwe is a member of a medical aid scheme and contributes for herself and her three children.

TABLE 8 below shows the tax tables for the 2024/2025 tax year.

TABLE 8: TAX RATES FOR THE 2024/2025 TAX YEAR

TAX BRACKET	TAXABLE INCOME	TAX RATES (in R)
1	1–237 100	18% of taxable income
2	237 101–370 500	42 678 + 26% of taxable income above 237 100
3	370 501–512 800	77 362 + 31% of taxable income above 370 500
4	512 801–673 000	121 475 + 36% of taxable income above 512 800
5	673 001–857 900	179 147 + 39% of taxable income above 673 000
6	857 901–1 817 000	251 258 + 41% of taxable income above 857 900
7	1 817 001 and above	644 489 + 45% of taxable income above 1 817 000

TAX REBATES FOR 2024/2025	
Primary	R17 235
Secondary (65 and older)	R9 444
Tertiary (75 and older)	R3 145
MEDICAL TAX CREDITS PER MONTH FOR 2024/2025	
Tax payer	R364
Tax payer and one dependent	R728
Each additional dependent	R246

[Adapted from www.sars.gov.za]

Use TABLE 8 and the information above to answer the questions that follow.

4.3.1 Calculate Lindiwe's annual medical tax credits. (4)

4.3.2 Determine the amount of income tax Lindiwe must pay for the 2024/2025 tax year. (7)

[32]

QUESTION 5

5.1 Rory is a South African English language teacher. To supplement his income, he teaches English online as a foreign language to South Korean and South African learners.

TABLE 9 shows how the income (in rand) is generated from teaching English as a foreign language to South African and South Korean learners.

TABLE 9: INCOME FROM TEACHING ENGLISH AS A FOREIGN LANGUAGE TO SOUTH AFRICAN AND SOUTH KOREAN LEARNERS

TEACHING SOUTH AFRICAN LEARNERS (IN RANDS)	TEACHING SOUTH KOREAN LEARNERS (CONVERTED TO RANDS)
• Basic: R2 000 per month • R45,50 per hour	• R95,00 per hour

ANNEXURE D in the ANSWER BOOK shows the income graphs relating to teaching English as a foreign language to South African and South Korean learners.

Use ANNEXURE D and the information above to answer the questions that follow.

5.1.1 Calculate Rory's income if he taught South Korean learners for 15 hours. (2)

5.1.2 Write down a formula to calculate his total income for teaching English as a foreign language to South African learners.

Total Income = … (3)

5.1.3 Identify the graph (**A** or **B**) which shows the income generated from teaching South Korean learners. Give a mathematical reason for your answer. (3)

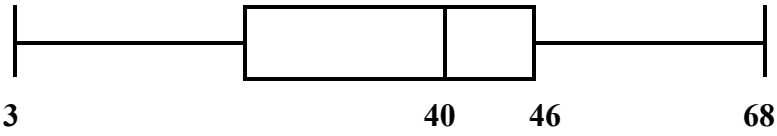
5.1.4 Write down the number of hours where the income generated from teaching learners from both countries is approximately the same. (2)

5.2 In South Korea, the average class size is 22 learners per class.

In a particular school in South Africa, the class sizes range from 3 learners to 68 learners per class.

Below is a box and whisker plot showing the distribution of the class sizes for this South African school.

BOX AND WHISKER PLOT SHOWING THE DISTRIBUTION OF CLASS SIZES FOR A SOUTH AFRICAN SCHOOL



[Adapted from www.teflacademy.com]

Use the information above to answer the questions that follow.

5.2.1 Write down the value of the 50^{th} percentile for this South African school. (2)

5.2.2 The interquartile range for this South African school is 23.

Rory stated that the lower quartile of this South African school is exactly the same as the average class size in South Korea.

Verify, with calculations, whether Rory's statement is VALID. (5)

5.3 Rory decided to relocate to South Korea to teach English.

TABLE 10 below shows information about the residential electricity tariffs used in South Korea.

TABLE 10: RESIDENTIAL ELECTRICITY TARIFFS IN SOUTH KOREA

SUMMER (1 JULY–31 AUGUST)			
BLOCK	**USAGE INTERVAL**	**STEPPED ELECTRICITY CHARGE (KRW/kWh)**	**DEMAND CHARGE (IN KRW)**
1	1–300 kWh	112,00	910,00
2	More than 300–450 kWh	206,60	1 600,00
3	More than 450 kWh	299,30	7 300,00

OTHER SEASONS (1 JANUARY–30 JUNE, 1 SEPTEMBER–31 DECEMBER)			
BLOCK	**USAGE INTERVAL**	**STEPPED ELECTRICITY CHARGE (KRW/kWh)**	**DEMAND CHARGE (IN KRW)**
1	1–200 kWh	112,00	910,00
2	More than 200–400 kWh	206,60	1 600,00
3	More than 400 kWh	299,30	7 300,00

NOTE:
- KRW = South Korean won (₩).
- Demand charge is an additional charge payable only in the last block of consumption.

[Adapted from https://home.kepco.co.kr]

Use TABLE 10 and the information above to answer the questions that follow.

5.3.1 Calculate, in rand, the total cost for 325 kWh of electricity consumed during the month of May.

You may use the formula:

Total cost = Stepped electricity charge + Demand charge

Exchange rate: R1 = ₩78,07 (7)

5.3.2 Give ONE possible reason why the usage interval for the summer and other seasons differs. (2)

[26]

TOTAL: 150

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