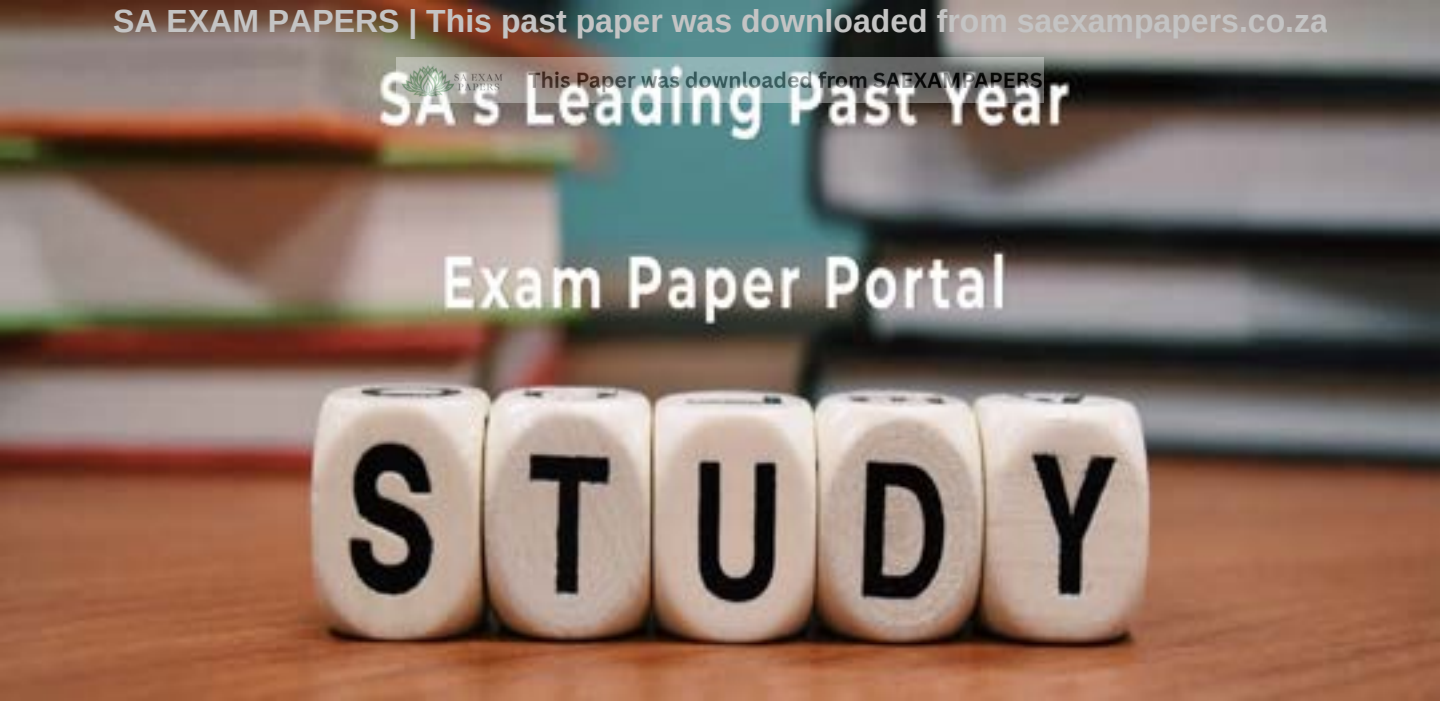


PREPARATORY EXAMINATION
25

MATHEMATICAL LITERACY
PAPER 1 (10601)

MATHEMATICAL LITERACY: Paper 1

10601E

X05

GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

PREPARATORY EXAMINATION
2025

NAME OF SCHOOL													
CANDIDATE'S NAME													
DATE	D	D	M	M	Y	Y	Y	Y	BOOK NUMBER		OF		BOOK(S)
TEACHER									PAPER NUMBER	1			
SUBJECT NAME	MATHEMATICAL LITERACY (10601)												

ANSWER ALL THE QUESTIONS IN THE QUESTION PAPER.

MARKER				MODERATOR'S INITIALS IN RELEVANT BLOCK								RE-CHECK		
Question	Marks			Marker's Code & Initials	Marks								Marks	Initials
1													1	
2													2	
3													3	
4													4	
5													5	
				TOTAL									TOTAL	

TIME: 3 hours

MARKS: 150

19 pages

INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

1. This question paper consists of FIVE questions. Answer ALL questions in the spaces provided.
2. Show ALL calculations clearly.
3. You may use an approved scientific calculator (non-programmable and non-graphical), unless stated otherwise.
4. Round-off ALL final answers appropriately according to the given context, unless stated otherwise.
5. Indicate units of measurement, where applicable.
6. Diagrams are NOT necessarily drawn to scale, unless stated otherwise.
   Show ALL calculations, diagrams, graphs, etc. that you have used in determining your answers.
7. No pages may be torn from this question paper.
8. Candidates may not retain a question paper or remove it from the examination room. Question papers must be returned to the invigilator at the end of the examination session.
9. Answers must be written in black/blue ink as distinctly as possible. Do NOT write in the margins.
10. Indicate the questions you have answered by drawing a circle around the relevant numbers on the front cover of the question paper where marks are to be recorded.
11. Draw a neat line through any work/rough work that must NOT be marked.
12. In the event that you use the additional space provided:
    - 12.1 Write down the number of the question.
    - 12.2 Leave a line and rule off after your answer.
13. Write neatly and legibly.

QUESTION 1

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

Match the terminology in COLUMN B with the definitions in COLUMN A. Write only the letter (A – G) next to the question numbers (1.1.1 to 1.1.5), e.g. 1.1.6 H.

TABLE 1: TERMINOLOGY USED IN MATHEMATICAL LITERACY

	COLUMN A Definitions	COLUMN B Terminology
1.1.1	The value of one currency relative to the value of another currency	A Income tax
1.1.2	The rate charged per unit for services or products	B Inflation
1.1.3	Compulsory tax charged for the consumption of goods and services	C Debit
1.1.4	An entry into the account which shows money paid into the account	D Exchange rate
1.1.5	An increase in the price of a basket of goods or services that represents the economy as a whole	E Value added tax
		F Tariff
		G Credit

1.1.1		(2)
1.1.2		(2)
1.1.3		(2)
1.1.4		(2)
1.1.5		(2)

1.2 Traffic delays and fatalities are caused by an increase in the number of vehicles on the road. Statistics South Africa has recorded the number of registered vehicles in South Africa per province from March 2023 – March 2024. Study TABLE 2 below and use it to answer the questions that follow.

TABLE 2: NUMBER OF REGISTERED VEHICLES PER PROVINCE FROM MARCH 2023 – MARCH 2024

PROVINCE	MARCH 2023	MARCH 2024
Gauteng	4 997 033	5 070 287
KwaZulu-Natal	1 747 336	1 773 639
Western Cape	2 116 228	2 155 489
Eastern Cape	857 643	**A**
Free State	646 258	647 154
Mpumalanga	923 790	933 276
North-West	662 205	667 632
Limpopo	779 682	792 815
Northern Cape	293 658	295 238
Republic of South Africa	**13 023 833**	**13 195 793**

[Adapted from Stats SA: Road traffic accident report]

1.2.1 Which province registered the second-highest number of vehicles in March 2023? (2)

1.2.2 Write down the number of vehicles registered in the Republic of South Africa in March 2023 in words. (2)

1.2.3 Calculate the missing value of **A**, the number of vehicles registered in the Eastern Cape in March 2024. (2)

1.2.4	Express the number of vehicles registered in the Free State in March 2024 as a percentage of the total number of vehicles registered in the Republic of South Africa in March 2024.	(3)

1.2.5	Determine the difference between the number of vehicles registered in the Northern Cape and the North-West in March 2024.	(3)

1.2.6	Identify the province that had the highest number of registered vehicles in March 2024.	(2)

1.3 Busi extracted part of her municipal account statement to check the amount she has to pay towards her bills. Study TABLE 3 below and answer the questions that follow.

TABLE 3: EXTRACT FROM BUSI'S MUNICIPAL ACCOUNT STATEMENT

DATE	DETAILS	VAT EXCLUSIVE AMOUNT (R)	VAT (R)	VAT INCLUSIVE AMOUNT (R)
12/12/2024	Balance brought forward	1 749,70	0,00	1 749,70
24/12/2024	Payment	-200	0,00	-200
25/12/2024	Payment	-1 330	0,00	-1 330
12/01/2025	**SUB-TOTAL (A)**	219,70	0,00	219,70
12/01/2025	Property rates #	305,00	0,00	305,00
12/01/2025	Water	161,42	24,21	185,63
12/01/2025	Sanitation	95,13	14,27	109,40
	VAT 15%	0,00		0,00
TOTAL LEVY (B)		**561,55**	**C**	**600,03**
Total amount payable (A + B)		**D**		**819,73**

Note: # means zero rated.

1.3.1	Identify the zero-rated service from the municipal account statement.	(2)
1.3.2	Determine the value of **C**, the VAT charged.	(2)
1.3.3	Show, by means of calculations, that the value of **D**, the VAT-exclusive total payable amount, is R781,25.	(2)

[30]

QUESTION 2

2.1

Tshidi sells traditional belts.

- The cost of producing each belt is R90.
- She sells each belt for R270.
- She pays a monthly rental fee of R800 for a stall and a monthly rental fee of R100 for the machine she uses to produce the belts.

Traditional belt

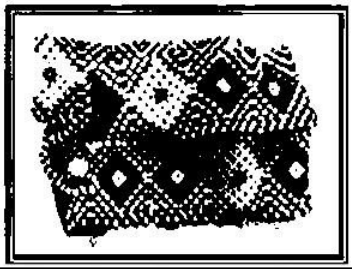


TABLE 4: INCOME AND EXPENDITURE OF SELLING TRADITIONAL BELTS

Number of items	0	1	4	5	7	**P**
Income (R)	0	270	1 080	1 350	1 890	2 160
Expenses (R)	**A**	990	1 260	1 350	1 530	1 620

Study the information given and TABLE 4 above to answer the following questions.

2.1.1 Calculate the total fixed costs (**A**) of selling the traditional belts. (2)

2.1.2 Show that the income that Tshidi will receive from selling 5 traditional belts is R1 350. (2)

2.1.3 Determine the value of **P**. (3)

2.1.4	(a)	Identify the break-even coordinates from the table above.	(2)

	(b)	Hence, determine the number of traditional belts that Tshidi must sell to **start** making a profit.	(2)

2.1.5	Complete the formula for calculating the total expenses, where **N** represents the number of traditional belts. Write your answer/formula in the form:	
	Total expenses =	(2)

2.1.6	Hence, determine the profit that Tshidi will make from selling 100 belts. You may use the formula: **Profit = Income – Expenses**	(6)

2.2 Tshidi received an order from the local church to produce 250 traditional belts. She borrowed R60 000 from a local bank at an interest rate of 12% p.a., compounded annually.

2.2.1	Determine the total amount that she will repay, if she repays the loan in 1 year and 6 months.	(8)

2.2.2	Hence, determine the amount of interest that she will repay.	(2)

[29]

QUESTION 3

3.1 Lucky extracted the summary of matric results from the matric results report to determine the variance of each province. Study the summary in TABLE 5 and answer the questions that follow.

TABLE 5: 2023 AND 2024 MATRIC RESULTS OF EACH PROVINCE

Province	Total number of learners who wrote (in millions)	Pass %	
		2023	2024
Eastern Cape	0,505	80,6	**T**
Free state	0,199	89,7	**91,9**
Gauteng	0,741	86,3	**88,5**
KwaZulu-Natal	0,951	80,2	**84,7**
Limpopo	0,523	83,1	**88,6**
Mpumalanga	0,381	**78**	**83,5**
North-West	0,231	**82,3**	86,6
Northern Cape	0,073	**S**	76,5
Western Cape	0,354	82,4	**T**

[Adapted from DBE matric results report of 2024]

***Variance: Difference between the pass % of 2023 and 2024.**

3.1.1	Write down the total number of learners who wrote the examination from the Gauteng province in number format.	(2)
3.1.2	Identify the province with less than 100 000 learners.	(2)
3.1.3	What is the trend observed from the results presented in TABLE 5 above? Give a reason for the answer.	(3)

3.1.4	Is the data represented in TABLE 5, COLUMN 2 (total number of learners who wrote) discrete or continuous? Explain the answer.	(2)
3.1.5	Determine the value of **S**, the minimum pass % if the range of the 2023 pass percentage is 14,3%. You may use the formula: **Range = Maximum Value – Minimum Value**	(3)
3.1.6	Calculate the value of **T** if the mean of the 2024 pass percentage is 85,5%.	(5)

3.2 Lucky extracted the data from the 10 education districts with the highest number of high risk learners to investigate their performance from the matric results. Study TABLE 6 below and answer the questions that follow.

TABLE 6: MATHEMATICAL LITERACY DATA OF 2024 CANDIDATES

District	Total wrote	Total number of high risk learners
Ekurhuleni North	15 953	911
Ekurhuleni South	18 679	865
Gauteng East	11 618	1 161
Gauteng West	11 208	926
Johannesburg Central	13 420	1 095
Johannesburg East	11 988	946
Johannesburg West	9 526	824
Tshwane North	10 451	783
Tshwane South	15 657	1 060
Tshwane West	12 585	837

[Adapted from GP report 2024]

3.2.1 Express, as a ratio in unit form, the total number of high risk learners in the Tshwane South District to the total number who wrote from Tshwane South. (3)

3.2.2 Arrange the number of high risk learners from all districts in ascending order. (2)

3.2.3 Hence, complete the five-point summary table for the total number of high risk learners.

Show ALL calculations.

Five-point summary

Minimum	
Q1	
Median	
Q3	
Maximum	

(6)

[28]

QUESTION 4

4.1 Thelma is a 67-year-old manager at Zenzele Holdings.

She receives an annual salary of R680 000. She will also receive a bonus equal to her monthly salary during the 2025 tax year.

She donates 30% of her annual salary to the local orphanage.

Use TABLE 7 below to answer the questions that follow.

An individual can donate a maximum of R100 000 over a period of 1 tax year.

TABLE 7: Tax year 1 March 2025 to 28 February 2026

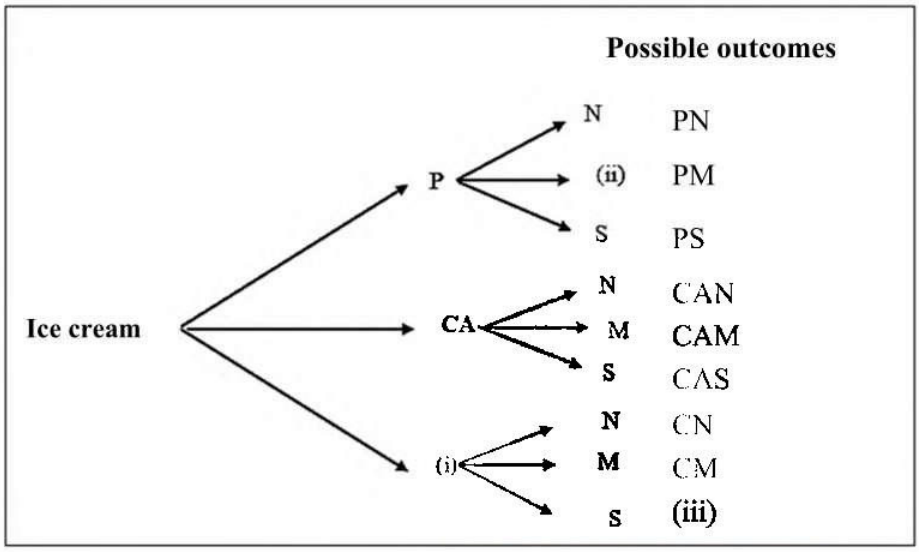
Taxable income (R)	Rates of tax (R)
1 – 237 100	18% of taxable income
237 101 – 370 500	42 678 + 26% of taxable income above 237 100
370 501 – 512 800	77 362 + 31% of taxable income above 370 500
512 801 – 673 000	121 475 + 36% of taxable income above 512 800
673 001 – 857 900	179 147 + 39% of taxable income above 673 000
857 901 – 1 817 000	251 258 + 41% of taxable income above 857 900
1 817 001 and above	644 489 + 45% of taxable income above 1 817 000

Tax Rebate	Tax Year
	2025
Primary	R17 235
Secondary (65 and older)	R9 444
Tertiary (75 and older)	R3 145

4.1.1	Determine the rebate amount for which Thelma qualifies.	(2)

4.1.2	Calculate her annual gross salary.	(4)
4.1.3	Show, with calculations, that Thelma's **annual** donation is R100 000.	(3)
4.1.4	Hence, determine Thelma's annual taxable income.	(3)
4.1.5	Use TABLE 7 to identify her tax bracket.	(2)
4.1.6	Thelma claimed that a person under the age of 65, with a taxable income of R95 750 per annum does not qualify to pay tax in the 2025 tax year. Show, using calculations, whether her claim is valid or not.	(6)

4.2	Thelma went to a local restaurant to buy ice cream. • The ice cream may be plain (**P**), dipped in caramel (**CA**) or dipped in chocolate (**C**). • She can decorate it with nuts (**N**), mint (**M**) or Smarties (**S**).	



Use the information and the tree diagram above to answer the questions that follow.

4.2.1	Complete the tree diagram in the spaces provided below.		
	(i)		
	(ii)		
	(iii)		(3)

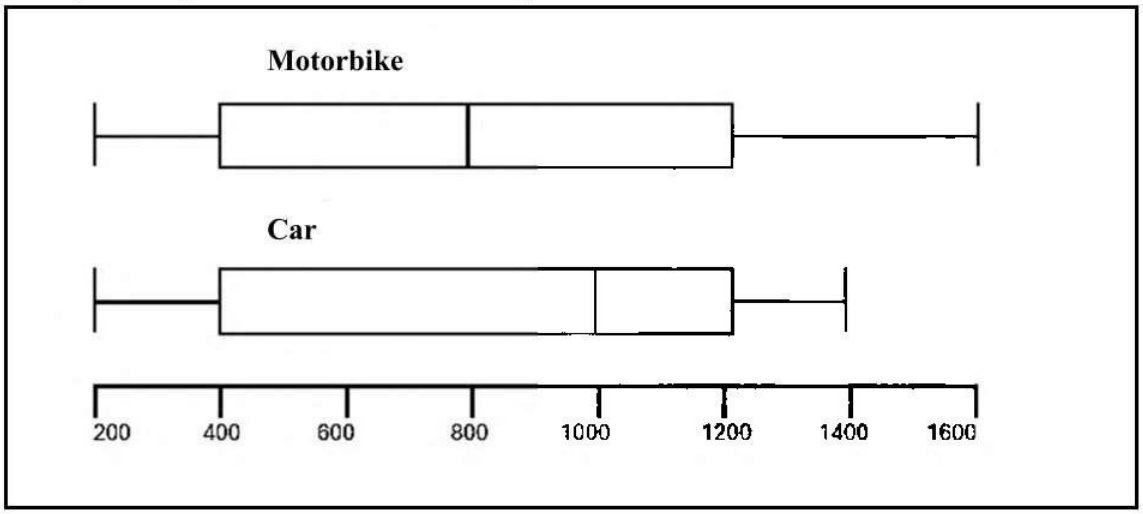
4.2.2	Determine the probability of buying an ice cream without caramel. Express your answer as a decimal, rounded-off to ONE decimal place.	(4)

4.2.3	Name ONE advantage of selling different flavours of ice cream.	(2)

[29]

QUESTION 5

5.1 Pule has a business delivering goods to various companies. The diagram below represents the weekly income of the drivers, grouped according to the mode of transport that they use. Study the diagram below and answer the questions that follow.



5.1.1	Which mode of transport generates more income? Motivate your answer.	(3)
5.1.2	The company has 300 motorbike drivers. How many motorbike drivers are generating an income greater than the upper quartile?	(3)
5.1.3	The maximum income for motorbike drivers represented on the graph was increased by 20% due to the high demand. Calculate the original maximum income before the increase.	(4)

	5.1.4	Determine the inter-quartile range of the income generated by car drivers.	(3)

5.2		Pule ordered more motorbikes from India and paid 3 000 Indian rupees for shipping. The cost of each motorbike is 12 000 Indian rupees. **1 Indian rupee (INR) = 0,21 South African Rand (ZAR)**	
	5.2.1	Which currency is stronger between the South African rand and the Indian rupee? Explain.	(3)

	5.2.2	Will R30 000 be enough to buy 12 motorbikes and pay for shipping? Show ALL calculations.	(7)

	5.2.3	Name TWO advantages of buying items online.	(4)

5.3	Thuli paid R270 to refill her 4 kg gas canister. It was announced that gas prices would increase to 6 761 cents per kg in February. Calculate the expected percentage increase. You may use the following formula: $$\textbf{Percentage increase} = \frac{\textbf{New price} - \textbf{Old price}}{\textbf{Old price}} \times 100\%$$	(7)

[34]

Additional space

TOTAL: 150