



Johannesburg North District

(D10)

Grade 12 Mathematical Literacy

Control Test

March 2026

Marks: 100

Time : 2 hours

Examiner: Mr K. Ndlovu

Moderator: Ms R. Jeeboth

Name & Surname: _____ Class: 12__

Question	1	2	3	4	Total	Signature
Marks	20	20	19	41	100	
Educator						
School Moderation						
District Moderation						
Provincial Moderation						
Other Moderation						

-This question paper consists of 16 pages including this cover page-

INSTRUCTIONS AND INFORMATION

1. This question paper consists of **FOUR** questions. Answer **ALL** the questions.
2. Answer **ALL** questions on the spaces provided on this question paper
3. Use ANNEXURE B to answer QUESTION 4.1
4. Show **ALL** calculations clearly
5. Write neatly and legibly.
6. You may use an approved calculator, unless stated otherwise.
7. Round off **ALL** final answers appropriately according to the given context, unless stated otherwise
8. Indicate units of measurement, where applicable.



QUESTION 1

1.1 Mr and Mrs Jones have a mortgage loan with a commercial bank. **ANNEXURE A** below is an extract of letter that they received from the bank.

ANNEXURE A

Extract of letter received by Mr and Mrs Jones

Mortgage Loan

Account number: 79-5342-8193

Issued on: 2025/11/21

Decrease in Variable Home Loan Interest rate

Due to the decrease in the mortgage lending rate, the interest rate on your home loan has changed - which means that your repayments will also change as set out below.

New repayment details:

Description

Amount

Current yearly interest rate: Mortgage Lending rate 10.50% plus 0.35% 10.85%

Frequency of repayment Monthly

New yearly interest rate: Mortgage Lending rate 10.25% plus 0.35% 10.60%

New total repayment made up as follows:

Basic repayment R6 357.99

Property insurance provision ... A ...

Life or Credit Protection Insurance Premium R225.04

Administration/Service fee (R60.00 + R9.00 VAT) R69.00

New total loan repayment R7 842.32

New repayment commences on 2025/12/20

Remaining loan term 20 Yrs 2 Mths

Use the information on **Annexure A** above to answer the following questions:

NB: VAT is calculated at 15%.

1.1.1 Write down the date on which the letter was issued in full.

(2)

1.1.2	Determine the decrease in the yearly interest rate.	(2)

1.1.3	Calculate the value of A, the property insurance provision amount.	(2)

1.1.4	Write the remaining loan term in months.	(2)

1.1.5	Show how the R9,00 VAT amount added to the administration/service fee was calculated.	(2)

1.1.6	The new loan repayment is R166,52 less than before. Work out what the loan repayment amount was before it decreased.	(2)

1.2

Mr and Mrs Jones have been keeping track of the fluctuations in the monthly repayment towards their mortgage loan over time.

TABLE 1 below shows the month and year when there were changes in the repayments and the new repayment amounts.

TABLE 1: Fluctuations in monthly repayment amounts for mortgage loan.

Date	Repayment amount (R)
March 2023	7 989, 59
May 2023	8 191, 80
September 2024	8 385, 67
November 2024	8 243, 44
January 2025	8 291,70
May 2025	8 166,02
August 2025	8 008, 84
November 2025	7 842, 32

Use **TABLE 1** above to answer the questions that follow:

1.2.1

Identify the period where the repayment amount did not change for the longest time.

(2)

1.2.2

Round off the repayment amount for March 2023 to the nearest R100.

(2)

1.2.3

Arrange the repayment amounts in **TABLE 1** in descending order.

(2)

1.2.4

Write down the dates on which the repayment amounts went below R8 000.

(2)

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QUESTION 2

Mr Jones, who recently turned 38 years-old, earns a taxable income of R563 987 per annum. He joined a medical aid scheme 10 months ago for himself, his wife and their 2 children.

TABLES 2 and 3 show the tax tables for the 2025/2026 tax year

TABLE 2: Tax Rates For The 2025/26 Tax Year (1 Feb. '25 – 31 Mar. '26)

Tax Bracket	Taxable Income (R)	Rates of tax
1	1 – 237 100	18% of taxable income
2	237 101 – 370 500	42 678 + 20% of taxable income above 237 000
3	370 501 – 512 800	77 372 + 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	... X ... + 41% of taxable income above 857 900
7	1 817 001 and above	644 489 + 45% of taxable income above 1 817 000

[Adapted from: www.sars.gov.za]

TABLE 3: Tax Rebates And Medical Aid Credits For The 2025/26 Tax Year

TAX REBATE	
Primary	R17 235
Secondary (65 years and older)	R9 444
Tertiary (75 years and older)	R3 145
MEDICAL CREDITS PER MONTH FOR MEDICAL FUND MEMBERS	
Main member	R364
First dependent	R364
Each additional dependent	R246

[Adapted from: www.sars.gov.za]

Use TABLES 2 and 3 above to answer the questions that follow:

2.1	Choose the description that best describes taxable income: (Circle the letter of the answer that corresponds to the answer of your choice)		(2)
	A.	The amount of tax that an individual tax payer pays to SARS	
	B.	The total amount of money that a person earns	
	C.	A portion of an individual's gross income that is subject to tax.	
	D.	Gross Income minus deductions	

2.2	State one reason why citizens need to pay tax.	(2)

2.3	Calculate the total medical aid credits for the Jones family.	(4)

2.4	Mrs Jones claims that Mr Jones will pay a monthly income tax amount of over R9 000. Use calculations to verify Mrs Jones' claim.	(7)

2.5	Determine the value of X , the fixed amount for tax bracket 6, in TABLE 2 .	(4)

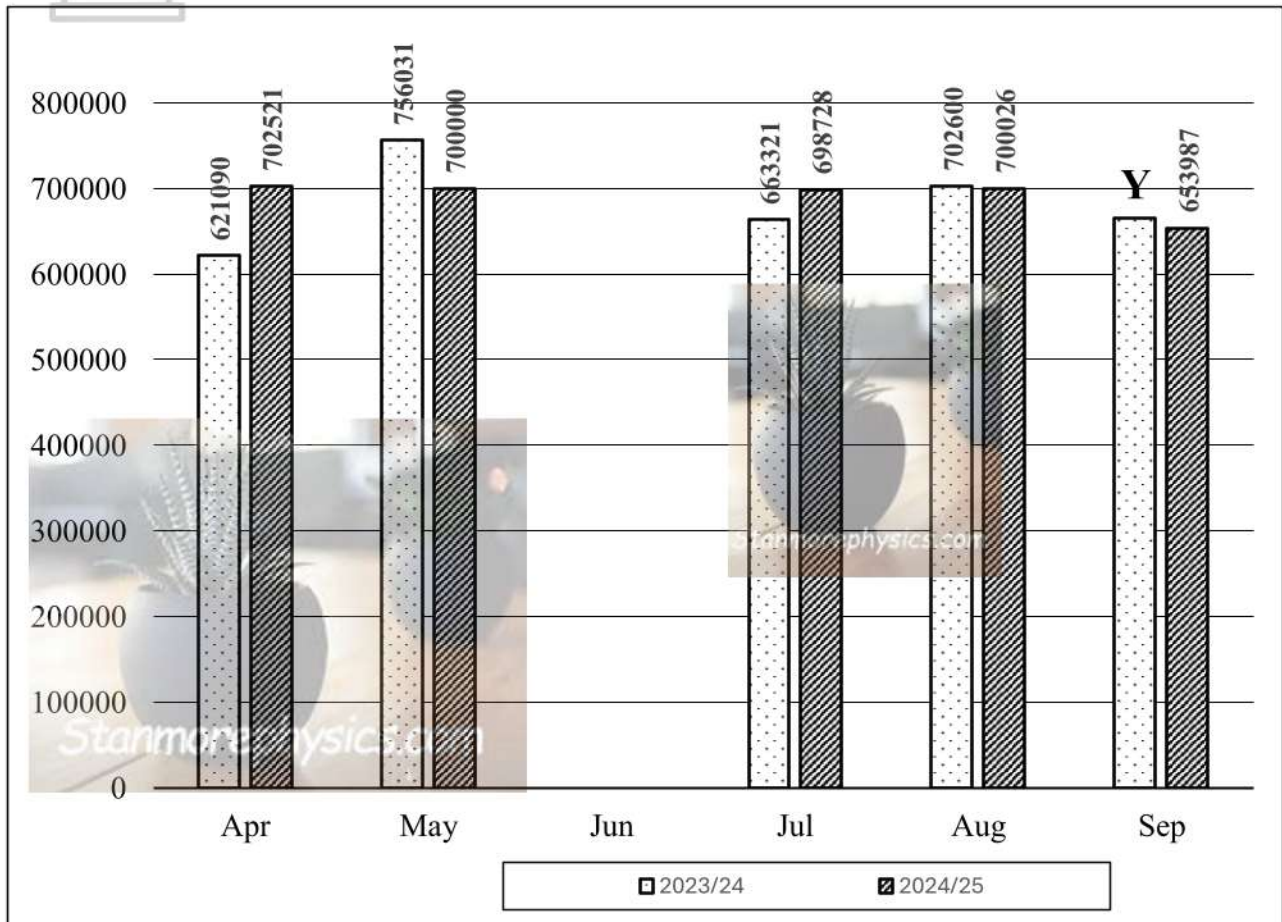
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QUESTION 3

The Gautrain is an 80-kilometre, state-of-the-art rapid rail network and bus service in Gauteng Province, linking Johannesburg, Pretoria, Ekurhuleni, and O.R. Tambo International Airport. The graph below is an extract of the train passenger demand for two financial years, 2023/24 and 2024/25.

Figure 1: Total train passenger trips for all rail services by month



Use **Figure 1** above to answer the questions that follow:

3.1	Write down the name of the graph in Figure 1 .	(2)
3.2	The number of passengers for September 2023/24, Y , is: Seven hundred and two thousand five hundred twenty one. Write this quantity as a number (numerals).	(2)

3.3	The number of train passengers for June 2023/24 and 2024/25 are 681 397 and 600 068 respectively. Complete the graph on Figure 1 .	(4)
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3.4	Calculate the difference between the July 2023/24 and July 2024/25 train passenger numbers.	(3)

3.5	In the October 2023/24 financial year the number of Gautrain passengers was 7 902 488 after an increase of 10,79% from the previous financial year. Calculate the number of passengers in the 2022/23 financial year.	(3)

3.6	State whether the data in Figure 1 is discrete or continuous. Justify your answer.	(4)

3.7	Describe the trend in train passenger numbers over the six-month period for the 2023/24 financial year.	(2)

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QUESTION 4	
4.1	<p>The Jones family stays in Centurion close to the Gautrain station. Mrs Jones works in Rosebank and uses the Gautrain to commute to and from work each weekday.</p> <p>ANNEXURE B shows different tariffs/fares charged by Gautrain.</p> <p>Use ANNEXURE B to answer the questions that follow:</p>

4.1.1	Define the term ‘tariff’ in this context.	(2)

4.1.2	Show, using calculations, that Mrs Jones will spend a total of R3 652 on Pay-As-You-Go Single Train Fares in a month with 22 workdays.	(3)

4.1.3	Mrs Jones’ colleague claims that she would save more than R60 per week by purchasing the Weekly Train Product instead of using Single Train Fares. Use calculations to verify the colleague’s claim.	(5)

TABLE 4 below shows the Cost per trip for the Pay-As-You-Go Single Train Fares and the Monthly Train Product.

TABLE 4: Gautrain Cost Per Trip

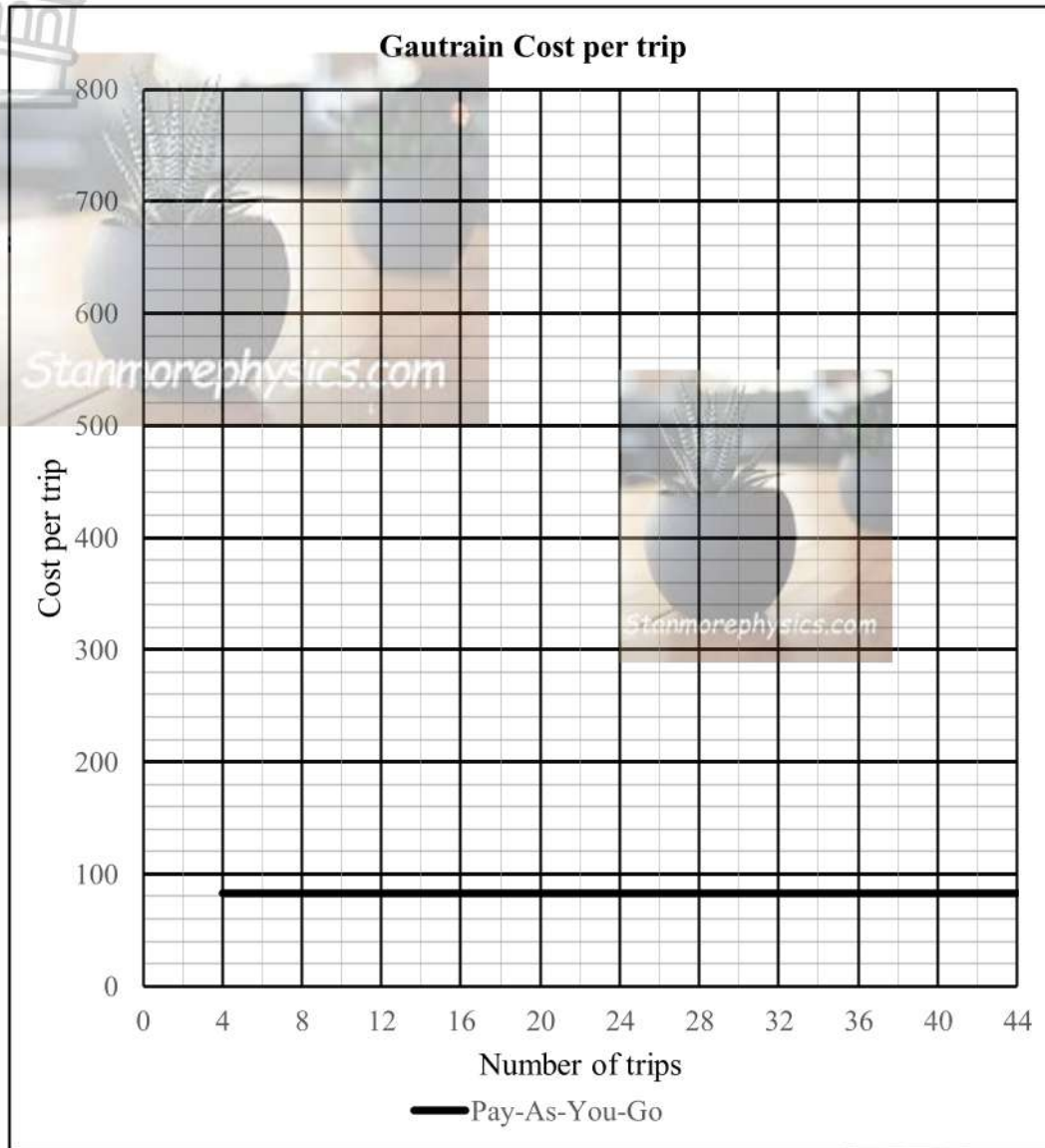
Number of trips	4	12	16	20	28	32	B	44
Cost/Trip: Pay-As-You-Go (R)	83	83	83	83	83	83	83	83
Cost/Trip: Monthly Train Product (R)	777,25	258,75	194,06	A	110,89	97,03	77,63	70,57

Use **TABLE 3** to answer the questions that follow:

4.1.4	Write down a formula that can be used to calculate the Cost per trip for the Monthly Train Product in the form: Cost per trip = ... ÷ ...	(2)

4.1.5	Determine the values of A and B .	(4)

4.1.6 The graph for the Cost per Trip: Pay-As-You-Go option is drawn below. Use **TABLE 3** to draw the corresponding Cost per Trip graph for the Monthly Train Product below.



(4)

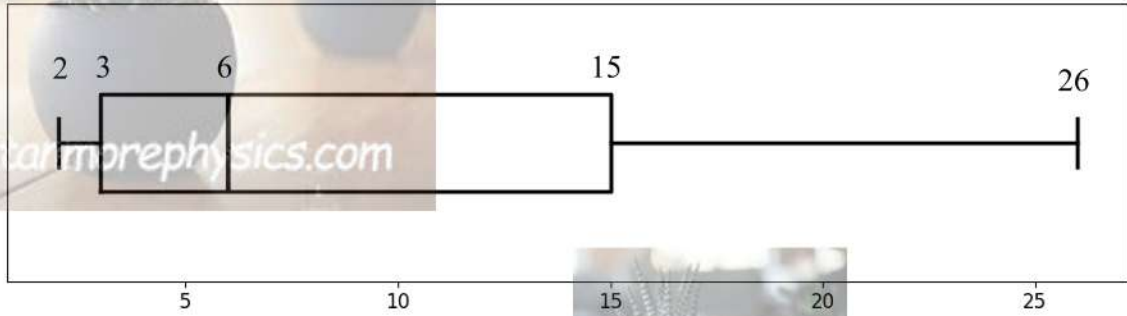
4.1.7 State whether the cost per trip for the Monthly Train Product represents a direct or an inverse proportion. Explain your answer.

	(3)

4.2

In its 2024/25 Integrated Annual Report, the Gauteng Management Agency — the body responsible for overseeing the Gautrain Project — published updated employment statistics. **Figure 2** below is a box-and-whisker diagram showing a summary of the number of employees recorded on 1 April 2024.

Number of employees per business unit on the 1st of April 2024



The number of employees per business unit, arranged in ascending order, for the year ending 31 March 2025 is shown below:

2	2	3	3	4	Z	Z	8	9	15	16	17
23	31	67									

Use the information above to answer the questions below:

4.2.1

Determine the probability, as a percentage, that a business unit chosen at random had more than 15 employees for the year ending 31 March 2025.

(3)

4.2.2

Define the term probability in this context.

(2)

4.2.3

Write down the 5-number summary for the year ending 31 March 2025

(4)

4.2.4	Calculate the range for data represented on the box-and-whisker diagram.	(2)

4.2.5	If Gautrain has 18 business units, calculate the number of these units that had 3 or more employees on the 1 st of April 2024.	(3)

4.2.6	The mean number of employees for the year ending 31 March 2025 is 14. Calculate the missing value of Z .	(4)

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ANNEXURE B

Question 4.1



Pay-As-You-Go Single Train Fares (Peak)

From / To	Hatfield	Pretoria	Centurion	Midrand	Sandton	Rosebank	Rhodesfield
Hatfield	-	R38	R49	R77	R96	R103	R103
Pretoria	R38	-	R43	R61	R91	R96	R96
Centurion	R49	R43	-	R50	R79	R83	R90
Midrand	R77	R61	R50	-	R50	R57	R58
Sandton	R96	R91	R79	R50	-	R38	R55
Rosebank	R103	R96	R83	R57	R38	-	R55
Rhodesfield	R103	R96	R90	R58	R55	R55	-

Weekly Train Product – 10 train trips valid for 10 days (Peak)

From / To	Hatfield	Pretoria	Centurion	Midrand	Sandton	Rosebank	Rhodesfield
Hatfield	-	R352	R454	R713	R888	R953	R953
Pretoria	R352	-	R398	R565	R842	R888	R888
Centurion	R454	R398	-	R463	R731	R768	R824
Midrand	R713	R565	R463	-	R463	R528	R537
Sandton	R888	R842	R731	R463	-	R352	R509
Rosebank	R953	R888	R768	R528	R352	-	R537
Rhodesfield	R953	R888	R824	R537	R509	R537	-

Monthly Train Product – 44 trips valid for 44 days (Peak)

From / To	Hatfield	Pretoria	Centurion	Midrand	Sandton	Rosebank	Rhodesfield
Hatfield	-	R1 422	R1 833	R2 880	R3 591	R3 853	R3 853
Pretoria	R1 422	-	R1 609	R2 282	R3 404	R3 591	R3 591
Centurion	R1 833	R1 609	-	R1 870	R2 955	R3 105	R3 329
Midrand	R2 880	R2 282	R1 870	-	R1 870	R2 132	R2 170
Sandton	R3 591	R3 404	R2 955	R1 870	-	R1 571	R2 057
Rosebank	R3 853	R3 591	R3 105	R2 132	R1 422	-	R2 170
Rhodesfield	R3 853	R3 591	R3 329	R2 170	R2 057	R2 170	-