LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

SEKHUKHUNE EAST EDUCATION DISTRICT – DISTRICT ON THE RISE

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY
INVESTIGATION

Date Issued: 31 January 2025

Date of Administration: 07 January 2025

MARKS: 50   **TIME: 1 hour**

This Question paper consists of 5 pages including the cover page

INSTRUCTIONS AND INFORMATION

1. This question paper consists of THREE (3) questions.

2. Number answers correctly according to the system used in this question paper.

3. An approved calculator (non-programmable and non-graphical) may be used.

4. All the final answers must be rounded off according to the context, unless stated otherwise.

5. Units of measurement must be indicated where applicable

QUESTION 1

Below is a bank statement for Ms TT Mushasha for the month of March 2022. Use the account statement below to answer the questions that follow.

TABLE 1: BANK STATEMENT FOR MARCH 2022

FGT BANK
Makhado Crossing
Nkuzana-Masia Village
0920

TT Mushasha
43 Hluvuka Street
Bungeni Hlanganani
0960
ELITE CURRENT ACCOUNT NUMBER;   0 763 234 62

Details	Service fee	Debits	Credits	Date	Balance
Balance brought forward				02/15	2 875,77-
Statement costs	#	20,18-		02/17	2 895,95-
Card purchase		296,10-		02/20	3 193,05-
Salary			**B**	02/21	15 761,80
Insurance premium		187,27-		02/25	15 574,53
Dividend YY4098 shares			840,00	02/28	16 414,53
Bond		4 069,52-		03/02	12 345,01
Auto Bank deposit			1 200,00	03/05	13 545,01
Fee Bank deposit	#	42,37-		03/05	13 502,64
Fuel CLTX Garage		729,45-		03/07	12 773,19
ATM withdraw		1 800,00-		03/10	10 973,19
Withdrawal fee	#	17,47-		03/10	10 955,72
Fixed monthly fee	#	100,88		03/11	10 854,84
Balance carried forward				03/15	10 854,84

1.1 Explain the terms "credit" and "debits" according to the context used above. (4)

1.2 Identify the type of account used in the above statement. (2)

1.3 Determine the balance on the 14/02/2022. (2)

1.4 Calculate the salary **B** paid into her account on 21/2/2022. (2)

1.5 Calculate the total bank fees charged in the above statement 2022. (2)

1.6 Calculate the total amount of debits (3)

[15]

QUESTION 2

TABLE 2 below shows the rates at which tax was levied to individuals in South Africa for the 2020/2021 tax year.

TABLE 2: RATES FOR INDIVIDUALS 2020/2021 TAX YEAR

RATES APPLICABLE TO INDIVIDUALS 2021 TAX YEAR (1 MARCH 2020 – 28 FEBRUARY 2021)		
Tax Bracket	**Taxable Income (R)**	**Rates of Tax (R)**
1	1 – 205 900	18% of taxable income
2	205 901 – 321 600	37 062 + 26% of taxable income above 205 900
3	321 601 – 445 100	67 144 + 31% of taxable income above 321 600
4	445 101 – 584 200	105 429 +36% of taxable income above 445 100
5	584 201 – 744 800	155 505 +39% of taxable income above 584 200
6	744 801 – 1 577 300	218 139 +41% of taxable income above 744 800
7	1 577 301 and above	559 464+45%of taxable income above 1 577 300

Rebates	**Value**	**Tax threshold**
Below age 65	*R14 958*	*R83 100*
Age 65 to below 75	*R8 199*	*R128 650*
Age 75 and above	*R2 736*	*R143 850*

[Source: South African Revenue. Tax Pocket Guide 2020/2021]

Use the information above to answer the questions that follow

2.1   Write down the tax bracket in which a person who earns R473 496 per year, falls.   (2)

2.2   Determine the maximum income a person that is 65 years old, must earn before starting to pay tax.   (2)

2.3   Mrs Sithole, a 65-year-old saleswoman, earned a gross monthly salary of R35 455 during the 2020/2021 tax year. 7, 5% of her gross salary is deducted for contributions towards her pension fund.

2.3.1   Calculate her annual gross salary.   (2)

2.3.2   Calculate her tax rebate.   (2)

2.3.3   Calculate her annual taxable income. You may use the formula: (3)
         ***Annual Taxable Inco* = (*annual Gross Salary* − *annual Pension*)**

2.3.4   Hence, use the tax table for 2020/2021 and the information above to calculate Mrs Sithole's annual income tax.   (6)

[17]

QUESTION 3

3.1

| During a particular month, Domestic worker's employer, Onama, used 25 kℓ of water.

TABLE 3 shows the residential water tariffs, including VAT.

TABLE 3: RESIDENTIAL WATER TARIFFS INCLUDING VAT

Block	Tariff in kilolitres (kℓ)	Tariff in Rands per kilolitre
Block 1	0–6 kℓ	R10,34
Block 2	7–15 kℓ	R24,54
Block 3	16–30 kℓ	R27,63
Block 4	31–60 kℓ	R33,10
Block 5	61 or more kℓ	R38,91

[Source: Mangaung.co.za]

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

3.1.1   Determine the maximum number of kℓ that can be charged in Block 2.   (2)

3.1.2   Calculate the amount that Onama will pay for the water used.   (5)

3.2   The following tables show municipal residential water and sanitation tariffs for domestic users.

TABLE 4: MUNICIPAL RESIDENTIAL WATER AND SANITATION TARIFFS

Residential Water Tariffs (Domestic Full and Domestic Cluster)	
Water Steps (1 kl = 1 000 litres)	**Year 2020/2021 Rands (Inc. VAT)**
Step 1 (0 ≤ 6 kl)	R17,92 (free for indigent households)
Step 2 (> 6 ≤ 10,5 kl)	R25,49 (free for indigent households)
Step 3 (> 10,5 ≤ 35 kl)	R36,19
Step 4 (> 35 kl)	R79,46
Residential Sanitation Tariffs (Domestic Full and Domestic Cluster)	
Water Steps (1 kl = 1 000 litres)	**Year 2020/2021 Rands (Inc. VAT)**
Step 1 (0 ≤ 4,2 kl)	R15,74 (free for indigent households)
Step 2 (> 4,2 ≤ 7,35 kl)	R22,40 (free for indigent households)
Step 3 (> 7,35 ≤ 24,5 kl)	R33,52
Step 4 (> 24,5 ≤ 35 kl)	R60,32

- *Sanitation is charged up to a maximum of 35 kl.*
- *Domestic Full = Standalone houses.*
- *Domestic Cluster = Flats, sectional title units, cluster developments and gated villages.*

Please turn over

3.2.1   Mr Mbhazima is under the free indigent household. Calculate his water bill for   (3)
        the month of September if he uses 35 kl of water.

3.2.2   Mr Mahada is not under the indigent households. Calculate his sanitation bill if   (3)
        he uses 25 kl.

3.2.3   The sanitation bill for Mr Mahada is VAT inclusive, calculate his bill before   (3)
        VAT was added.

3.2.4   Mr Chauke, who is also not under the indigent households, made a payment of   (3)
        R580 towards his sanitation tariff. Determine how many litres of water he used
        for that month.

                                                                            [19]

                              TOTAL: 50

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VHEMBE WEST DISTRICT

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GRADE 12

MATHEMATICAL LITERACY
INVESTIGATION MEMO
FEBRUARY 2025

This Memorandum consists of 3 pages including the cover page

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
MCA	Method with constant accuracy
A	Accuracy
C	Conversion
S	Simplification
RT / RG / RD	Reading from a table / graph / diagram
SF	Correct substitution in a formula
O	Opinion / Example / Definition / Explanation
R	Rounding off
NPR	No penalty rounding or omitting units
AO	Answer only, full marks
J	Justify

Ques	Solution	Explanation	Marks
1.1	Credit – Money deposited into TT Mushasha's account ✓✓ Debit – Money withdrawn or taken out from TT Mushasha's account✓✓	2A Correct definition of Credit 2A Correct definition of Debit	4
1.2	Elite current account ✓✓	2RT Type of account	2
1.3	$-R2\ 895,77$ ✓✓ **$R2\ 895,77$ (1 Mark for positive amount)**	2A Correct negative Balance	2
1.4	$R15\ 761,80 + R3\ 192,05$ ✓ $= R18\ 954,30$ ✓	1M Adding correct values 1A Answer	2
1.5	$R20,18 + R42,37 + R17,47 + R100,88$ ✓ $= R180,82$ ✓	1M Adding correct values 1A Answer	2
1.6	$R20,18 + R296,10 + R187,27 + R4\ 069,52 + R42,37 + R729,45 + R1\ 800 + R17,47 + R100,88$ ✓✓ $= R7\ 263,24$	2M Adding correct values 1A Answer	3
2.1	Tax bracket 4✓✓	1A Correct tax bracket	2
2.2	R128 650,00✓✓	2A Correct Tax threshold	2
2.3.1	R35 455 ×12 ✓ $= R\ 425\ 460,00$✓	1M Multiplying by 12 1A Annual gross	2
2.3.2	R14 958 + R8 199 ✓ $= R23\ 157,00$ ✓	1M Adding correct rebates 1A Answer	2
2.3.3	$\frac{7,5}{100} \times R425\ 460 = R31\ 909,50$ ✓ **Annual Taxable Income = (Annual gross – Annual Pension)** $= R\ 425\ 460 - R31\ 909,50$ ✓ $= R393\ 550,50$ ✓	1M Calculating annual pension 1MA Subtracting Correct values 1CA	3
2.3.4	R67 144 + 31% of Taxable income above R321 600 ✓ R67 144 + 0,31 × (R425 460 - R321 600)✓ R67 144 + 0,31 × R71 950 R67 144 + R22 304,66✓✓ R89 448,66 – R23 157 (Secondary Rebate)✓ R 66 291,66✓	1F Correct tax bracket 1SF Substitution 2M Adding correct values 1MA Subtracting correct rebate 1CA Answer	6

Ques	Solution	Explanation	Marks
3.1.1	9 kl ✓✓	2A RT simplification	2
3.1.2	25 kl = 6 kl + 9 kl + 10 kl✓ Block 1 = 6 × R10,34 = R 62,04✓ Block 2 = 9 × R24,54 = R220,54✓ Block 3 = 10 × R27,63 = R275,40✓ Total = R557,98✓	1A Adding values 1M rate x 6 1M rate x 10 1S R275,40 1CA Answer	5
3.2.1	Block 1 (0 ≤ 6 kl) = (4 x 0) = R0,00✓ Block 2 (> 6 ≤ 10,5 kl) = (4,5 × 0) = R0,00 Bock 4 (>10,5 ≤ 35 kl) = 4,5 × R36,19✓ = R868,56 Total Amount Due = R868,56✓	1M rate of R0,00 1M multiply by R36,19 1CA Answer	3
3.2.2	Block 1 = 4,2 × R15,74 = R66,11✓ Block 2 = 3,15 × R22,40 = R70,56 Block 3 = 17,15 × R33,52 = R574,87✓ Block 4 = 0,5 × R60,32 = R30,16 Total Bill = R741,70 ✓	1M rate of 4,2 1M multiply by R33,52 1CA Answer	3
3.2.3	Bill before VAT = R741,70 ÷ 1,15 ✓✓ = R644,96 ✓	2MCA divided by 1,15 1CA Answer	3
3.2.4	580 – 66,11 = R513,89 is 4,2 kl✓ 513,89 – 70,56 = R443,33 is 3,15 kl ✓ 443,33 ÷ 33,52 = 13,23 kl Total kilolitres = 4,2 – 3,15 + 13,23 = 10,5 kl ✓	1M subtraction 1S R443,33 1CA Answer	3
	TOTAL MARKS: 50		

Please turn over