



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

**MOPANI WEST
DISTRICT**

MATHEMATICAL LITERACY

GRADE 12

INVESTIGATION Term 1

DATE: 24 FEBRUARY 2024

DURATION: 2 HOURS

MARKS: 100

This question paper consists of 8 pages

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR SECTIONS. Answer ALL the sections.
2. Number the answers correctly according to the numbering system used in this question paper.
3. Start EACH question on a NEW page.
4. An approved calculator (non-programmable and non-graphical) may be used unless stated otherwise.
5. Show ALL calculations clearly.
6. Round off ALL final answers appropriately according to the given context, unless stated otherwise.
7. Indicate units of measurement, where applicable.
8. Pictures and diagrams are NOT necessarily drawn to scale unless stated otherwise.
9. Write neatly and legibly.

Carefully read the following scenario before answering the questions.

Thando who works as a manager at a local Super market in Polokwane saved money to spend it at Tzaneen local entertainments such as Magoebaskloof hiking trail on the 14 of February 2024. She feels like she used more money than she expected.

In this investigation you are require to help Thando to understand how her money was spent.

SECTION A[15]

1.1

Thando received the slip below after purchasing prepaid water at one of the approved vendors. She does not understand how some amount was calculated. Help her to understand how she has been charged.

PREPAID WATER SLIP

Blue Approved Tax Invoice Greater Tzaneen Municipality Credit Token 3974 0445 6670 6712 5026	
6 kℓ @ 9,6600 R/kℓ	= R57,96
9 kℓ @ 22,7200 R/kℓ	= R204,48
15 kℓ @ 25,2300 R/kℓ	= ...
22,4 kℓ @ 29,6900 R/kℓ	= R665,056
Amount:	R1 305,95
VAT @ 15%:	R195,89
Total:	R1 501,84
Free Units:	0,00 kℓ
Credit units:	52,40 kℓ
Total units: 52,50 kℓ	
Receipt No:	01166515
Meter No:	41150801599
Date :	18:20:27

[Adapted from actual slip]

Use the information above to answer the questions that follow.

- 1.1.1 Define the term *tariff* in the given context. (2)
- 1.1.2 Write down Thando's water meter number. (2)
- 1.1.3 Identify the maximum number of kilolitres that can be bought at R9,6600 per kilolitre. (2)
- 1.1.4 Write down in full the type of tax charged for water as shown in the context above. (2)
- 1.1.5 Show how the VAT amount was calculated. (2)
- 1.1.6 Determine the missing value, the cost of using 15 kℓ of water in the context above. (3)
- 1.1.7 Give Thando advice(s) on how to save water. (2)

[15]

SECTION B[18]

1.2

Thando chose to use his friend (Abel) metered taxi. She received the following information from the company.

Abel is a metered taxi driver. His company charges the following fare for a single trip:

- A minimum call-out fee of R50 per trip with the first THREE kilometres being free.
- Thereafter, R15,00 for each additional kilometres or part thereof.
- The company charges an extra R200,00 per hour if the taxi must wait for a client and the trip will be charged as a single trip.

TABLE 1 below shows the total cost per single trip for different distances travelled.

**TABLE 1: TOTAL COST PER SINGLE TRIP
FOR DIFFERENT DISTANCES TRAVELLED**

Distance (in km)	0	1	3	5	10	20	30
Total cost per single trip (in rands)	0	50	50	80	A	305	455

Use TABLE 1 and the information above to answer the questions that follow.

1.2.1 Explain the meaning of the term *single trip* in this context. (2)

1.2.2 Calculate the value of A. (3)

1.2.3 Write down an equation that Abel can use to calculate the total cost (in rands) per single trip, in the form:

Total cost (in rands) per single trip = ... (2)

1.2.4 Thando pays Abel R1 505 for a single trip. Determine the total distance (in km) travelled during this trip. (5)

1.2.5 Thando think that if she hires a taxi from this company to take her to any entertainment 20 km from her home scheduled to take exactly ONE hour, and requests that the taxi wait for her to take her back home.

Thando claimed that it was going to be cheaper for her if she could have called the taxi back after her meeting, instead of making it wait for her.

Verify, showing all calculations, whether her claim is valid. (6)
[18]

SECTION C[38]

1.2

Thando is planning to change to a bank that can be cheaper for her to make transactions. Thando spent an estimation of R7 000 during the day.

She presently has a NEDBANK Pay-as-you-use Account but is thinking of changing to a CAPITEC Global One Account.

TABLE 2 below shows the transactional fees for the two banks.

TABLE 2: TRANSACTIONAL FEES OF TWO BANKS

TRANSACTION TYPE	BANK FEES	
	NEDBANK (Pay-as-you-use)	CAPITEC (Global One)
Deposits (ATM)	R1,30 per R100	R1,30 per R100
Deposits (Branch)	R80 + R2,30 per R100	R4,00 per R100
Cash withdrawals (own ATM)	R9,00 per R1 000 (or a part thereof)	R8 per R1 000 (or a part thereof)
Cash withdrawals (other ATM)	R11 + R2,30 per R100 (or a part thereof)	R10 per R1 000 (or a part thereof)
Cash withdrawals (branch)	R80 + R2,30 per R100	N/A
Debit order (internal)	Free	Free
Debit order (external)	R5,00	R1,50
Send cash (R1—R1 000)	R10,00	R8,00
Send cash (R1 001—R5 000)	R15,00	R16,00
Airtime/Data/Electricity (own ATM)	R1,50	R0,50
Airtime/Data/Electricity (other ATM)	R10,00	R8,00

[Adapted from nedbank.co.za and caoitec.co.za]

Use TABLE 2 and the information above to answer the following questions

1.3.1 Give ONE reason why banks charge more for branch deposits than ATM deposits (2)

1.3.2 Determine the difference in cost of an external debit order using a Nedbank Pay-as-you-use account and a Capitec Global One account. (2)

1.3.3 Thando had the following monthly transactions on his bank statement:

- Two external debit orders
- One cash withdrawal of R1 500 at own bank ATM
- One cash withdrawal of R450 at another bank ATM
- One Send cash transaction of R1 500 to his mother

The CAPITEC banking fees for the listed transactions are R45,00. Thando states that she would have saved R20,50 on bank fees if he banked with CAPITEC rather than NEDBANK.

Verify, showing ALL calculations, whether Thando's statement is VALID. (7)

- 1.3.4 Advice Thando on which bank she can use in order to reduce amount of fees.
Support your answer with reason. (2)

1.4

Thando uses pre paid electricity in her home. The table below shows Greater Tzaneen Municipality 's prepaid electricity tariffs.

TABLE 3 below shows pre paid electricity tariffs.

TABLE 3: PRE PAID ELECTRICITY TARIFFS

DOMESTIC BLOCK	ELECTRICITY USAGE(KWH)	TARIFFS PER KWH EXCLUDING VAT 15%
1	0 – 50 Kwh (c/kwh)	R 1.6315
2	51 – 350 Kwh (c/kwh)	R 2.0968
3	351 – 600 Kwh (c/kwh)	R 2.9602
4	>600 Kwh (c/kwh)	R 3.4809

[2023/2024 Greater Tzaneen Municipality tariffs draft]

Use the information from the table above to answer the questions that follow:

- 1.4.1 Write the acronym VAT in full. (2)
- 1.4.2 Differentiate between VAT- exclusive and VAT – inclusive prices. (3)
- 1.4.3 Convert block 2 tariffs into cents. (3)
- 1.4.4 Calculate the total amount that will be paid for using 500 kwh of electricity consumed per month. (4)
- 1.4.5 Thando bought electricity for R3200 in June. Determine the number of kwh the family used in June. (6)
- 1.4.6 Thando bought R2 000 electricity in the month of January, on average.
Give TWO valid reasons why Thando paid so much in June. (4)
- 1.4.7 Explain with a valid reason why ESKOM charges different tariffs in different blocks. (3)

[38]

SECTION D[29]

1.5

Thando , she is 28 years old earning a basic salary of R33 500 per month. In addition she receives a 13th cheque equal to her monthly salary. She makes her monthly contributions towards retirement annuity amounted to R1 800, R2 000 towards medical aid, and 7,5% towards her pension fund. She is married with two children and she belongs to a medical scheme.

The Table 4 below shows the income tax brackets for the year 2023/2024 financial Year.

TABLE 4: TAX BRACKETS FOR THE YEAR 2023/2024

Taxable Income	Rate of Tax (R)
R1 – R237 100	18% of taxable income
R237 101 – R370 500	R42 678 + 26% of taxable income above R237 100
R370 501 – R512 800	R77 362 + 31% of taxable income above R370 500
.R512 801 – R673 000	R121 475 + 36% of taxable income above R512 800
R673 001 – R857 900	R179 147 + 39% of taxable income above R673 000
R857 901 – R1 817 000	R251 258 + 41% of taxable income above R857 900
R1 817 001 and above	R644 489 + 45% of taxable income above R1 817 000

Rebates	2023/2024
Primary	R17 235
Secondary (Persons 65 and older)	R9 444
Tertiary (Persons 75 and older)	R3 145

Age	Tax Threshold
Below age 65	R95 750
Age 64 to below 75	R148 217
Age 65 and over	R165 689

MEDICAL TAX CREDIT RATES

Per month(R)	2023/2024
For the taxpayer who paid the medical scheme contributions	R364
For the first dependent	R364
For each additional dependent(s)	R246

[Adapted from sagesouthafrica. co.za]

Use the information and the tax table above to answer the question that follow

- 1.5.1 Write SARS in full. (2)
- 1.5.2 Explain the meaning of rebate and Medical tax credit. (4)
- 1.5.3 Show how 179147 in bracket 5 were calculated. (3)
- 1.5.4 Calculate Thando's annual gross salary. (2)
- 1.5.5 Calculate Thando's annual pension fund contribution. (3)
- 1.5.6 Calculate Thando's annual taxable income. (4)
- 1.5.7 Give a reason why people pay tax. (2)
- 1.5.8 Calculate Thando's monthly tax contribution. (6)
- 1.5.9 Calculate Thando's annual net income.

You may use the following formula

Net income= Gross – (tax + retirement + pension fund)contribution. (3)

[29]

TOTAL MARKS = 100

