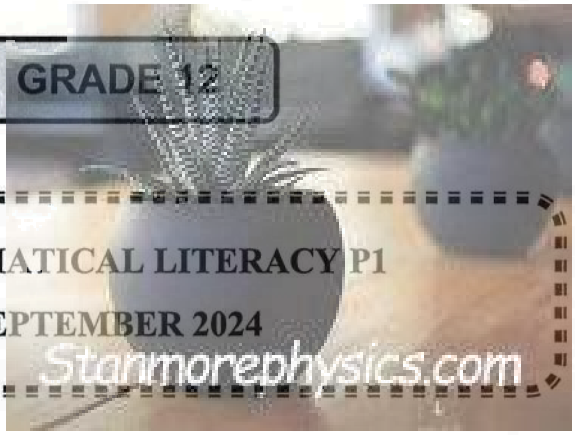
LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

NATIONAL SENIOR CERTIFICATE



GRADE 12

MATHEMATICAL LITERACY P1

SEPTEMBER 2024

MARKS: 150

TIME: 3 HOURS

EMLITP1

This question paper consists of 13 pages and a 3-page ADDENDUM.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FIVE questions. Answer ALL the questions.
2. Use the ANNEXURES in the ADDENDUM to answer the following questions:
   - ANNEXURE A for QUESTION 2.1
   - ANNEXURE B for QUESTION 4.2
3. Number the questions correctly according to the numbering system used in this question paper.
4. Start EACH question on a NEW page.
5. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
6. Show ALL calculations clearly.
7. Round ALL the final answers appropriately according to the context, unless stated otherwise.
8. Indicate units of measurement, where applicable.
9. Diagrams are NOT necessary drawn to scale, unless stated otherwise.
10. Write neatly and legibly.

QUESTION 1

1.1 Canada is known to be the coldest country in the world. TABLE 1 below shows the minimum, maximum and mean temperatures recorded from 16 December 2023 to 25 December 2023.

TABLE 1: MINIMUM, MAXIMUM AND MEAN TEMPERATURES RECORDED IN CANADA FROM 16 DECEMBER 2023 TO 25 DECEMBER 2023.

DATE	MIN TEMP IN °C	MAX TEMP IN °C	MEAN TEMP IN °C
16/12/2023	-5,7	4,0	-0,9
17/12/2023	-5,7	7,6	1,0
18/12/2023	7,0	12,7	9,9
19/12/2023	6,1	12,7	9,4
20/12/2023	-0,6	6,1	2,8
21/12/2023	-7,4	-0,2	-3,5
22/12/2023	-8,6	-4,4	-6,5
23/12/2023	-8,8	-0,9	-4,9
24/12/2023	-4,7	4,1	-0,3
25/12/2023	-0,8	8,1	3,7

[Adapted from climate.weather.gc.ca]

Use TABLE 1 above to answer the questions that follow.

1.1.1 Arrange the minimum temperatures in ascending order. (2)

1.1.2 Identify the date on which it was the coldest in Canada. (2)

1.1.3 The temperatures given in TABLE 1 above represent numerical data. State whether the data is discrete or continuous (2)

1.1.4 Calculate the difference in temperature between the maximum and minimum temperatures on 23 December 2023. (3)

1.1.5 Write down the number of days on which the mean temperature was less than 1°C. (2)

1.2 Most people communicate through social media throughout the world. The most popular social networks as of October 2023, in number of monthly active users (in millions) are shown in TABLE 2 below.

TABLE 2: MOST POPULAR SOCIAL NETWORKS IN NUMBER OF MONTHLY ACTIVE USERS (IN MILLIONS)

Social Network	Number of Monthly Active Users (In Millions)
Douyin	743
Facebook	3 030
Facebook Messenger	1 036
Instagram	2 000
Kuai Shou	673
Snapchat	750
Telegram	800
TikTok	1 218
WeChat	1 327
WhatsApp	2 000
X Twitter	666
You Tube	2 491

SHOW OF FACEBOOK USERS

Age group	Female	Male
13 – 17	2,1%	2,7%
18 – 24	8,9%	12,6%
25 – 34	12,3%	17,6%
35 – 44	8,5%	10,9%
45 – 54	5,5%	6,1%
55 – 64	3,8%	3,5%
65+	3%	2,6%
Total	.....	.....

[Adapted from www.statista.com]

Use TABLE 2 above to answer the questions that follow.

1.2.1 Write down the number of TikTok users in numerals without words. (2)

1.2.2 Determine the age group where the different percentage between male and female Facebook users is exactly 0,3. (2)

1.2.3 Calculate the total percentage of male Facebook users. (2)

1.2.4 Identify the social network with the second least number of users. (2)

1.3 Tumelo runs a baking business from her home. She bakes and sells jam tarts. The jam tarts are sold in packs. Each pack contains 6 jam tarts. The ingredients for baking the jam tarts are shown in TABLE 3 below.

TABLE 3: INGREDIENTS FOR BAKING 1 BATCH OF JAM TARTS. (24 JAM TARTS)

Ingredients	Quantity purchased	Cost of items purchased	Actual quantity used	Actual cost of quantity used
Vanilla essence	100 ml	R30,00	5 ml	**A**
Flour	5 kg	R65,99	1,5 kg	R19,80
Baking powder	200 g	R34,99	10 g	R1,75
Soft margarine	500 g	R35,98	250 g	R17,99
Sugar	2,5 kg	R54,99	150 g	R3,30
Eggs	½ dozen	**B**	2 eggs	R3,66
Apricot jam	450 g	R27,00	100 g	R6,00
Total				**R54,00**

[Adapted from www.briefly.co.za]

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

1.3.1 Define the term *Cost price* in the given context. (2)

1.3.2 Calculate the missing values:
(i) A (2)

(ii) B (3)

1.3.3 Calculate the actual cost of ingredients to make ONE pack of jam tarts. (3)

1.3.4 Determine the number of batches she will be able to make with the quantity of baking powder she bought. (2)

[31]

QUESTION 2

2.1 Randy Smith, 45 years old works for the department of home affairs at Beitbridge border post. He received the tax document shown on ANNEXURE A for the tax year 2022/23. He contributes towards medical aid for himself, his wife and two children. Income tax rates for 2022/23 are shown in TABLE 4 below.

TABLE 4: 2022/23 TAX RATE TABLE

TAXABLE INCOME(R)	RATES OF TAX
0 – 226 000	18% of taxable income
226 001 – 353 100	40 680 + 26% of taxable income above 226 000
353 101 – 488 700	73 726 + 31% of taxable income above 353 100
488 701 – 641 400	115 762 + 36% of taxable income above 488 700
641 401 – 817 600	170 734 + 39% of taxable income above 641 400
817 601 – 1 731 600	239 452 + 41% of taxable income above 817 600
1 731 601 and above	614 192 + 45% of taxable income above 1 731 600

TAX REBATES

REBATE	2022/23	2021/22	2020/21
Primary (below age 65)	R16 425	R15 714	R14 958
Secondary (age 65 – below 75)	R9 000	R8 613	R8 199
Tertiary (75 and older)	R2 997	R2 871	R2 736

MONTHLY MEDICAL AID TAX CREDITS

	2022/23	2021/22	2020/21
Principal member	R347	R332	R319
First dependent	R347	R332	R319
Each additional dependent	R234	R224	R215

[Adapted from www.sars.gov.za]

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

2.1.1 Write down Randy's income tax number. (2)

2.1.2 State the period in months covered by the tax document. (2)

2.1.3 Calculate his annual medical tax credits. (4)

2.1.4 Randy stated that his total tax payable for 2022/23 was incorrectly calculated.

Verify showing ALL calculations if his statement is valid. (8)

2.2 Gavaza needs a new stove. She saw the following advertisement on a local store leaflet.

5- Burner gas/ electric stove with auto ignition.
Cash Payment Option

New selling price including VAT R10 999,00

Save R2 000,00

Hire Purchase Option

20% deposit

R609,00 × 30 Months

Total cost excluding deposit R……...

[Adapted from bradlows.co.za]

Use the information above to answer the questions that follow.

2.2.1 Define the concept *hire purchase*. (2)

2.2.2 Calculate the original price of the stove. (2)

2.2.3 Calculate the VAT amount included in the new selling price. (3)

2.2.4 Explain why the stove in the advertisement is shown as gas / electric. (2)

2.2.5 Gavaza stated that if she buys the stove with the Cash Option, she will save more than one third of the total cost price including deposit of the hire purchase option.

Verify with calculations if her statement is valid. (8)

[33]

QUESTION 3

3.1 TABLE 5 below shows a summary of the highest level of education for all South Africans who were 25 years and older in 2001, 2011 and 2022.

TABLE 5: HIGHEST LEVEL OF EDUCATION OF PERSONS 25 YEARS AND OLDER IN 2001, 2011 AND 2022

Educational attainment	Census year		
	2001	2011	2022
No Schooling	4 567 497	2 665 874	2 576 011
Some Primary	4 083 742	3 790 134	2 778 297
Completed Primary	1 623 467	1 413 895	1 317 726
Some Secondary	7 846 125	10 481 579	11 880 302
Completed grade 12	5 200 602	8 919 608	14 122 681
Post School	2 151 336	3 644 617	4 602 765
Other	-	113 586	300 207
Total	.....	**31 029 291**	**37 578 088**

[Adapted from www.statssa.gov.za]

Use TABLE 5 above to answer the questions that follow.

3.1.1 Write down the type of instrument used to collect the data in Table 5. (2)

3.1.2 Determine the total number of people 25 years and older in 2001. (3)

3.1.3 The number of people who were 25 years and older in 2011 was approximately 59,93617%.

Determine the total number of people who were younger than 25 years in 2011. (5)

3.1.4 The total population in South Africa in 2022 was 62 027 503.

Determine the probability, as a decimal of randomly selecting a person with only grade 12 as their highest level of education. (3)

3.2 TABLE 6 below shows the percentage distribution per province of people aged 25 years and older with grade 12 as the highest level of education in 2022.

TABLE 6: PERCENTAGE DISTRIBUTION PER PROVINCE OF PEOPLE WITH GRADE 12 AS THEIR HIGHEST LEVEL OF EDUCATION.

PROVINCE	EC	FS	GP	KZN	LP	MP	NC	NW	WC
%	25,2	34,3	40,9	39,0	29,0	37,7	28,6	32,8	33,3

[Adapted from www.statssa,gov.za]

NOTE:

EC – Eastern Cape	KZN – Kwa Zulu Natal	NC – Northern Cape
FS – Free State	LP – Limpopo	NW – North We
GP – Gauteng	MP – Mpumalanga	WC – Western Cape

Use TABLE 6 above to answer the questions that follow.

3.2.1 Determine the median percentage and write down the name of the province which represent the median. (3)

3.2.2 Calculate, as a percentage, the probability of randomly selecting a province with less than 30% of persons with grade 12 as their highest level of education. (3)

3.2.3 Explain why the total of the percentages in TABLE 6 does not add up to 100 %. (2)

3.2.4 Given that the 75^{th} percentile is 38,35%, calculate the Inter quartile range. (5)

3.2.5 Give a reason why a pie chart is NOT suitable to represent the above data. (2)

[28]

QUESTION 4

4.1 Lihle Mabuza got two job offers. One in the USA as a farming assistant with a monthly salary of US$ 3 998. The second offer is in Canada as a farming supervisor with a monthly salary of 5 384 CAD. TABLE 7 below shows the currency conversion factors on 16 February 2024.

TABLE 7: CURRENCY CONVERSION FACTORS ON 16 FEBRUARY 2024

Currency	Exchange rate
CAD to South African Rand	1 CAD = 14,01 South African Rand
South African Rand to US $	1 South African rand = US $ 0,05288
US $ to CAD	1 US $ = 1,35 CAD

[Adapted from www.xe.com]

NOTE: CAD = Canadian Dollar
US $ = US Dollar

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

4.1.1 Write down the abbreviation for the South African rand. (2)

4.1.2 Calculate the exchange rate between the US dollar and the South African Rand in the form US $1 = R…….. (3)

4.1.3 Identify the strongest currency against the South African Rand. (2)

4.1.4 Lihle stated that the salary offer in USA is R200,00 more than the salary offers in Canada in terms of South African rands.

Verify, showing ALL calculations whether Lihle's statement is valid. (8)

4.2 An extract from the consolidated budget for the financial year 2023 of Ba-Phalaborwa local municipality is given in ANNEXURE B. Some amounts have been omitted.

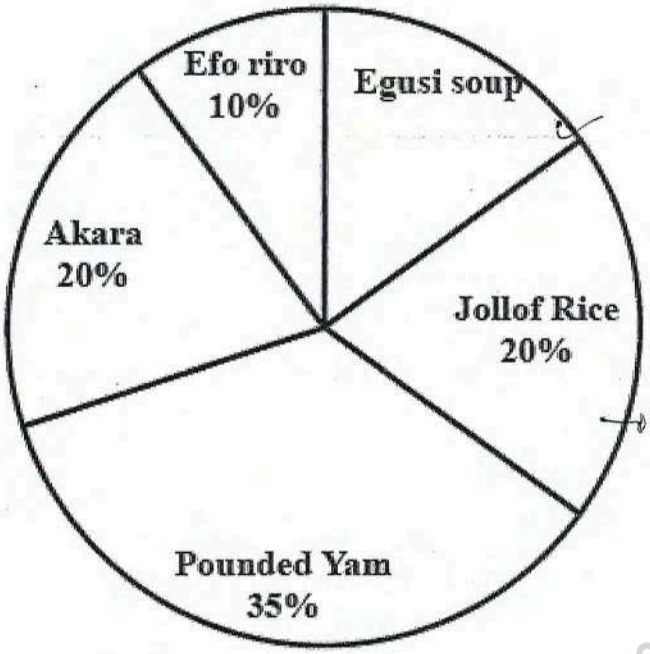
NOTE: All amounts are in thousands of rands.

Use ANNEXURE B to answer the questions that follow.

4.2.1 Calculate the missing value D. (3)

4.2.2 Determine the missing value E and state whether it is a surplus or deficit. (6)

4.3 The pie chart below shows the percentage of customers who ordered different meals at a Nigerian restaurant one evening.



Use the Pie chart above to answer the questions that follow.

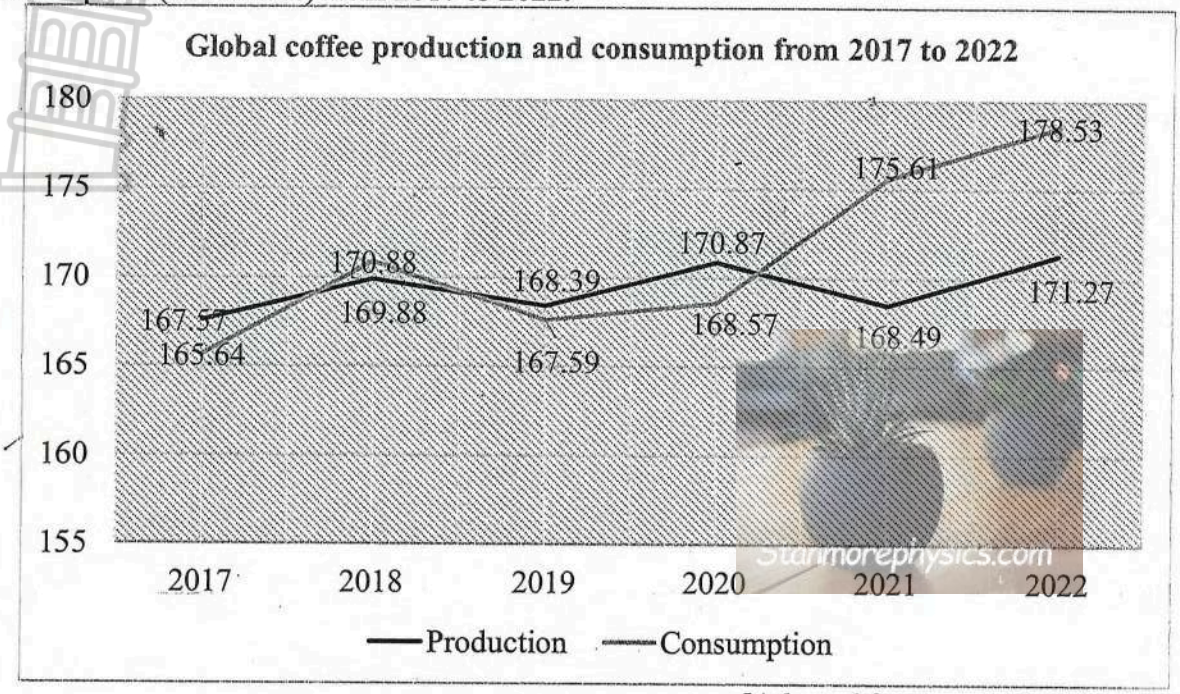
4.3.1 Calculate the number of customers who ordered Egusi soup, if 60 customers ordered Joll of rice. (4)

4.3.2 Determine the probability, as a fraction, of randomly selecting a customer who would NOT have ordered Pounded Yam. (2)

[30]

QUESTION 5

5.1 World coffee market remains in deficit. The graph below shows the global production and consumption (in millions) from 2017 to 2022.



[Adapted from www.thejakarta.com]

Use the graph above to answer questions that follow.

5.1.1 Determine the year with the largest range. (4)

5.1.2 Calculate the average coffee consumption from 2017 to 2022. (3)

5.2 The cost of electricity has increased drastically over the past two years in South Africa. TABLE 8 below shows the average monthly increases in the cost of electricity (including VAT) of Emalahleni local municipality between 2022 and 2023. Some amounts have been omitted.

TABLE 8: AVERAGE MONTHLY INCREASES IN THE COST OF ELECTRICITY (INCLUDING VAT) OF EMALAHLENI LOCAL MUNICIPALITY BETWEEN 2022 AND 2023.

	Average monthly usage in kwh				
	50	**150**	**600**	**1000**	**1500**
Amount payable in 2022	R0,00	R173,22	R1 121,84	R2 242,48	R3 643,28
Amount payable in 2023	R94,28	R332,74	R1 618,84	R2 666,23	**S**
Increase between 2022 and 2023	R94,28	**P**	R497,00	R423,75	R1 405,19
% increase between 2022 and 2023	.....	92,0910%	44,3022%	**Q**	38,5693%

Domestic prepaid electricity tariffs

Block	**Usage in kwh**	**Tariff per kwh**	
		2022	**2023**
1	0 – 50	R0,00	R1,8856
2	51 – 350	R1,7322	R2,3846
3	351– 600	R2,4087	R3,2367
4	> 600	R2,8016	R3,8107

[Adapted from www.emalahlenilm.gov.za]

Use TABLE 8 above to answer question that follow.

5.2.1 Calculate, to the nearest cent, the tariff increases in block 2. (2)

5.2.2 Determine the missing values:
(a) P (2)
(b) Q (3)
(c) S (3)

5.2.3 Show how the amount of R173,22 was calculated. (3)

5.2.4 Shalene used an average of 1 350 kwh of electricity per month. Determine the total annual increase of her electricity bill between 2022 and 2023. (8)

[28]

TOTAL MARKS: 150

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MATHEMATICAL LITERACY P1

SEPTEMBER 2024

ADDENDUM

EMLITP1AD

This ADDENDUM consists of three (03) pages with two (02) annexures

ANNEXURE A

QUESTION 2.1

EMPLOYEE INFORMATION	**EMPLOYEE INCOME TAX CERTIFICATE [IRP 5]**	YEAR OF ASSESSMENT 2022/2023 TAX PERIOD START DATE:20220301 TAX PERIOD END DATE:20230228
EMPLOYEE NUMBER: 81503416	INCOME TAX NUMBER:2237654213	CELL NUMBER: 0713355844
SURNAME: SMITH	DATE OF BIRTH: 17/12/1969	BUSINESS TEL: 015 530 0066
NAME: RANDY		EMPLOYER DETAILS
STREET NO	1688 KREMETART AVE MUSINA	DEPARTMENT OF HOME AFFAIRS
TOWN	MUSINA	
INCOME RECEIVED	INCOME RECEIVED CONTINUE	TAX CREDITS/EMPLOYER/EMPLOYEE CONTRIBUTION
R 469 385 BASIC INCOME	GROSS EMPLOYEE INCOME	SITE
R 43 524 EXTRA INCOME	R 512 909	R0
	DEDUCTIONS	PAYE
	R 38 468	R 80 972,71
	TOTAL DEDUCTIONS	EMPLOYER AND EMPLOYEE CONTRIBUTION
	R 38 468	R0
	GROSS EMPLOYEE INCOME[TAXABLE]	TOTAL TAX ✓
	R 474 441	R 80 972,71
		MEDICAL TAX CREDIT
		C

[Adapted from actual tax document]

ANNEXURE B

QUESTION 4.2

EXTRACT FROM BA-PHALABORWA LOCAL MUNICIPALITY CONSOLIDATED BUDGET [IN THOUSANDS OF RAND]

Description	2021/22	Current Year		2023/24 Medium Term Revenue and Expenditure
	Audited	Original Budget	Adjusted Budget	Budget Year 2023/24
Revenue				
Property Rates	141 319	142 356	173 240	184 556
Service Charges	130 692	187 273	172 273	196 353
Investment Revenue	2 434	2 481	2 481	2 613
Transfer cost	**D**	237 139	236 221	264 029
Other Revenue	97 390	97 556	80 723	85 381
Total Revenue	**601 228**	**666 806**	**664 939**	.....
Expenditure				
Employee Costs	165 677	185 239	185 231	199 891
Remunerations of Councillors	17 262	19 089	19 089	20 101
Depreciation and Amortisation	86 780	75 295	75 295	79 285
Interest	18 266	2 500	18 500	19 481
Inventory Consumed and bulk purchases	130 847	141 899	141 588	164 979
Transfers and Subsidies	9 854	1 091	591	1 020
Other expenditure	197 761	201 303	189 109	279 769
Total Expenditure	**626 447**	**626 416**	**629 403**	.....
Surplus/Deficit	**(25 219)**	**40 390**	**35 536**	**E**

[Adapted from www.phalaborwa.gov.za]

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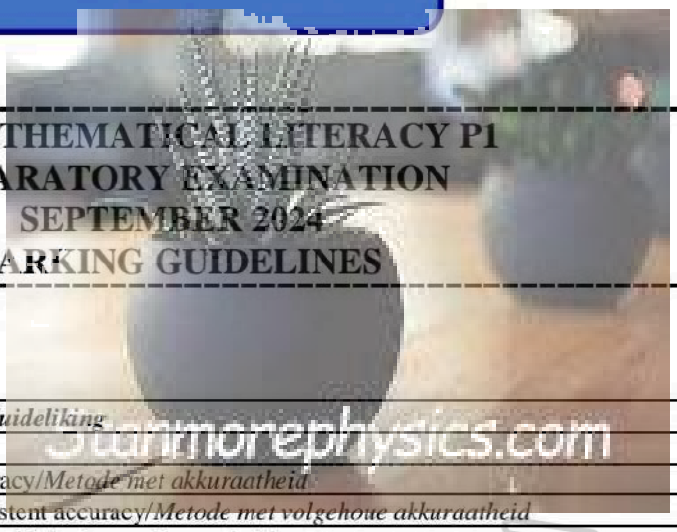

MATHEMATICAL LITERACY P1
PREPARATORY EXAMINATION
SEPTEMBER 2024
MARKING GUIDELINES

MARKS/*PUNTE*: 150

Symbol/*Kode*	Explanation/*Verduideliking*
M	Method/*Metode*
MA	Method with accuracy/*Metode met akkuraatheid*
MCA	Method with consistent accuracy/*Metode met volgehoue akkuraatheid*
CA	Consistent accuracy/*Volgehoue akkuraatheid*
A	Accuracy/*Akkuraatheid*
C	Conversion/*Herleiding*
S	Simplification/*Vereenvoudiging*
RT	Reading from a table/graph/document/diagram/*Lees vanaf tabel/grafiek/dokument/diagram*
SF	Correct substitution in a formula/*Korrekte vervanging in 'n formule*
O	Opinion/Explanation/*Opinie/Verduideliking*
P	Penalty, e.g. for no units, incorrect rounding off, etc./*Penalisasie, bv. vir geen eenhede, verkeerde afronding, ens.*
NPR	No penalty for correct rounding/*Geen penalisasie vir korrekte afronding nie*
NPU	No penalty for omitting unit, but wrong unit is penalised/*Geen penalisasie indien die eenheid uitgelos is, maar wel indien 'n verkeerde eenheid gebruik word.*
AO	Answer only/*Slegs antwoord*

These marking guidelines consist of 12 pages.
Hierdie nasienriglyne bestaan uit 12 bladsye.

NOTE:
- If a candidate answers a question TWICE, only mark the FIRST attempt.
- If a candidate has crossed out (cancelled) an attempt to a question and NOT redone the solution, mark the crossed out (cancelled) version.
- Consistent accuracy (CA) applies in ALL aspects of the marking guidelines; however it stops at the second calculation error.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalise for every extra item presented.
- Rounding is an independent mark.
- General principle of marking, if the candidate makes one mistake he loses one mark.
- A conclusion mark can only be given if relevant calculations precedes it.

LET WEL:
- *As 'n kandidaat 'n vraag TWEE KEER beantwoord, sien slegs die EERSTE poging na.*
- *As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, sien die doodgetrekte (gekanselleerde) poging na.*
- *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas; dit hou egter op by die tweede berekeningsfout.*
- *Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra item.*
- *Afronding tel as 'n afsonderlike punt.*
- *Die algemene beginsel van merk as 'n leerder een fout maak verloor hy een punt.*
- *'n Gevolgtrekkingspunt kan slegs gegee word indien relevante berekeninge dit voorgaan.*

QUESTION/*VRAAG* 1 [31 MARKS/*PUNTE*] ANSWER ONLY FULL MARKS			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.1.1	-8,8°C; -8,6°C; -7,4°C; -5,7°C; -5,7°C; -4,7°C. -0,8°C; -0,6°C; 6,1°C; 7,0°C ✓RT ✓A	1RT all correct values 1A correct order (2)	D L1 E
1.1.2.	22 December 2023✓✓RT	2RT correct date (2)	D L1 E
1.1.3.	Continuous ✓✓A	2A correct answer. (2)	D L1 M
1.1.4.	✓RT Difference = - 0,9°C – (-8,8°C)✓MA = 7,9°C✓A	1RT correct values 1MA subtracting correct values 1A simplification (3)	D L1 E
1.1.5	5 OR Five ✓✓A	2A correct number of days. (2)	D L1 E

Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.2.1	1 218 000 000✓✓A	2A correct answer (2)	D L1 E
1.2.2	55 – 64 ✓✓A	2A correct answer. (2)	D L1 E
1.2.3	Total % of Facebook male users. = 2,7% + 12,6% + 17,6% + 10,9% + 6,1% + 3,5% + 2,6%✓MA = 56% ✓A	1MA adding all correct values. 1A simplification. (2)	D L1 E
1.2.4	Douyin ✓✓ RT	2RT correct answer (2)	D L1 E
1.3			
1.3.1	The amount of money it costs Tumelo to make the jam tarts.✓✓A OR The price at which Tumelo spent to buy the ingredients.✓✓A OR The amount of money Tumelo use/spent to make the jam tarts.✓✓A	2A correct definition. (2)	F L1 E
1.3.2 (i)	A = R 30,00 × $\frac{5\ ml}{100\ ml}$ ✓MA = R1,50✓CA OR 100 ml ÷ 5ml = 20✓MA A = $\frac{R30,00}{20}$ = R1,50 ✓CA OR A = R54,00 – (R6,00 + R3,66 + R3,30 + R17,99 + R1,75 + R19,80)✓MA = R54,00 – R52,50 = R1,50 ✓CA	1MA multiplying correct values. 1CA simplification OR 1MA dividing correct values. 1CA simplification OR 1MA adding and subtracting correct values. 1CA simplification. (2)	F L1 M

1.3.2 (ii)	✓A $B = \frac{6}{2} \times R3,66$ ✓MA $= R10,98$ ✓A OR ✓A $B = 3 \times R3,66$ ✓MA $= R10,98$ ✓A	1A correct fraction 1MA multiplying by R3,66. 1CA simplification. OR 1A correct value 3 1MA multiplying by R3,66. 1CA simplification. (3)	

1.3.3	$24 \div 6 = 4$ ✓ M Actual Cost $= \frac{R54,00}{4}$ ✓MA = R13,50 ✓A OR Actual Cost $= \frac{R54,00}{24}$ ✓M × 6 ✓MA = R13,50✓A	1M dividing values. 1MA multiplying or dividing correct values. 1CA simplification. OR 1M dividing values. 1MA multiplying or dividing correct values. 1CA simplification (3)	F L2 M
1.3.4	Number of batches $= \frac{200\ g}{10\ g}$ ✓MA = 20 ✓A	1MA dividing correct values. 1A simplification. (2)	F L1 E
		[31]	

UESTION 2 [33 MARKS]			
Ques	**Solution**	**Explanation**	**Level**
2.1.1	2237654213✓✓RT	2A correct tax number (2)	F L1 E
2.1.2	12 months✓✓ A	2A correct answer (2)	F L 1 E
2.1.3	Monthly tax credits ✓MA = (R347 × 2) + (R234 × 2)✓MA = R694 + R468 = R1 162 Annual tax credits = R1 162 × 12 ✓MCA = R13 944 ✓CA	1MAmultiplying correct values 1MA multiplying correct values. 1MCA multiplying by 12. 1CA simplification. (4)	F L3 M
2.1.4	Tax before rebates. ✓RT = R73 726 + 31% × (R474 441 – R353 100)✓SF = R73 726 + 31% × R121 341 = R73 726 + R37 615,71✓S = R111 341,71✓CA Tax after rebates ✓MA ✓MCA = R111 341 – R16 425 – R13 944 = R80 972,71✓CA His statement is not valid.✓O	**CA from 2.1.3** 1RT correct bracket. 1SF substitute R474 441. 1S simplification 1CA amount before rebates. 1MA subtracting rebate. 1MCA subtracting medical tax credits. 1CA simplification. 1O conclusion. (8)	F L4 M
2.2			
2.2.1	Buying goods on credit.✓✓A OR Buying goods on small regular payments until debt is completely paid.✓✓A	2A correct definition. (2)	F L1 E

2.2.2	Original Selling Price = R10 999,00 + R2 000,00✓MA = R12 999,00✓A	1MA adding correct amounts. 1A simplification. **AO** (2)	F L1 E
2.2.3	✓A VAT amount = $\frac{15}{115}$ × R10 999,00 ✓MA = R1 434,65✓CA OR Price excluding VAT = $\frac{\text{R10 999,00}}{1,15}$ ✓MA OR = $\frac{100}{115}$ × R10 999,00 ✓MA = R9 564,35 ✓A VAT amount = R10 999,00 – R9 564,35 = R1 434,65✓CA	1A correct VAT calculation. 1MA multiplying by R10 999. 1CA simplification. OR 1MA dividing by 1,15 OR 1MA multiplying by $\frac{100}{115}$ 1A VAT excluded amount. 1CA simplification. (3)	F L2 M
2.2.4	The stove function on dual purpose of gas and electricity.✓✓O	1O correct explanation. (2)	F L4 E

2.2.5	Deposit = 20% × R10 999,00 = R2 199,80✓A Total cost including deposit. ✓MA = R609,00 × 30 months + R2 199,80✓MCA = R20 469,80✓CA One third of the amount = R20 469,80 × ⅓ / ÷ 3 ✓MCA = R6 823,27✓CA Amount saved = R20 469,80 – R10 999,00 = R9 470,80✓CA Her statement is valid.✓O	1A deposit amount. 1MA correct value × 30 1MCA adding deposit. 1CA simplification. 1MCA dividing by 3 or × by ⅓. 1CA simplification. 1CA amount saved. 1O conclusion. (8)	F L4 D
		[33]	

QUESTION 3 [28 MARKS]			
Ques	**Solution**	**Explanation**	**Level**
3.1.1	Questionnaire/ Survey/ Google form/interview✓✓A	2 RT correct instrument (2)	D L1 E
3.1.2.	Total number ✓RT = 4 567 497 + 4 083 742 + 1 623 467 + 7 846 125 + 5 200 602 + 2 151 336 ✓MA = 25 472 769 ✓CA	1RT all correct values. 1MA adding all correct values. 1CA simplification, (3)	D L2 E
3.1.3.	✓RT Total population = $\frac{31\ 029\ 291}{59{,}93617\%}$ ✓MA = 51 770 560✓A Total number of persons younger than 25 years. = 51 770 560 – 31 029 291✓MCA = 20 741 269 ✓CA	1RT correct value. 1MA dividing by correct %. 1A total population, accept 51 770 561. 1MCA subtracting correct values. 1CA simplification, accept 20 741 270. (5)	D L3 D
3.1.4.	✓A Probability = $\frac{14\ 122\ 681}{62\ 027\ 503}$ ✓A = 0,23 / 0,228 / 0,2✓CA	1A numerator. 1A denominator. 1CA simplification. (3)	P L2 E
3.2			
3.2.1	25,2; 28,6; 29,0; 32,8; 33,3; 34,3; 37,7; 39,0; 40,9 ✓A Median = 33,3 ✓A Western Cape✓CA	1A arranging values. 1A correct median. 1CA correct province. (3)	D L2 M
3.2.2	✓A Probability = $\frac{3}{9}$ ✓A × 100% = 33% /33,3% / 33,33% ✓CA	1A numerator. 1A denominator. 1CA simplification. (3)	P L2 M

3.2.3	Data is per province.✓✓A OR The percentages given represent the number of people with grade 12 as a percentage of the number of people 25 years and older in each province and not nationally.✓✓O OR Rounding.	2O correct explanation. (2)	D L4 D
3.2.4	$Q1 = \frac{28,6 + 29,0}{2}$ ✓MA $= 28,8\%$ ✓A IQR = Q3 − Q1✓MA $= 38,35\% - 28,8\%$ ✓MCA $= 9,55\%$ ✓CA	1MA correct values ÷ by 2. 1A correct Q1. 1MA correct formula. 1MCA subtracting correct values. 1CA simplification. (5)	D L3 M
3.2.5	The percentages do not add up to 100%.✓✓O OR The degrees do not add up 360º.✓✓O OR There are too many sectors.✓✓O	2O reason. (2)	D L4 M
		[28]	

	QUESTION 4 [30 MARKS]		
4.1.1	ZAR✓✓A	2A correct abbreviation. (2)	F L1 E
4.1.2	1 ZAR = US $0,05288 ✓RT US $1 = $\frac{1}{0,05288}$ ✓MA = R18,91074 ✓A	1RT correct exchange rate. 1MA dividing correct values. 1A simplification. NPR (3)	F L2 M
4.1.3	US dollar / US $✓✓RT	2A correct currency (2)	F L1 E
4.1.4	USA offer in rands. ✓A = $\frac{3\ 998}{0,05288}$ ✓MA = R75 605,14✓A OR ✓A = 3 998 × R18,91074 ✓MA = R75 605,14✓A Canadian offer in rands. = 5 384 × R14,01✓MA = R75 429,84✓A Difference in rand = R75 605,14 – R75 429,84✓MCA = R175,30 ✓CA His statement is invalid / not valid.✓O	1A correct exchange rate. 1MA dividing/multiplying with correct exchange rate. 1A simplification. OR 1A correct exchange rate. 1MA dividing/multiplying with correct exchange rate. 1A simplification. 1MA multiplying with correct exchange rate. 1A simplification. 1MCA subtracting values. 1CA simplification. 1O conclusion. (8)	F L4 M
4.2			
4.2.1	Value of D in thousands of rand. ✓MA = 601 228 – (141 319 + 130 692 + 97 390)✓ RT = 601 228 – 371 835 = 229 393✓CA	1MA subtracting from 601 228. 1RT 3 correct values.; 1CA simplification. (3)	F L2 M

4.2.2	Total income in thousands of rand. = 184 556 + 196 353 + 2 613 + 264 029 + 85 381✓MA = 732 932✓A Total expenditure in thousands of rand. = 199 891 + 20 101 + 79 285 + 19 481 + 164 979 + 1 020 + 279 769 = 764 526 ✓A E = 732 932 – 764 526✓MCA = - 31 584 / (31 584) ✓CA It is a deficit.✓O	1MA adding correct values. 1A simplification 1A simplification. 1MCA subtracting correct values. 1CA simplification. 1O conclusion. (6)	F L3 M
4.3			
4.3.1	% ordering Egusi soup = 15%✓A If 20% of the total = 60 1% of the total = 60÷ 20 = 3✓MA 15% of the total = 15 × 3✓MA = 45✓CA OR Total number of customers = $\frac{60}{20\%}$ ✓MA = 300✓A Number of customers ordering Egusi soup = 15% × 300✓MA = 45✓CA OR ✓MA ✓A 20%: 60 = 15%: X X = $\frac{15\%}{20\%}$ × 60 ✓MA = 45✓CA	1A % ordering Egusi soup. 1MA calculating 1%. 1MA multiplying by 15. 1CA simplification. OR 1MA dividing 60 by 20%. 1A total number of customers. 1MA calculating 15%. 1CA simplification. OR 1MA correct ratio. 1A % ordering Egusi soup. 1MA calculating number of customers. 1CA simplification. (4)	D L2 D
4.3.2	Probability (not ordering Pounded Yam) = $\frac{65}{100}$ ✓A✓A OR = $\frac{13}{20}$ ✓A✓A	1A numerator. 1A denominator. (2)	D L3 M
		[30]	

	QUESTION 5 [26 MARKS]		
5.1.1	2021 Range (in millions) = 175,61 – 168,49✓MA = 7,12✓A 2022 Range (in millions) = 178,53 – 171,27 = 7,26✓CA The year with the largest range = 2022✓CA	1MA subtracting correct values. 1A simplification. 1CA simplification. 1CA correct year. (4)	D L2 E
5.1.2	Average coffee consumption. $= \frac{165,64+170,88+167,59+168,57+175,61+178,53}{6}$ ✓MA $= \frac{1026,82}{6}$ ✓MA = 171,14 ✓CA	1MA mean concept. 1MA adding all correct values. 1CA simplification. NPR (3)	D L2 M
5.2			
5.2.1	Tariff increase = R2,3846 – R1,7322✓MA = R0,6524 = R0,65✓R	1MA subtracting correct values. 1R correct rounding. (2)	F L2 E
5.2.2 (a)	P = R332,74 – R173,22✓MA = R159,52✓A	1MA subtracting correct amounts. 1A simplification. (2)	F L2 M
(b)	$Q = \frac{R2\ 666,23-R2\ 242,48}{R2\ 242,48} \times 100\%$ ✓MA ✓MA = 18, 8964896✓CA	1MA subtracting and dividing correct amounts. 1MA calculating %. 1CA simplification. NPR (3)	
(c)	S = R3 643,28 × 138,5693% ✓RT ✓MA = R5 048,47✓A OR S = R3 643,28 × 38,5693% + R3 643,28 ✓MA ✓RT = R1 405,19 + R3 643,28 = R5 048,47✓A	1RT correct amount. 1MA calculating % increase. 1A simplification. 1MA calculating % increase. 1RT correct amount. 1A simplification. (3)	

5.2.3	Amount payable. ✓ RT ✓RT ✓MA = (50 kwh × R0) + (100 kwh × R1,7322) = R173,22	1RT 50 kwh. 1RT 100 kwh. 1MA multiplying with the correct tariff. (3)	F L2 E

5.2.4	Monthly amount billed in 2022. ✓RT = (50 kwh × R0) + (300 kwh × R1,7322) + (250 kwh × R2,4087) + (750 kwh × R2,8016)✓MA = R519,66 + R602,18 + R2 101,20 = R3 223,04✓ OR Monthly amount billed in 2022. ✓RT = R2 242,48 + (350 kwh × R2,8016)✓MA = R2 242,48 + R980,56 = R3 223,04✓CA Monthly amount billed in 2023. = (50 kwh × R1,8856) + (300 kwh × R2,3846) + (250 kwh × R3,2367) + (750kwh × R3,8107)✓MA = R94,28 + R715,38 + R809,18 + R2 858,03 = R4 476,87✓CA OR = R2 666,23 + (350 kwh × R3,8107)✓MA = R2 666,23 + R1 333,75 = R3 999,98✓CA Monthly increase = R3 999,98 – R3 223,04✓MCA = R776,94✓CA Annual increase = R776,94 × 12 = R9 323,28✓CA	1RT all correct kwh. 1MA multiplying with the correct tariffs. 1CA simplification. OR 1RT correct amount. 1MA 350 kwh multiply by correct tariff. 1CA simplification. 1MA multiplying all kwh with the correct tariffs. 1CA simplification. OR 1MA multiplying and adding correct values. 1CA simplification. 1MCA subtracting correct amounts. 1CA simplification. 1CA annual increase. (8)	F L3 D
		[28]	
		TOTAL: 150	