basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

MATHEMATICAL LITERACY P1

MAY/JUNE 2024

MARKS: 150

TIME: 3 hours

This question paper consists of 14 pages, an ANSWER SHEET and an addendum with 2 annexures.

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. Use the attached ANSWER SHEET to answer QUESTION 3.2.

4. Write your centre number and examination number in the spaces provided on the ANSWER SHEET. Hand in the ANSWER SHEET with your ANSWER BOOK.

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

6. Start EACH question on a NEW page.

7. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.

8. Show ALL calculations clearly.

9. Round off ALL final answers appropriately according to the given context, unless stated otherwise.

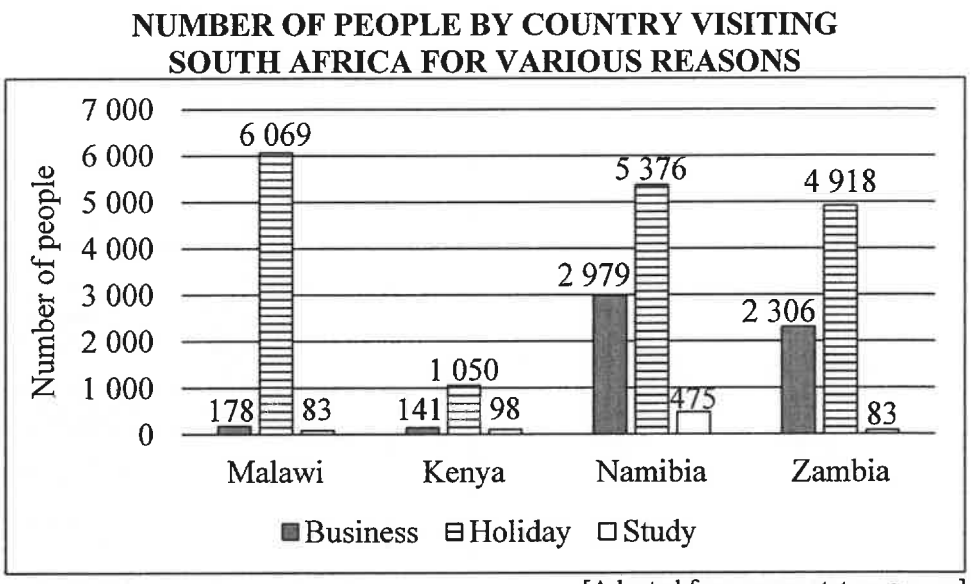
10. Indicate units of measurement, where applicable.

11. Diagrams are NOT necessarily drawn to scale, unless stated otherwise.

12. Write neatly and legibly.

QUESTION 1

1.1 The graph below shows the number of people from four African countries visiting South Africa (SA) for various reasons.



[Adapted from www.statssa.gov.za]

Use the graph to answer the questions that follow.

1.1.1 Name the country with the lowest number of people visiting SA for business. (2)

1.1.2 Identify the countries that have the same number of people visiting SA for study purposes. (3)

1.1.3 Write down the country that has the greatest difference in people visiting SA for business, compared to those visiting SA for a holiday. (2)

1.1.4 Calculate the total number of people visiting SA for study purposes. (3)

1.2 Samuel is on a business trip to South Africa. He was informed that one of the top ten items purchased by people visiting South Africa is rooibos tea.

TABLE 1 below shows prices, including VAT, of some rooibos tea items displayed at a local tourist shop.

TABLE 1: PRICES, INCLUDING VAT, OF SOME ROOIBOS TEA ITEMS

ITEM	DESCRIPTION	PRICE
A	Rooibos tea tin with 20 teabags	R40,00
B	Rooibos tea tin with 40 teabags	R50,00
C	Rooibos Goddess tin with 50 pyramid teabags	R100,00
D	Teapot	R185,00
E	Gift bag	R16,00

[Adapted from www.houseofrooibos]

Use TABLE 1 to answer the questions that follow.

1.2.1 Determine the price of ONE teabag if Samuel buys item **B**. (2)

1.2.2 Write, as a simplified ratio, the price of item **D** to the price of item **C**. (3)

1.2.3 Samuel decided to purchase the following items for his wife:

- Teapot
- Rooibos Goddess tin with 50 pyramid teabags
- Gift bag

Determine the total cost of his purchase. (3)

1.3 Tourists visiting South Africa need to convert their local currency to South African rand (ZAR).

TABLE 2 below shows the currency conversion factors for four African countries as at 27/04/2023.

TABLE 2: CURRENCY CONVERSION FACTORS FOR FOUR AFRICAN COUNTRIES AS AT 27/04/2023

CURRENCY	UNITS PER ZAR	ZAR PER UNIT
Malawian kwacha (MWK)	56,211355	0,017790
Kenyan shilling (KES)	7,443462	0,134346
Namibian dollar (NAD)	1,000000	1,000000
Zambian kwacha (ZMW)	0,971016	1,029850

[Adapted from www.xe.com/currencyconverter]

Use TABLE 2 to answer the questions that follow.

1.3.1 Write down the country whose currency has the same value as the SA rand. (2)

1.3.2 Identify the currency that is stronger than the SA rand. (2)

1.3.3 Show how the Malawian kwacha of 0,017790 ZAR per unit was determined. (2)

1.4 TABLE 3 below shows data relating to the arrival, departure and transit of local and foreign travellers. This data was collected by the Department of Home Affairs at ports of entry and exit to and from South Africa for three selected months. A value (**P**) in this table has been omitted.

TABLE 3: DATA RELATING TO NUMBER OF LOCAL AND FOREIGN TRAVELLERS

TRAVELLERS	NUMBER OF TRAVELLERS		
	February 2021	**January 2022**	**February 2022**
Local Travellers	**131 693**	**399 936**	**359 686**
Arrivals	64 943	221 890	173 089
Departures	66 694	177 890	186 410
Transits	56	156	187
Foreign Travellers	**254 139**	**801 711**	**745 999**
Arrivals	136 510	480 117	398 619
Departures	114 436	310 131	333 057
Transits	3 193	11 463	14 323
TOTAL TRAVELLERS	**P**	**1 201 647**	**1 105 685**

[Adapted from www.statssa.gov.za]

NOTE: 'Transit' refers to passengers who stay less than 24 hours at an airport on the way to their destination.

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

1.4.1 Write, in words without numerals, the total number of travellers for February 2022. (2)

1.4.2 Determine missing value **P**. (2)

1.4.3 Calculate the increase in the number of local travellers from February 2021 to February 2022. (2)

1.4.4 State the month and the year in which the highest number of foreign travellers were in transit. (2)

[32]

QUESTION 2

2.1 Mr Warren Heyns received his Titanium credit card statement for his account at Standard Bank, dated 9 September 2023.

ANNEXURE A shows an adapted statement of Mr Warren Heyns' credit card account.

Use ANNEXURE A to answer the questions that follow.

2.1.1 Write down the amount paid to Standard Bank by Mr Heyns during September 2023. (2)

2.1.2 Give ONE valid reason why some numbers have been omitted from the account number. (2)

2.1.3 Outstanding authorisations refer to purchases that must still be finalised.

Show, by means of calculations, how the amount of R8 323,78 for available money to spend was determined. (3)

2.1.4 The amount paid to Caltex on 12/08/2023 was for 54,1365 litres of petrol.

Calculate the price per litre of petrol on that particular day. (3)

2.1.5 The purchase at the Pro Shop on 24/08/2023 was for a Rovic RV2 golf push cart at a discounted price.

If a 17,5% discount was given on the price paid, calculate the original price of the Rovic RV2 golf push cart. (4)

2.2 The Bay Golf Club uses a golf course situated in England.

TABLE 4 below shows the actual and projected sources of income in pounds (£) of the Bay Golf Club based on previous trends in income for the years 2022 to 2026.

TABLE 4: ACTUAL AND PROJECTED SOURCES OF INCOME (IN £) OF THE BAY GOLF CLUB

SOURCES OF INCOME	FINANCIAL YEAR				
	2022	**2023**	**2024**	**2025**	**2026**
Membership fees	223 027	245 202	257 460	270 333	284 000
Green fees	38 532	42 250	44 360	46 580	49 999
Shop sales	25 983	23 500	**B**	26 000	28 000
Bar sales and functions	95 209	100 000	103 000	106 000	110 000
Lockers and buggy bays	4 095	4 042	4 225	4 456	4 680
Miscellaneous income	2 107	2 500	2 500	2 500	2 500
Grants	7 500				
Total income	**396 453**	**417 494**	**...**	**455 869**	**479 179**

[Adapted from (G&SBGC) Business Plan]

Use TABLE 4 to answer the questions that follow.

2.2.1 Identify the source of income that is expected to generate the second highest income across the years. (2)

2.2.2 The ratio of the income for shop sales for 2023 and 2024 is given as 47 : 49.

Determine missing value **B**. (4)

2.2.3 Calculate the percentage change in the total actual and projected sources of income from 2022 to 2025. (5)

2.2.4 According to the website statista.com the projected inflation rate for 2025 and 2026 will increase by 1,82% and 2% respectively.

A club member stated that if the membership fees increased according to the projected inflation, the difference between the projected inflation value for 2026 and the projected table value for 2026 will be £16 611,31.

Verify, with calculations, whether or not the club member's statement is VALID. (6)
[31]

QUESTION 3

3.1 Staff at public schools are required to adhere to stipulated percentages or fractions relating to the total number of weekly periods based on their post level.

Table 5 below shows the stipulated teaching time per post level per school type.

TABLE 5: STIPULATED TEACHING TIME PER POST LEVEL PER SCHOOL TYPE

STAFF	PRIMARY SCHOOL (PS)	SECONDARY SCHOOL (SS)
Post level 1 (teacher)	Between 85% and 92%	Between 85% and 90%
Post level 2 (departmental head)	Between 85% and 90%	85%
Deputy principal	$\frac{3}{5}$	$\frac{3}{5}$
Principal	Between 10% and 92%	Between 5% and 60%

[Adapted from www.gov.za]

Woodhill Senior Secondary School (SS) has a timetable with 40 periods per week. Shown below are the number of periods per week allocated to their staff members. The missing value, **D**, represents the number of periods taught by the deputy principal.

3	**D**	26	30	32	33	33	33	33	33
34	34	35	35	35	35	35	35	35	35
36	36	36	36	37	37	37	37	37	

Moloto Primary School (PS) has a timetable with 37 periods per week. Shown below are the number of periods per week allocated to their staff.

10	23	25	27	27	29	29
29	29	30	30	30	30	30
31	31	31	32	32	32	34

[Adapted from www.asctimetables.com]

Use TABLE 5 and the information above to answer the questions that follow.

3.1.1 Determine the number of staff members at Woodhill SS. (2)

3.1.2 Write down the modal number of periods per week for Moloto PS. (2)

3.1.3 Calculate missing value **D**. (3)

3.1.4 Ina stated that since the calculated mean for Woodhill SS is 33, the median will be a better reflection of the average number of periods taught per staff member.

Justify Ina's statement with calculations. (3)

3.1.5 Determine, as a fraction, the probability of randomly selecting a staff member at Moloto PS who teaches 29 or more periods per week. (2)

3.2 TABLE 6A below shows the percentages achieved in Term 1 by ten selected learners of Woodhill SS for Task 1 and Task 2 in Mathematical Literacy.

TABLE 6A: PERCENTAGES ACHIEVED BY TEN SELECTED LEARNERS

LEARNER	A	B	C	D	E	F	G	H	I	J
Task 1	71	79	80	68	63	53	71	22	76	84
Task 2	53	69	53	49	50	47	61	15	47	81

[Adapted from original mark sheet]

On the ANSWER SHEET provided, the performances of Learners **A** to **J** for both tasks are plotted on a graph.

Use TABLE 6A and the graph on the ANSWER SHEET to answer the questions that follow.

3.2.1 (a) Name the type of graph shown on the ANSWER SHEET. (2)

(b) Calculate the range of the percentages achieved for Task 2. (3)

(c) Identify the learner whose marks for both tasks can be classified as an outlier. Give a reason for your answer. (4)

3.2.2 The school's subject policy states that the difference between the mean of the two tasks should be below 15%.

The mean for Task 1 is calculated as 66,7%.

A teacher claimed that the difference in the mean mark for both tasks falls within the school's subject policy.

Verify, showing ALL calculations, whether this teacher's claim is VALID. (5)

3.2.3 The achievements of two other selected learners, **K** and **L**, were added to TABLE 6A to create TABLE 6B.

TABLE 6B: PERCENTAGES ACHIEVED BY TWELVE SELECTED LEARNERS

LEARNER	A	B	C	D	E	F	G	H	I	J	K	L
Task 1	71	79	80	68	63	53	71	22	76	84	68	88
Task 2	53	69	53	49	50	47	61	15	47	81	40	64

Use the ANSWER SHEET provided (where performances of Learners **A** to **J** for both tasks are plotted) to plot the results of Learner **K** and Learner **L** for both tasks. Clearly label the plotted points, **K** and **L**. (4)

[30]

QUESTION 4

4.1 The fundraising committee of St Mark's Anglican Church is planning a braai. At the braai, plates of food will be sold in order to raise funds for a new generator. Each plate of food will be sold for R35.

Each plate of food will consist of:

1 × chop
1 × boerewors
1 × salad and relish
1 × paper plate
1 × bread roll – no charge (sponsored)

They bought 16,7 kg of chops and 13 kg of boerewors at a local butcher enough for 200 plates of food.

The normal prices (per kg) of the meat products bought are given in TABLE 7 below.

TABLE 7: NORMAL PRICE OF MEAT PRODUCTS PER KG

MEAT PRODUCTS	PICTURE	PRICE/kg
Chops		R149,95
Boerewors		R99,99

[Adapted from www.fairfieldmeats.co.za]

The fundraising committee negotiated a discount of 15% with the butcher on the total purchase made.

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

4.1.1 Calculate the total amount the fundraising committee paid for the meat products at the local butcher. (7)

4.1.2 The cost of the salad, relish, paper plates and charcoal is an additional R850,00.

Calculate the cost price of ONE plate of food. (4)

4.1.3 The profit made from selling 200 plates of food was not sufficient.

The fundraising committee still had a shortfall of R2 850,00 to buy the new generator.

They decided to continue selling more plates of food to meet this shortfall.

Determine, rounded to the nearest TEN, the total number of plates of food they had to sell in order to buy the new generator. (6)

4.2 The fundraising committee wanted to design a poster targeted at a specific age group. They studied the estimated population distribution (as a percentage) per age group for the different race groups in South Africa.

The estimated total number of South Africans 15 years and older is 43 378 959.

ANNEXURE B shows a graph of the estimated population distribution (as a percentage) per age group for the different race groups in South Africa.

Use ANNEXURE B to answer the questions that follows.

4.2.1 Write down the probability (as a percentage) of randomly selecting a white person from the white population in the 65+ age group. (2)

4.2.2 It is given that the total number of people in the 55–64 age group is 4 052 572.

Give, rounded to THREE decimal places, the probability of randomly selecting a person in the 55–64 age group from the total number of South Africans, 15 years and older. (4)

4.2.3 Identify which age group the fundraising committee should target for this fundraising venture. Give a reason for your answer. (3)
[26]

QUESTION 5

5.1 Malcolm, a 65-year-old consultant, earns an annual taxable income of R981 500 for the 2023/2024 tax year. He does not belong to a medical aid.

TABLE 8 below shows the tax table for the 2023/2024 tax year.
TABLE 9 shows the rebates for different tax ending years.

TABLE 8: 2023/2024 TAX TABLE (1 MARCH 2023 TO 29 FEBRUARY 2024)

ANNUAL 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

TABLE 9: REBATES FOR DIFFERENT TAX ENDING YEARS

AGE OF PERSON	REBATE FOR YEAR ENDING LAST DAY OF FEBRUARY				
	2024	2023	2022	2021	2020
Person younger than 65	R17 235	R16 425	R15 714	R14 958	R14 220
Person 65 and older	R9 444	R9 000	R8 613	R8 199	R7 794
Person 75 and older	R3 145	R2 997	R2 871	R2 736	R2 601

[Adapted from www.sars.gov.za]

Use the tables and the information above to answer the questions that follow.

5.1.1 State the total number of rebates Malcolm qualifies for. (2)

5.1.2 Calculate Malcolm's monthly tax payable. (7)

5.2 Malcolm is planning to buy a motor vehicle. The cash price of the motor vehicle is R334 000. He considers the following payment options to finance this motor vehicle to the value of R300 000.

OPTION 1: Motor vehicle loan without a residual (balloon payment)
OPTION 2: Motor vehicle loan with a 20% residual (balloon payment)
The balloon payment will be the 73rd payment.
OPTION 3: Personal loan from a bank

TABLE 10 below shows the different motor vehicle payment options.

TABLE 10: MOTOR VEHICLE PAYMENT OPTIONS

	OPTION 1	**OPTION 2**	**OPTION 3**
Interest rate	13%	13%	17,5%
Monthly instalment	R6 115,47	R5 498,19	R6 864,00
Balance outstanding at the end of 72 months	R0	20% of loan value	R0
Cost of loan	**X**	R156 494,00	R194 208
Total payable	R440 313,84	**Y**	R494 208,00
Loan period	6 years	73 months	6 years

[Adapted from www.wesbank.co.za]

Use TABLE 10 and the information above to answer the questions that follow.

5.2.1 Define the term *interest rate* in context. (2)

5.2.2 Determine the difference between the monthly instalments of Option 1 and Option 2. (2)

5.2.3 Calculate missing value **X**.

You may use the formula:

Cost of loan = Instalments × number of months – loan value (3)

5.2.4 Determine missing value **Y**.

You may use the formula:

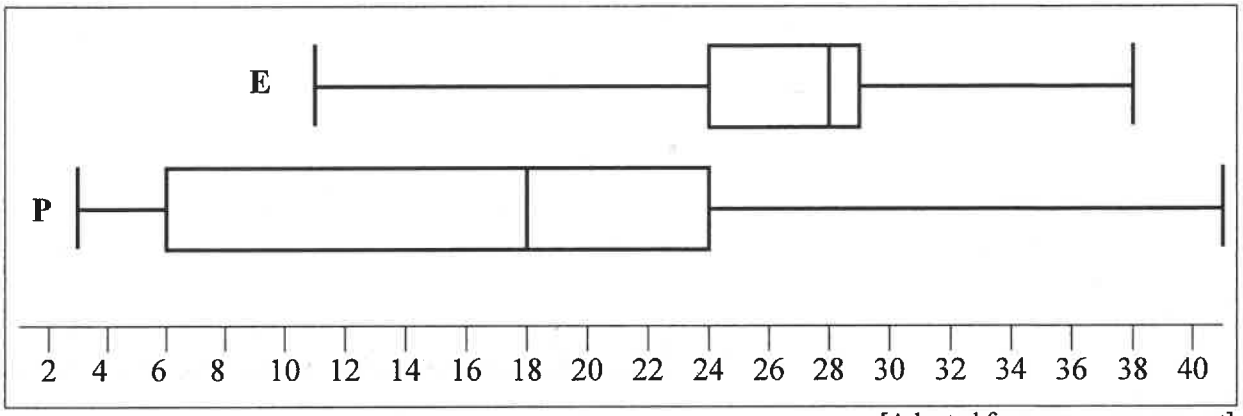
Total payable = Instalments × number of months + balloon payment (5)

5.2.5 Give ONE reason why banks charge more interest on a personal loan compared to a motor vehicle loan. (2)

5.3 Malcolm also studies the trends in the sales of hybrid vehicles.

The following box and whisker plots summarise the percentage sales of the electrical vehicles (**E**) and plug-in hybrid vehicles (**P**) in South Africa.

The following box and whisker plots for the sales of the two types of vehicles were drawn.



[Adapted from www.naamsa.net]

NOTE: A hybrid vehicle is one that uses two or more distinct types of power: either an internal combustion engine or an electric motor powered by batteries.

Use the box and whisker plots above to answer the questions that follow.

5.3.1 Write down the value of the lower quartile for the electrical vehicle (**E**) sales. (2)

5.3.2 An analyst stated that the interquartile range for the electrical vehicles was a quarter of the interquartile range of the plug-in hybrid vehicles.

Verify, showing ALL calculations, whether or not the analyst's statement was VALID. (6)

[31]

TOTAL: 150

CENTRE NUMBER:							

EXAMINATION NUMBER:													

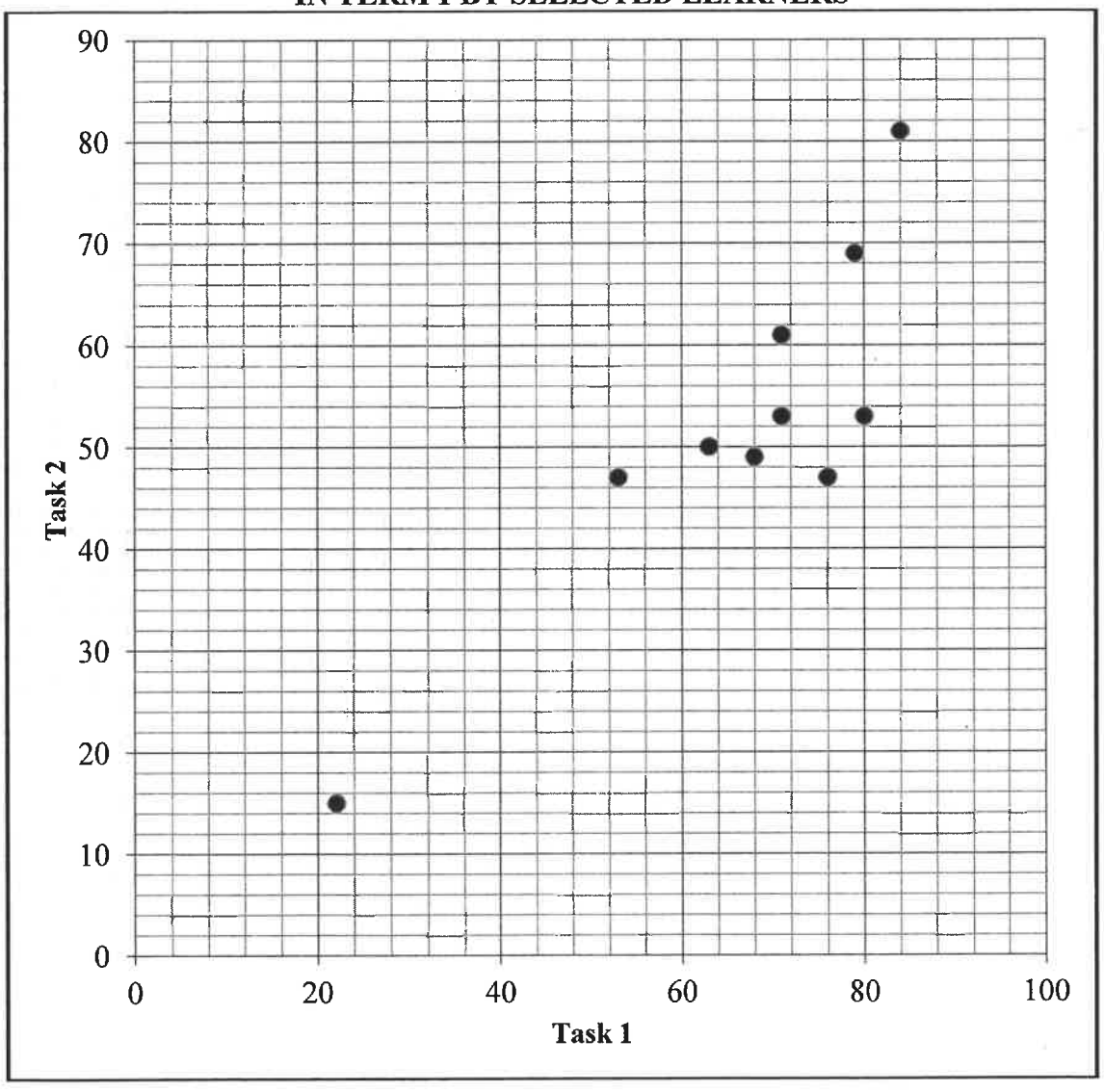
ANSWER SHEET

QUESTION 3.2

TABLE 6B: PERCENTAGES ACHIEVED BY TWELVE SELECTED LEARNERS

LEARNER	A	B	C	D	E	F	G	H	I	J	K	L
Task 1	71	79	80	68	63	53	71	22	76	84	68	88
Task 2	53	69	53	49	50	47	61	15	47	81	40	64

PERCENTAGES ACHIEVED FOR TASK 1 AND TASK 2 IN TERM 1 BY SELECTED LEARNERS



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SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS
SENIORSERTIFIKAAT-EKSAMEN/ NASIONALE SENIORSERTIFIKAAT-EKSAMEN

MATHEMATICAL LITERACY P1/ *WISKUNDIGE GELETTERDHEID V1*

MAY/JUNE/*MEI/JUNIE* 2024

MARKING GUIDELINES/*NASIENRIGLYNE*

MARKS/*PUNTE*: 150

Symbol/*Kode*	Explanation/*Verduideliking*
MA	Method with accuracy/*Metode met 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.*
R	Rounding off/*Afronding*
NPR	No penalty for rounding/*Geen penalisasie vir afronding nie*
NPU	No penalty for omitting correct unit/*Geen penalisasie vir die uitlos van die korrekte eenheid nie.*
AO	Answer only/*Slegs antwoord*
MCA	Method with consistent accuracy/*Metode met volgehoue akkuraatheid*
RCA	Rounding consistent with accuracy/ *Afronding met volgehoue akkuraatheid*

These marking guidelines consist of 19 pages.
Hierdie nasienriglyne bestaan uit 19 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 or break-down.
- 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 one mark is deducted.
- A conclusion mark can only be given if relevant calculations precedes it (at least 1 mark before conclusion).
- No penalty for rounding (NPR) if the first decimal is correct, except questions involving money.

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 of 'break-down'.*
- *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, word een punt afgetrek.*
- *'n Gevolgtrekkingspunt kan slegs gegee word indien relevante berekeninge dit voorgaan (ten minste een punt voor die gevolgtrekking).*
- *Geen penalisering vir ronding (NPR) as die eerste desimaal korrek is nie, behalwe as vrae geld insluit.*

QUESTION/*VRAAG* 1 [32 MARKS/*PUNTE*] ANSWER ONLY FULL MARKS			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.1.1	Kenya / Kenia ✓✓A	2A correct country (2)	D L1 E
1.1.2	Zambia / *Zambië* ✓✓A Malawi / *Malawi* ✓A	2A first correct country 1A second correct country (3)	D L1 E
1.1.3	Malawi / *Malawi* ✓✓A	2A correct country (2)	D L1 M
* 1.1.4	People for Studying Purposes / *Mense vir Studiedoeleindes* ✓RT = 83 + 98 + 475 + 83 ✓MA = 739 tourists ✓A	1RT correct values 1MA adding four correct values 1A simplification (3)	D L1 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.2.1	Price of 1 teabag / *Prys van 1 teesakkie* = R50,00 ÷ 40 ✓MA = R1,25 ✓A **OR / *OF*** ✓A = R1,25 × 40 ✓MA = R50	 1MA R50 divided by 40 1A simplification **OR / *OF*** 1A R1,25 1MA R1,25 multiplied by 40 (2)	F L1 E
* 1.2.2	✓RT 185 : 100 ✓MA 37 : 20 **OR / *OF*** 1 : 0,54 **OR / *OF*** 1,85 : 1 ✓A	 1RT correct values 1MA values in correct order 1A simplification (3)	F L1 M
1.2.3	Total of purchase / *Totaal van aankope* ✓RT = R185,00 + R100,00 + R16,00 ✓MA = R301,00 ✓A	 1RT correct values 1MA adding 3 correct values 1A simplification (3)	F L1 E
* 1.3.1	Namibia / *Namibië* ✓✓A	2A correct country (2)	F L1 E
* 1.3.2	Zambian Kwacha ✓✓A **OR / *OF*** Zambia / ZMW ✓✓A	 2A correct currency (2)	F L1 E
1.3.3	Malawian Kwacha = $\frac{1}{56,211355}$ ✓MA ✓RT = 0,017790 **OR / *OF*** Malawian Kwacha = $\frac{1}{0,017790}$ ✓MA = 56,211355 ✓RT	1MA dividing correct values 1RT reading correct value **OR / *OF*** 1MA dividing correct values 1RT calculating correct value **NPR** (2)	F L1 E

Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.4.1	One million one hundred and five thousand six hundred and eighty five / *Een miljoen een honderd en vyf duisend ses honderd vyf en tagtig.* ✓✓A	2A answer in words (2)	D L1 E
1.4.2	P = 131 693 + 254 139 ✓MA = 385 832 ✓A **OR / *OF*** P = 64 943 + 66 694 + 56 +136 510 + 114 436 + 3 193 ✓MA = 385 832 ✓A	1MA adding correct values 1A simplification (2)	D L1 E
* 1.4.3	Increase / *Verhoging* = 359 686 – 131 693 ✓MA = 227 993 ✓A	1MA subtracting correct values 1A simplification (2)	D L1 E
1.4.4	✓A ✓A February / *Februarie* 2022 **OR / *OF*** Feb '22 **OR / *OF*** 02/2022	1A correct month 1A correct year (2)	D L1 E
		[32]	

QUESTION/*VRAAG* 2 [31 MARKS/*PUNTE*]		**NPU FOR QUESTION 2.2**	
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
2.1.1	R2 000,00 ✓✓A	2A correct amount Accept (– R2 000,00) **NPU** (2)	F L1 E
* 2.1.2	For security reasons / *Vir veiligheidsredes* ✓✓A	2A reason (2)	F L4 E
2.1.3	Available money / *Geld beskikbaar* ✓MA ✓RT =R20 000 – (R5 656,22 + R6 020,00) ✓MA = R20 000 – R11 676,22 = R8 323,78 **OR / *OF*** ✓MA ✓RT = R20 000 – R5 656,22 – R6 020,00 ✓MA = R8 323,78 **OR / *OF*** ✓MA ✓RT = R5 656,22 + R6 020,00 + R8 323,78 = R20 000 ✓MA	1RT 2 correct values 1MA adding correct values 1MA subtracting from R20 000 **OR / *OF*** 1RT 2 correct values 1MA subtracting correct values 1MA subtracting from R20 000 **OR / *OF*** 1RT 2 correct values 1MA adding correct values 1MA getting to R20 000 (3)	F L2 M
* 2.1.4	Price per litre / *Prys per liter* ✓RT = $\frac{\text{R1 376,15}}{\text{54,1365 litres}}$ ✓MA = R25,42 ✓CA **OR / *OF*** ✓MA = R25,42/ℓ × 54,1365 ℓ ✓RT = R1 376,15 ✓CA	1RT correct rand value 1MA dividing by litres 1CA simplification **OR / *OF*** 1RT correct rand value 1MA multiplying 1CA simplification **AO** (3)	F L2 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.1.5	100% – 17,5% = 82,5% ✓MA Original price / *Oorspronklike prys* $= \frac{100}{82,5} \times$ R3 299,99 ✓RT ✓MA = R3 999,99 ✓CA **OR / *OF*** 100% – 17,5% = 82,5% = 0,825 ✓MA $= \frac{\text{R3 299,99}}{0,825}$ ✓RT ✓MA = R3 999,99 ✓CA	1MA calculate discounted percentage 1RT correct value 1MA percentage calculation 1CA simplification **OR / *OF*** 1MA calculate discounted percentage 1RT correct value 1MA divide by 0,825 1CA simplification **NPR** (4)	F L2 D
2.2.1	Bar sales and Functions / *Kroegverkope en Funksies* ✓✓RT	2RT correct item Accept: Bar sales (2)	F L1 E
2.2.2	Projected amount / *Geprojekteerde bedrag* $\frac{47}{23\,500} = \frac{49}{B}$ ✓MA ✓RT **B** = 1 151 500 ÷ 47 ✓MA = 24 500 ✓CA **OR / *OF*** $\frac{47}{23\,500} : \frac{49}{B}$ ✓MA ✓RT $\mathbf{B} = \frac{23\,500}{47} \times 49$ ✓MA = 500 × 49 = R24 500 ✓CA **OR / *OF***	1MA concept of ratio 1RT 23 500 1MA divide by 47 1CA simplification **OR / *OF*** 1MA concept of ratio 1RT 23 500 1MA divide by 47 1CA simplification **OR / *OF***	F L2 D

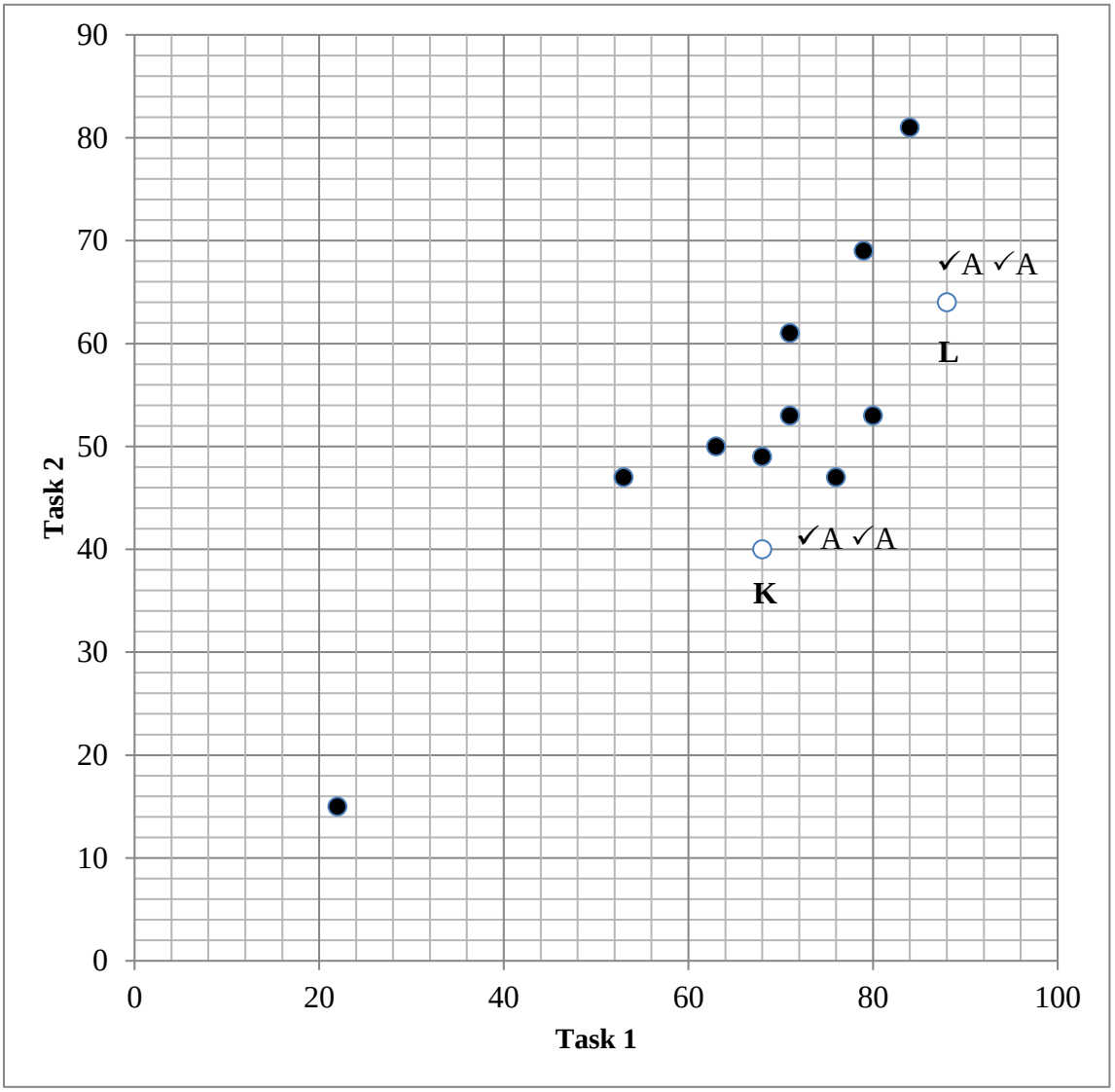
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
2.2.2	Total ratio / *Totale verhouding* = 47 + 49 = 96 Total Income / *Totale Inkomste* = $23500 \times \frac{96}{47}$ ✓RT ✓MA = 48 000 **B** = 48 000 – 23 500 ✓MA = 24 500 ✓CA	1RT 23 500 1MA concept of ratio 1MA subtracting values 1CA simplification (4)	
2.2.3	Difference in income / *Verskil in inkomste* ✓RT = £(455 869 – 396 453) = £59 416 ✓CA % change / *verandering* = $\frac{59\,416}{396\,453} \times 100\%$ ✓MA ✓MA ✓CA = 14,9868… % = 14,99 **OR** 15% **OR / *OF*** % change / *verandering* $= \frac{\text{new price/}new\ prys - \text{old price/}ou\ prys}{\text{old price/ }ou\ prys} \times 100\%$ ✓RT $= \frac{455\,869 - 396\,453}{396\,453} \times 100\%$ ✓MA ✓MA ✓CA $= \frac{59\,416}{396\,453} \times 100$ = 14,9868 ... %= 14,99% **OR/OF** 15% ✓CA **OR / *OF*** Current percentage / *Huidige persentasie* ✓RT $= \frac{455\,869}{396\,453} \times 100\%$ ✓MA = 114,9937067% ✓A Difference in % income / *Verskil in % inkomste* = 114,9937067% – 100% ✓MCA = 14,99% **OR/OF** 15% ✓CA	1RT correct values 1CA difference 1MA % calculation 1MA correct denominator 1CA simplification **OR / *OF*** 1RT correct values 1MA % calculation 1MA correct denominator 1CA correct difference 1CA simplification **OR / *OF*** 1RT correct values 1MA % calculation 1A correct percentage 1MCA correct difference 1CA simplification (5)	F L3 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.4	Year 1's inflation / *Jaar 1 se inflasie*: $= \frac{1,82}{100} \times £257\,460$ ✓RT = £4 685,772 After year 1's inflation / *Na jaar 1 se inflasie*: = £257 460 + £4 685,772 ✓MCA = £262 145,77 ✓CA Year 2's inflation / *Jaar 2 se inflasie*: $= \frac{2}{100} \times £262\,145,77$ = £5 242£,9154 After year 2's inflation / *Na jaar 2 se inflasie*: = £262 145,77 + £5 242£,9154 = £267 388,69 ✓CA Difference / *Verskil* = £284 000 – £267 388,69 ✓MCA = £16 611,31 His statement is VALID / Sy bewering is GELDIG. ✓O **OR / *OF***	1RT correct value 1MCA adding correct values 1CA simplification 1CA amount year 2 1MCA subtracting values 1O conclusion **OR / *OF***	F L4 D

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.4	After year 1's inflation / *Na jaar 1 se inflasie*: ✓MA ✓RT $\frac{101,82}{100} \times$ £257 460 = × 1,0182 = £262 145,77 ✓CA After year 2's inflation / *Na jaar 2 se inflasie*: $\frac{102}{100} \times$ £262 145,77 = £267 388,69 ✓CA Difference / *Verskil* = £284 000 – £267 388,69 ✓MCA = £16 611,31 His statement is VALID / *Sy bewering is GELDIG.* ✓O	1RT correct value 1MA percentage increase 1CA simplification 1CA amount year 2 1MCA subtracting values 1O conclusion (6)	
		[31]	

QUESTION/*VRAAG* 3 [30 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
3.1.1	29 ✓✓A	2A correct number (2)	D L1 E
3.1.2	30 ✓✓A	2A mode (2)	D L2 E
3.1.3	✓RT **D** = $\frac{3}{5}$ × 40 ✓MA = 24 periods ✓CA **OR / *OF*** 33 = $\frac{3 + D + 26 + 30 + 32 ...}{29}$ 33 = $\frac{933 + D}{29}$ ✓RT 33 × 29 = 933 + **D** ✓MA **D** = 957 – 933 **D** = 24 ✓CA **OR / *OF*** ✓RT **D** = 0,6 × 40 ✓MA **D** = 24 periods ✓CA	1RT correct fraction 1MA multiplying with 40 1CA simplification **OR / *OF*** 1RT correct fraction 1MA changing the subject of the formula 1CA simplification **OR / *OF*** 1RT correct fraction 1MA multiplying with 40 1CA simplification **AO** (3)	D L2 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.1.4	Median / *Mediaan* = 35 ✓✓A The median has half the staff above and half the staff below. ✓O *Die mediaan toon die helfte van die personeel bo en helfte van die personeel onder.* **OR / *OF*** The outliers affect the calculation of the mean, hence it is not a reliable average. *Die uitskieters affekteer die berekenining van die gemiddels, daarom is dit nie 'n betroubare punt nie.* ✓O **OR / *OF*** More than 58,62% of staff has 35 periods or more. ✓O *Meer as 58,62% van die personeel het 35 periodes of meer.*	2A median 1O reason (3)	D L4 E
3.1.5	Probability / *Waarskynlikheid* $= \frac{16}{21}$ ✓A ✓A	1A numerator 1A denominator (2)	P L2 E
* 3.2.1 (a)	Scatter plot / *Spreidingsdiagram* ✓✓A	2A correct graph (2)	D L1 E
3.2.1 (b)	Range / *Omvang* ✓RT ✓RT = 81 − 15 = 66 ✓CA	1RT highest 1RT lowest 1CA simplification **AO** (3)	D L2 E
* 3.2.1 (c)	Learner / *Leerder* **H** ✓✓A The marks for both Task 1 and Task 2 are <u>much</u> lower compared to the other learners / *Beide Taak 1 en Taak 2 se punte is <u>heelwat</u> laer in vergelyking met die ander leerders.* ✓✓O The learner failed while all the other learners passed / *Die leerder het gedruip terwyl al die ander leerders geslaag het.*	2A correct learner 2O correct reason (4)	D L4 D

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.2.2	Mean = $\frac{53+69+53+49+50+47+61+15+47+81}{10}$ ✓MA $= \frac{525}{10}$ ✓CA = 52,5 ✓CA Difference / *Verskil* = 66,7 – 52,5 = 14,2 ✓CA VALID / *GELDIG* ✓O	1MA correct concept of mean 1CA correct adding of values 1CA mean 1CA simplification 1O conclusion (5)	D L4 M
* 3.2.3	 2A first point plotted (68;40) 2A second point plotted (88;64) (4)		D L2 M
		[30]	

QUESTION/*VRAAG* 4 [26 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
* 4.1.1	Total cost before discount /*Totale koste voor afslag* ✓MA ✓MA = (R149,95 × 16,7) + (R99,99 × 13) = R2 504,165 + R1 299,87 ✓MCA = R3 804,04 ✓CA Discount amount / *Afslag bedrag* $= \frac{15}{100} \times$ R3 804,04 ✓MCA = R570,61 ✓CA Total amount /*Totale koste* = R3 804,04 – R570,61 = R3 233,43 ✓CA $= \frac{85}{100} \times$ R3 804,04 **OR / *OF*** Discounted chops / *Afslag tjops* ✓MA ✓MCA $= \text{R}149{,}95 \times 16{,}7 \times \frac{85}{100} = \text{R}2\ 128{,}54$ ✓CA Discounted boerewors / *Afslag boerewors* ✓MA ✓MCA $= \text{R}99{,}99 \times 13 \times \frac{85}{100} = \text{R}1\ 104{,}89$ ✓CA Total amount / *Totale bedrag* = R2 128,54 + R1 104,89 = R3 233,43 ✓CA **OR / *OF***	1MA multiply correct values 1MA multiply correct values 1MCA adding cost 1CA simplification 1MCA calculating 15% 1CA simplification 1CA simplification **OR / *OF*** 1MA multiply correct values 1MCA calculating 85% 1CA simplification 1MA multiply correct values 1MCA calculating 85% 1CA simplification 1CA simplification **OR / *OF***	F L3 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
* 4.1.1	Total cost before discount /*Totale koste voor afslag* ✓MA ✓MA = (R149,95 × 16,7) + (R99,99 × 13) = R2 504,165 + R1 299,87 ✓MCA = R3 804,04 ✓CA Total amount /*Totale koste* ✓MCA = R3 804 ,04 – (15% × R3 804,04) = R3 804,04 – R570,606 ✓MCA = R3 233, 43 ✓CA	1MA multiply correct values 1MA multiply correct values 1MCA adding cost 1CA simplification 1MCA calculating 15% 1MCA subtracting correct values 1CA simplification (7)	
4.1.2	Total cost / *Totale koste* ✓MCA = R3 233,43 + R850 ✓A = R4 083,43 Cost of 1 plate / *Koste vir 1 bord* = R4 083,43 ÷ 200 ✓MCA = R20,42 ✓CA **OR / *OF*** Cost of meat for 1 plate / *Koste van vleis vir 1 bord* ✓MCA $= \frac{R3\ 233,43}{200}$ ✓MCA = R16,16715 Cost of salad, relish etc for 1 plate / *Koste van slaai, sous ens vir een bord* $= \frac{R850}{200}$ = R4,25 ✓A Total cost / *Totale koste* = R16,16715 + R4,25 = R20,42 ✓CA	**CA from Question 4.1.1** 1MCA adding value from Q 4.1.1 1A adding R850 1MCA correct value ÷ 200 1CA simplification Accept: R20,40 **OR / *OF*** 1MCA dividing value from Q 4.1.1 1MCA correct value ÷ 200 1A R4,25 1CA simplification Accept: R20,40 (4)	F L2 M

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
4.1.3	Profit per plate / *Wins per bord* = R35,00 – R20,42 ✓MA = R14,58 ✓CA Number of plates / *Getal borde* = R2 850,00 ÷ R14,58 ✓MCA = 195,47 ✓CA Total number of plates / *Totale getal borde* = 200 + 195,47 = 395,47 ✓CA = 400 ✓R **OR / *OF*** Profit per plate / *Wins per bord* ✓MA $= \frac{(200 \times R35) - R4083,43}{200}$ $= \frac{R2916,57}{200}$ = R14,58 ✓CA Number of plates / *Aantal borde* $= \frac{R2\,850}{R14,58}$ ✓MCA =195,47 ✓CA Total number of plates / *Totale aantal borde* = 200 + 195,47 = 395,47 ✓CA = 400 ✓R	**CA from Question 4.1.2** 1MA subtracting values 1CA simplification 1MCA dividing by profit 1CA simplification 1CA total number of plates 1R correct rounding **OR / *OF*** 1MA subtracting values 1CA simplification 1MCA dividing by profit 1CA simplification 1CA total number of plates 1R correct rounding (6)	F L3 D
4.2.1	15% ✓✓RT	2RT correct value Accept: 14,5 – 15,2 (2)	P L1 E

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
* 4.2.2	Probability / *Waarskynlikheid* $= \frac{4\ 052\ 572}{43\ 378\ 959}$ ✓A ✓A = 0,0934… ✓CA = 0,093 **OR** 9,342% ✓R	 1A numerator 1A denominator 1CA simplification 1R rounding (4)	P L2 M
4.2.3	25 – 34 age group / *ouderdomsgroep* ✓✓A The largest population is in this group / *Die grootste bevolking is in die groep.* ✓O	2A correct group 1O reason (3)	D L4 M
		[26]	

QUESTION/*VRAAG* 5 [31 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
* 5.1.1	2 / TWO / *TWEE* ✓✓A	2A number of rebates (2)	F L1 E
5.1.2	Tax before rebates / *Belasting voor kortings* ✓RT 251 258 + 41% of taxable income above 857 900 ✓SF = R251 258 + 41% (R981 500 − R857 900) = R251 258 + 41% (R123 600) = R251 258 + R50 676 = R301 934 ✓CA Tax after rebates / *Belasting na kortings* = R301 934 − R17 235 − R9 444 ✓MCA = R275 255 ✓CA Monthly Tax / *Maandelikse belasting* $= \frac{R275\ 255}{12}$ ✓MCA = R22 937,92 ✓CA	**CA from Question 5.1.1** 1RT correct bracket 1SF substitute R981 500 1CA amount before rebates 1MCA subtracting rebates 1CA simplification 1MCA dividing by 12 1CA simplification (7)	F L3 M
5.2.1	Interest rate is the <u>percentage</u> of the total value you have to pay extra for taking the loan. *Rentekoers is die <u>persentasie</u> van die totale waarde wat jy ekstra moet betaal vir die uitneem van die lening.* **OR / *OF*** ✓✓A Interest rate is a <u>percentage</u> charged on the loan taken to buy a motor vehicle / *Rentekoers is 'n <u>persentasie</u> gehef op die lening uitgeneem om die voertuig te koop.*	2A correct definition (2)	F L1 E
5.2.2	Difference / *Verskil* = R6 115,47 – R5 498,19 ✓MA = R617,28 ✓CA	1MA subtracting correct values 1CA simplification **AO** (2)	F L1 E

Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
5.2.3	✓SF **X** = (R6 115,47 × 6 × 12) – R300 000 ✓A = R440 313,84 – R300 000 = R140 313,84 ✓CA	1SF substitution in bracket 1A subtracting R300 000 1CA simplification **AO** (3)	F L2 E
* 5.2.4	Balloon payment / *Ballonpaaiement* ✓RT = 20% × R300 000 = R60 000 ✓A ✓MA **Y** = (R5 498,19 × 72) + R60 000 ✓MCA = R455 869,68 ✓CA	**CA from Question 5.2.3 – R334 000 only** 1RT correct values 1A simplification 1MA correct value × 72 1MCA adding balloon payment 1CA simplification (5)	F L3 M
* 5.2.5	The vehicle serves as <u>security</u> for the loan / *Die voertuig dien as <u>sekuriteit</u> vir die lening.* ✓✓O	2O reason (2)	F L4 E

Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
5.3.1	24 ✓✓RT	2RT correct answer **NPU** (2)	D L2 E
5.3.2	Interquartile Range / *Interkwartielomvang* Electrical / *Elektries* ✓RT $= 29\% - 24\%$ ✓MA $= 5\%$ ✓CA Plug-in hybrid / *Inprophibried* $= 24\% - 6\%$ $= 18\%$ ✓CA Quarter of Plug-in / *Kwart van 'n inprop* ✓CA $= \frac{1}{4} \times 18\% = 4{,}5\% \neq 5\%$ **OR / *OF*** $= \frac{5}{18} = \frac{1}{3{,}6} \neq \frac{1}{4}$ ✓CA **OR / *OF*** $= \frac{5}{18} \times 100 = 27{,}8\%$ ✓CA INVALID / *NIE GELDIG NIE* ✓O	**CA from Question 5.3.1** 1RT using correct values (28,8 – 29,2) 1MA concept of IQR 1CA simplification(4,8 – 5,2) 1CA simplification 1CA simplification **OR** Electric × 4 $= 5\% \times 4 = 20\% \neq 18\%$ 1O conclusion (6)	D L4 D
		[31]	
		TOTAL/*TOTAAL*: 150	