basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P1

NOVEMBER 2024

MARKS: 150

TIME: 3 hours

This question paper consists of 13 pages, an ANSWER SHEET and an addendum with 3 annexures.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FIVE questions. Answer ALL the questions.

2. 2.1 Use the ANNEXURES in the ADDENDUM to answer the following questions:

   ANNEXURE A for QUESTION 2.3
   ANNEXURE B for QUESTION 3.1
   ANNEXURE C for QUESTION 5.1

   2.2 Use the attached ANSWER SHEET to answer QUESTION 4.1.

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

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

5. Start EACH question on a NEW page.

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

7. Show ALL calculations clearly.

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

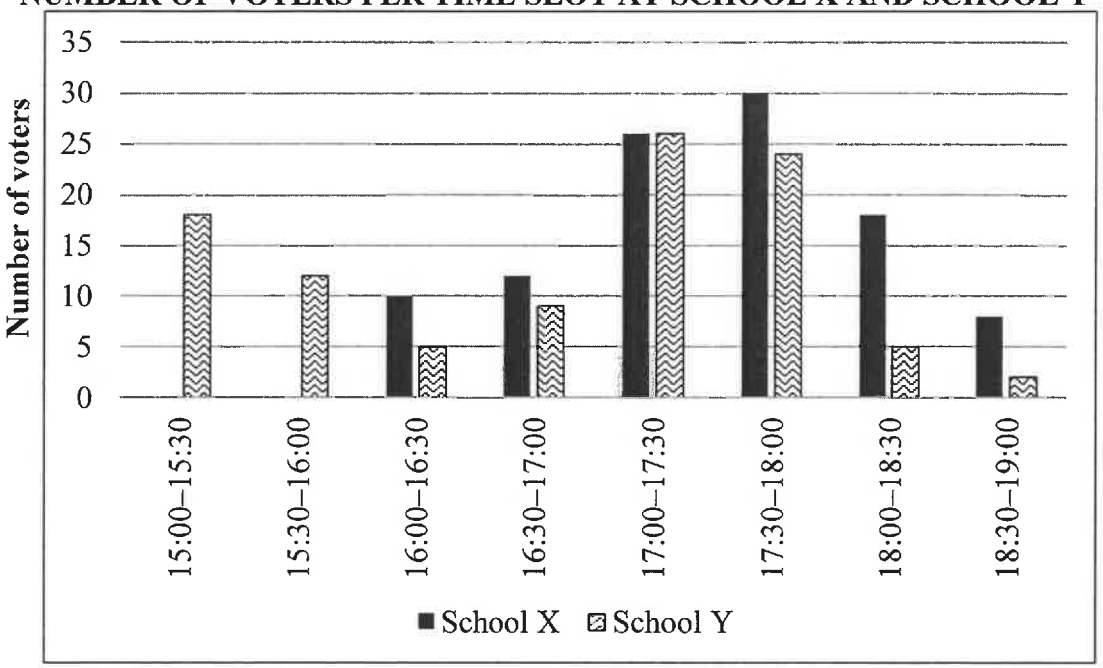
9. Indicate units of measurement, where applicable.

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

11. Write neatly and legibly.

QUESTION 1

1.1 School X and School Y conducted an election for new members to serve on the school governing body (SGB). The graph below shows the number of voters voting during different time slots at School X and School Y.



[Adapted from SGB elections, 2024]

Use the information above to answer the questions that follow.

1.1.1 Write down the number of voters at School Y from 16:00–16:30. (2)

1.1.2 Identify the time slot when 30 people voted at School X. (2)

1.1.3 Choose the statement (A–C) below that BEST describes the trend of the voters at School Y.

A As time went by, the voter numbers increased to a maximum and then decreased.
B The voter numbers started high, then decreased and then picked up again.
C The number of voters decreased, then increased and finally decreased with time. (2)

1.1.4 The probability of randomly selecting a voter from School X is 0,56 during the 17:30–18:00 time slot.

Write 0,56 as a simplified fraction. (2)

1.1.5 Calculate the total number of voters at both schools who voted during the 17:00–17:30 time slot. (3)

1.2 The newly elected SGB planned to have lunch with the staff.

TABLE 1 below shows the average comparative food prices for May 2022 and May 2023 needed for some of the lunch items.

TABLE 1: COMPARATIVE FOOD PRICES FOR SOME LUNCH ITEMS

FOOD ITEMS	PRICE IN RAND		PERCENTAGE CHANGE	
	MAY 2022	MAY 2023	YEAR ON YEAR	MONTH ON MONTH
410 g beans	12,60	15,14	20,2	0,5
250 g instant coffee	45,56	48,47	6,4	–1,0
Eggs 1,5 dozen tray	52,97	57,33	8,2	1,6
750 mℓ sunflower oil	40,68	35,52	–12,7	–2,3
Oranges per kg	22,07	20,10	–8,9	–14,5
Chicken giblets per kg	37,73	46,75	23,9	2,2
Chicken portions per 2 kg	86,80	93,06	7,2	0,6
TOTAL	**A**	R316,37		

[Adapted from www.statsa.gov.za]

Use TABLE 1 above to answer the questions that follow.

1.2.1 Identify the food items that showed a decrease in both the month-on-month and year-on-year percentage change. (3)

1.2.2 Determine the missing value, **A**. (2)

1.2.3 Calculate the price of a dozen eggs during May 2022. (2)

1.2.4 Write down the unit ratio, in the form **1 : ...**, for the price of the oranges in May 2022 to the price of the oranges in May 2023. (3)

1.3 TABLE 2 below gives definitions of terminology used in Mathematical Literacy.

TABLE 2: TERMINOLOGY USED IN MATHEMATICAL LITERACY

LETTER	DEFINITION
A	An increase in the price of a basket of goods or services over time that is representative of the economy as a whole
B	Sum of all the values divided by the number of values
C	The income received from the item sold and the cost price of the item is the same
D	Value or values appearing most often in a data set
E	The difference between the highest and lowest values in a data set
F	An amount paid regularly at a particular rate for the use/loan of money
G	These are amounts that must be paid every month and which stay the same, like rent, school fees and transport costs
H	Middle value in an ordered data set
I	Expenses that change over time or from one week/month to the next, e.g. telephone and electricity costs
J	The point where the income exceeds the expenses

Use TABLE 2 above and match the definitions with the terminology below. Write only the letter (A–J) next to the question numbers (1.3.1 to 1.3.4), e.g. 1.3.5 K.

1.3.1 Break-even point (2)

1.3.2 Inflation (2)

1.3.3 Variable expenses (2)

1.3.4 Mean (2)
[29]

QUESTION 2

2.1 Miecke purchased prepaid electricity and received the following till slip. Note that some information has been omitted.

TAX INVOICE VAT NO. 4420106777
*** PREPAID ELECTRICITY ***
Electricity Municipal Prepaid
VAT REGISTRATION NO. 4370102313
Meter: 07032985769

DOMESTIC HOUSEHOLD TARIFF

Transaction Sequence No.: 56332515

Amount	R1 300,00
Units	*** kWh
Electricity	R1 130,43
VAT 15%	**B**
TOTAL	R1 300,00

[Adapted from original till slip]

Use the information above to answer the questions that follow.

2.1.1 Write down the meter number. (2)

2.1.2 Determine the missing value, **B**. (3)

2.1.3 A partial residential electricity tariff table (excluding VAT) is shown below.

TABLE 3: RESIDENTIAL ELECTRICITY TARIFF

BLOCK	CONSUMPTION (kWh)	TARIFF (R/kWh)
Block 1	0–350	2,19
Block 2	More than 350	2,91

Determine the number of kWh units Miecke purchased. (7)

2.2 Miecke plans to install a home solar system unit consisting of solar panels, a battery and an inverter. She sees the advertisement below in a community newspaper showing the two different payment options for the same unit.

HOME SOLAR SYSTEM UNIT PAYMENT OPTIONS	
OPTION 1: RENT-TO-OWN	**OPTION 2: CASH PRICE**
Pay for 7 years at R1 549 p/m Additional costs: R782 initiation fee Buy-out after rental period R7 820	R78 200 (incl. VAT)

[Adapted from https://solar.alumo.co.za]

Use the information above to answer the questions that follow.

2.2.1 Write down the monthly instalment for the rent-to-own option. (2)

2.2.2 Calculate, excluding VAT, the cash price of the home solar system unit. (3)

2.2.3 After seven years, Miecke decides to buy-out the rent-to-own option.

Calculate the extra amount she has to pay compared to buying the home solar system unit for cash. (5)

2.3 Miecke is 45 years old and earns a monthly taxable income of R39 275,85 in the 2023/2024 tax year. She does not belong to a medical aid.

ANNEXURE A shows the annual tax table for individuals for the 2023/2024 tax year.

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

2.3.1 Identify the tax bracket that Miecke will use to calculate her income tax payable. (3)

2.3.2 Calculate Miecke's annual tax payable for the 2023/2024 tax year. (5)

[30]

QUESTION 3

3.1 ANNEXURE B shows two graphs. GRAPH 1 shows the trends in the total number of Shoprite and Pick n Pay stores for the period 2014 to 2023. GRAPH 2 shows the trends in the total number of employees in these two stores for the period 2005 to 2023.

Use ANNEXURE B and the information above to answer the questions that follow.

3.1.1 Identify the year in which there was a decrease in the number of employees in the Pick n Pay stores for the first time. (2)

3.1.2 It is projected that the number of Pick n Pay stores will increase by 95,39% from 2023 to 2032.

Determine, by means of calculations, the projected number of Pick n Pay stores in 2032. (3)

3.1.3 An analyst stated that Shoprite employed more employees per store than Pick n Pay during 2023.

Verify, showing ALL calculations, whether the analyst's statement is valid. (6)

3.1.4 Determine, as a percentage, the probability of randomly selecting a year where the number of Shoprite stores is fewer than 2 000. (3)

3.2 A study relating to the amount of time spent (in minutes) by a selected number of customers in a store was conducted on a particular Saturday. On that Saturday, a total of 12 342 customers visited the store.

12	15	25	25	40	28	18	23
43	15	22	19	15	8	37	9
24	23	15	67	25	29	6	17
15	43	23	27	33	26	127	10

Use the information above to answer the questions that follow.

3.2.1 Write down the number of customers that represent the sample size and the number of customers that represent the population size for this study. (3)

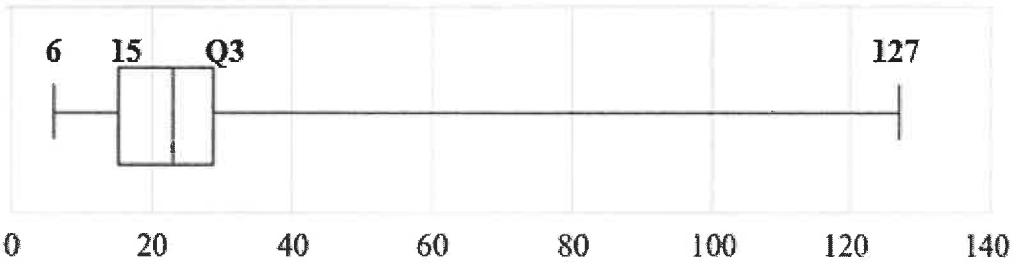
3.2.2 Choose the correct option (**A**, **B**, **C**, **D** or **E**) that represents the stage in the data handling process that uses the measures of central tendency and spread.

A Collecting data
B Classifying and organising data
C Summarising data
D Representing data
E Analysing data (2)

3.2.3 Give a reason why the value of 127 is considered to be an outlier in the data set. (2)

3.2.4 Shown below, in rank order, is selected data of the time spent by customers in the store and an incomplete box-and-whisker plot of the same data.

6	8	9	10	12	15	15	15	15	15	17
18	19	22	23	23	23	24	25	25	25	26
27	28	29	33	37	40	43	43	67	127	



Use the information above to answer the questions that follow.

(a) Calculate the value of the upper quartile (Q3). (3)

(b) Vuyo stated that if the outlier value was removed from the data set, the new interquartile (IQR) value would be 13.

Verify Vuyo's statement, showing ALL calculations. (5)

[29]

QUESTION 4

4.1 Lee's parents plan to celebrate his 21st birthday. This special event will be held at a popular hotel, starting at 18:00.

TABLE 4 below shows some of the budgeted expenses for the party.

TABLE 4: BUDGETED EXPENSES FOR THE PARTY

Cost of the venue	R750 deposit and R6 185 for the day
Food and drinks	R18 000
Birthday cake	R1 250
OPTIONS FOR DISC JOCKEYS (DJs)	
DJ Rain	R4 000 for 5 hours or less. Thereafter the tariff is an additional R1 250 per hour.
DJ 5-Star	R1 000 per hour or part thereof
DJ Cool	R6 000 for the party

[Adapted from www.bloemshowgrounds.co.za>venues & bark.com]

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

4.1.1 The table below represents the cost to hire DJ Rain.

TABLE 5: COST TO HIRE DJ RAIN PER HOUR

Number of hours	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Cost (in R)	4 000	4 000	**P**	4 000	4 000	**Q**	6 500	7 750	**R**

(a) Write a formula to calculate the cost to hire DJ Rain for more than 5 hours in the following form:

Cost = … (3)

(b) Complete the table by calculating the missing values **P**, **Q** and **R**. (4)

4.1.2 The graphs showing the costs to hire DJ 5-Star and DJ Cool are shown on the ANSWER SHEET.

(a) Name the type of graph used to represent the cost to hire DJ 5-Star. (2)

(b) Use TABLE 5, showing the cost to hire DJ Rain for up to 9 hours, to draw a line graph on the same grid on the ANSWER SHEET. (4)

4.1.3 Lee's parents decide to hire DJ 5-Star for the 21st birthday party. DJ 5-Star will provide the music entertainment from 18:00 until 01:30.

Determine the total budgeted expenses for the party. (5)

4.1.4 Give ONE reason why Lee's parents did not choose DJ Cool. (2)

4.2 The hotel has three other smaller venues, each accommodating a maximum number of guests per function, as listed below:

Cinema-style venue	400 guests
Sit-down venue without dancing space	250 guests
Sit-down venue with dancing space	200 guests

TABLE 6 shows the number of guests accommodated for functions at the three venues during a specific month in 2022 and 2023.

TABLE 6: ACTUAL NUMBER OF GUESTS PER FUNCTION

YEAR	**NUMBER OF GUESTS**								
2023	180	350	400	200	215	90	150	230	160
2022	360	160	300	70	160	200	240		

[Adapted from www.bloemshowgrounds.co.za>venues]

Use TABLE 6 and the information above to answer the questions that follow.

4.2.1 Write, as a decimal, the probability that a cinema-style venue was chosen as a suitable function venue for all the functions held during 2022 and 2023. (3)

4.2.2 Determine the median number of guests accommodated during 2023. (3)

4.2.3 The manager stated that the range of the number of guests per function during 2022, is the same as the range of the number of guests per function during 2023.

Verify, showing ALL calculations, whether his statement is valid. (5)
[31]

QUESTION 5

5.1 The pie charts on ANNEXURE C show the Indian Union budgets for income and expenditure for 2023/2024. Some values have been omitted.

The currency used in India is the rupee. India also has different denominations for the larger currency amounts.

NOTE: 100 000 rupees = 1 lakh
100 lakhs = 1 crore

Use ANNEXURE C and the information above to answer the questions that follow.

5.1.1 Choose the correct word from those given in brackets. Write down only the word next to the question number (5.1.1).

A budget is a (deficit/surplus/balanced) budget when the income is less than the expenditure. (2)

5.1.2 General sales tax (GST) is a tax that is similar to VAT in South Africa.

Calculate the missing percentage for GST on the pie chart. (3)

5.1.3 Calculate, in lakh crores, the amount spent on defence in India. (3)

5.1.4 List THREE sources of income shown on the pie chart where the total percentages add up to the borrowing percentage value. (3)

5.1.5 Sanji calculated, in lakh crores, the amount spent on interest payments. He rounded off his answer to the nearest whole number.

Sanji stated that the rounded answer he calculated did not make much difference in rupees when compared to the non-rounded answer.

Verify, showing ALL calculations, whether his statement is valid. (6)

5.2 In 2024, South Africa received R302,4 billion from corporate income tax.

NOTE: R1 000 000 = 4 447 989,1 rupees
4 447 989,1 rupees = 44,479891 lakhs

[Adapted from www.wise.com/, 10 June 2024]

5.2.1 Convert R302,4 billion to million rands. (2)

5.2.2 Hence, convert the South African corporate income tax to lakh crore. (4)

5.3 A house in Chennai, India, is valued at 5 000 000 rupees at the end of 2024.

TABLE 7 shows the inflation rates in India for house prices for the last five years.

TABLE 7: INFLATION RATES IN INDIA FOR THE LAST FIVE YEARS

YEAR	INFLATION RATE
2024	8%
2023	7,5%
2022	7%
2021	6,5%
2020	6%

[Adapted from hewire.in/economy/the-truth-about-inflation-in-india-and-around-the-world]

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

5.3.1 Describe the trend in the inflation rates in India. (2)

5.3.2 Calculate how much the house was worth at the end of 2022. (6)
[31]

TOTAL: 150

CENTRE NUMBER:							

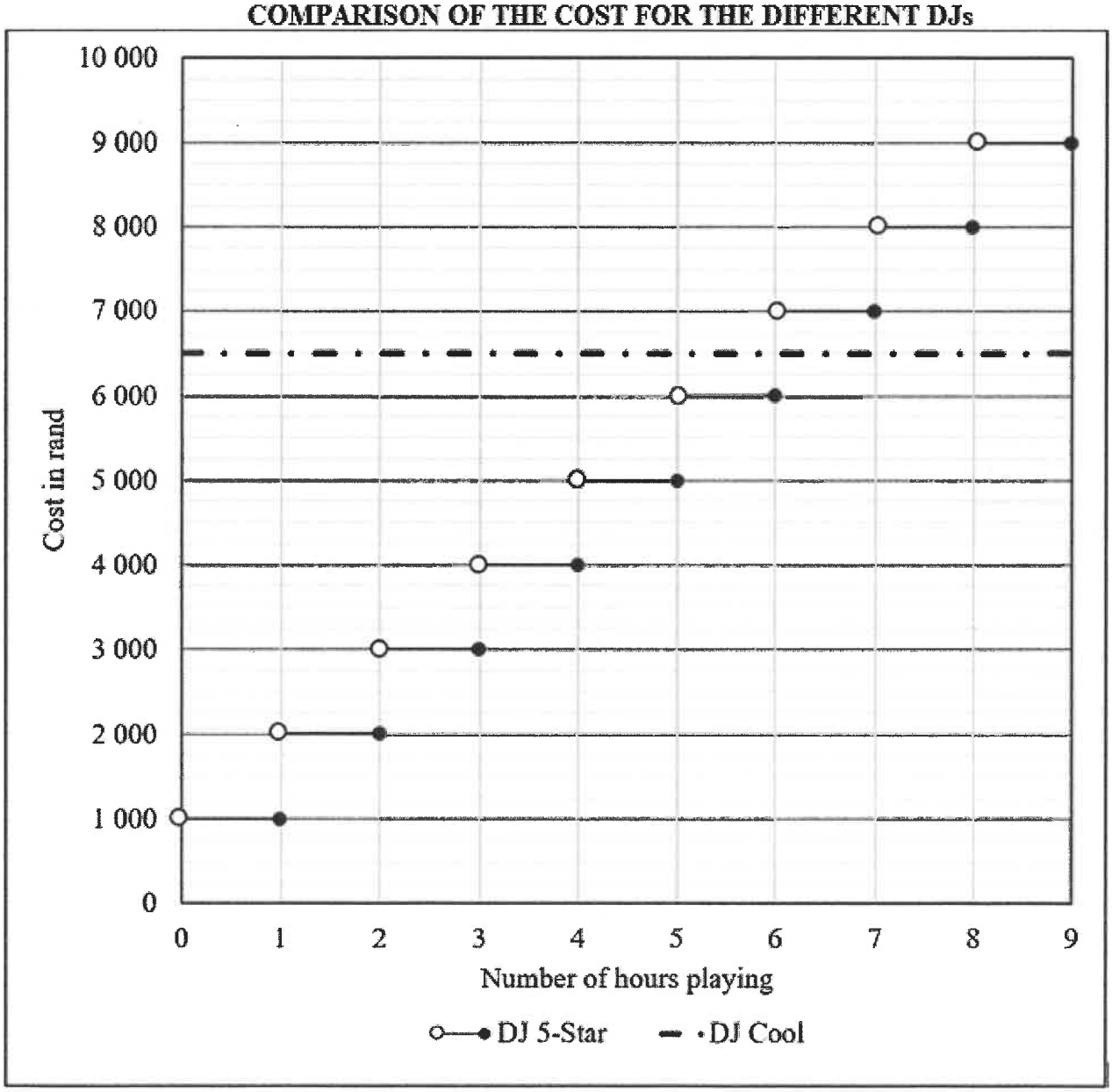
EXAMINATION NUMBER:													

ANSWER SHEET

QUESTION 4.1

TABLE 5: COST TO HIRE DJ RAIN PER HOUR

Number of hours	1	2	3	4	5	6	7	8	9
Cost (in R)	4 000	4 000	**P**	4 000	4 000	**Q**	6 500	7 750	**R**



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NATIONAL SENIOR CERTIFICATE/ *NASIONALE SENIOR SERTIFIKAAT*

GRADE/*GRAAD* 12

MATHEMATICAL LITERACY P1/ *WISKUNDIGE GELETTERDHEID V1*

NOVEMBER 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 18 pages.
Hierdie nasienriglyne bestaan uit 18 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 awarded if relevant calculations of at least $\frac{1}{3}$ of the maximum mark of the sub-question has been awarded.
- 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 van ten minste $\frac{1}{3}$ van die maksimumpunt van die subvraag toegeken is.*
- *Geen penalisering vir ronding (NPR) as die eerste desimaal korrek is nie, behalwe as vrae geld insluit.*

QUESTION/*VRAAG* 1 [29 MARKS/*PUNTE*] ANSWER ONLY FULL MARKS			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.1.1	5 / Five / *Vyf* ✓✓A	2A correct number (2)	D L1 E
1.1.2	✓A 17:30 – 18:00 ✓A **OR / *OF*** ✓A 5:30 pm – 6:00 pm ✓A **OF / *OF*** ✓A ✓A Half past five until 6 o'clock in the afternoon/evening/ *Half ses tot 6 uur in die namiddag/aand.*	1A 17:30 / 5:30 pm / Half past five 1A 18:00 / 6:00 pm / 6 o'clock (2)	D L1 E
* 1.1.3	C ✓✓A	2A correct option (2)	D L1 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
* 1.1.4	Probability / *Waarskynlikheid* $= \frac{56}{100}$ ✓A $= \frac{14}{25}$ ✓A	1A writing as a fraction 1A simplification (2)	P L1 E
* 1.1.5	Total number / *Totale getal* ✓RT = 26 + 26 ✓MA = 52 ✓A	1RT correct values 1MA adding correct values 1A simplification (3)	D L1 E
1.2.1	✓✓RT Sunflower oil / Oil / *Sonneblomolie / Olie* ✓RT Oranges / *Lemoene*	2RT first correct product 1RT second correct product (3)	F L1 E
1.2.2	Value of A / *Waarde van A* = R12,60 + R45,56 + R52,97 + R40,68 + R22,07 + R37,73 + R86,80 ✓ MA = R298,41 ✓ A	1MA adding ALL correct values 1A simplification **NPU** (2)	F L1 E
* 1.2.3	Price per dozen / *Prys per dosyn* = R52,97 ÷ 1,5 ✓A = R35,31 ✓A OR $\times \frac{1}{1,5}$ **OR / *OF*** 1 egg / *eier* = $\frac{\text{R52,97}}{18}$ ✓A Price per dozen / *Prys per dosyn* = R2,94277 × 12 = R35,31 ✓A **OR / *OF***	1A dividing by 1,5 1A simplification 1A dividing by 18 1A simplification	F L1 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
* 1.2.3	Price for ½ dozen / *Prys per ½ dosyn* $= \frac{R52,97}{3}$ ✓A = R17,65666 Price for dozen / *Prys per dosyn* = R17,65666 × 2 = R35,31 ✓A	1A dividing by 3 1A simplification **NPR** (2)	
* 1.2.4	✓RT = 22,07 : 20,10 ✓RT = 1 : 0,9107385591 ≈ 1 : 0,91 ✓A	1RT correct value 1RT correct value 1A simplification in correct order **NPR** (3)	F L1 E
* 1.3.1	C ✓✓A	2A correct letter (2)	F L1 E
* 1.3.2	A ✓✓A	2A correct letter (2)	F L1 E
* 1.3.3	I ✓✓A	2A correct letter (2)	F L1 E
* 1.3.4	B ✓✓A	2A correct letter (2)	D L1 E
		[29]	

QUESTION/*VRAAG* 2 [30 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
2.1.1	07032985769 ✓✓RT	2RT correct number (2)	F L1 E
* 2.1.2	✓RT **B** = R1 300,00 – R1 130,43 ✓MA = R169,57 ✓A **OR/*OF*** ✓RT ✓MA **B** = R1 130,43 × $\frac{15}{100}$ **OR** × 0,15 = R169,56 ✓A **OR/*OF*** ✓RT **B** = R1 300 × $\frac{15}{115}$ ✓MA = R169,57 ✓A	1RT correct value 1MA subtracting values 1A simplification **OR/*OF*** 1RT correct value 1MA calculating 15% 1A simplification **OR/*OF*** 1RT correct value 1MA calculating $\frac{15}{115}$ 1A simplification **AO** (3)	F L1 E
* 2.1.3	Amount for Block 1 / *Bedrag vir Blok 1* = 350 kWh × R2,19 ✓MA = R766,50 ✓CA Amount left for Block 2 / *Bedrag oor vir Blok 2* = R1 130,43 – R766,50 = R363,93 ✓MCA Units in Block 2/ *Eenhede in Blok 2* = $\frac{R363,93}{R2,91}$ ✓MCA = 125,0618557 kWh ✓CA Total kWh received / *Totale kWh ontvang* = 350 kWh + 125,0618557 kWh ✓MCA = 475,06 kWh ✓CA **OR / *OF***	1MA multiplying with tariff 1CA simplification 1MCA calculating remaining amount in Block 2 1MCA dividing by tariff 1CA simplification 1MCA adding values 1CA simplification **OR / *OF***	F L3 D

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
* 2.1.3	Tariff (VAT included) $= R2,19 \times \frac{115}{100}$ $= R2,5185$ Tariff (VAT included) $= R2,91 \times \frac{115}{100}$ $= R3,3465$ ✓A Amount spent in Block 1 / *Bedrag spandeer in Blok 1* = 350 kWh × R2,5185 = R881,475 ✓MCA Amount available for Block 2 / *Bedrag beskikbaar vir Blok 2* = R1 300 – R881,475 ✓MCA = R418,525 Units in Block 2/ *Eenhede in Blok 2* $= \frac{R418,525}{R3,3465}$ ✓MCA = 125,06 kWh ✓CA Total kWh received / *Totale kWh ontvang* = 350 kWh + 125,06 kWh ✓MCA = 475,06 kwh ✓CA	1A VAT calculation 1MCA calculating amount in Block 1 1MCA calculating remaining amount in Block 2 1MCA dividing by R3,3465 1CA simplification 1MCA adding values 1CA simplification **NPR** (7)	
* 2.2.1	R1 549 ✓✓RT	2RT correct amount **NPU** (2)	F L1 E

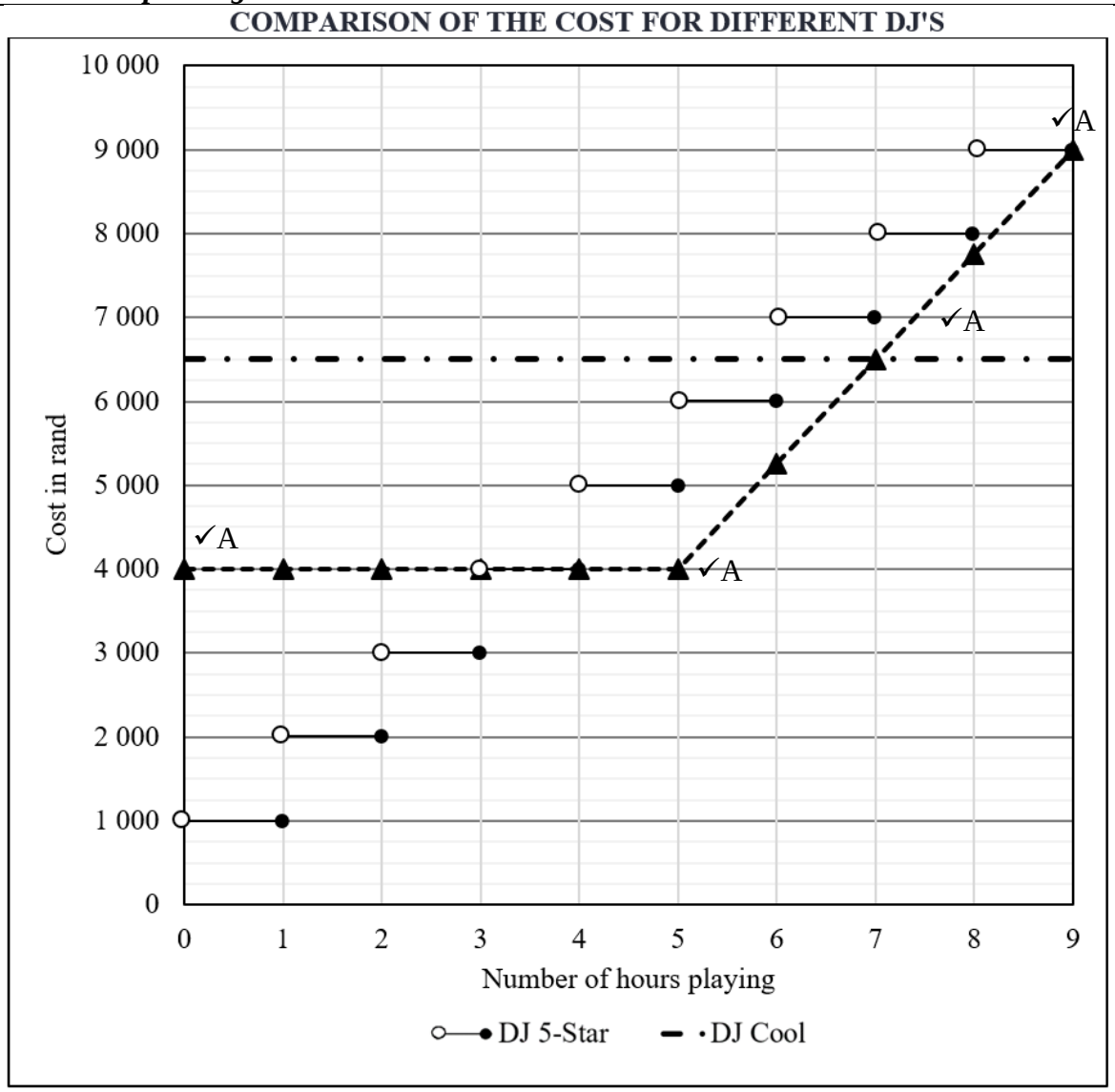
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.2	Price excluding VAT / *Prys BTW uitgesluit* ✓RT $= \frac{R78\ 200}{1,15}$ ✓MA = R68 000 ✓A **OR/*OF*** Price excluding VAT / *Prys BTW uitgesluit* ✓RT $= R78\ 200 \times \frac{100}{115}$ ✓MA = R68 000 ✓A **OR/*OF*** VAT amount / *BTW bedrag* ✓RT $= R78\ 200 \times \frac{15}{115}$ ✓MA = R10 199,999 ≈ R10 200 Price excluding VAT / *Prys BTW uitgesluit* = R78 200 – R10 200 = R68 000 ✓A	1RT for R78 200 1MA dividing by 1,15 1A simplification **OR/*OF*** 1RT for R78 200 1MA multiplying $\times \frac{100}{115}$ 1A simplification **OR/*OF*** 1RT for R78 200 1MA multiplying $\times \frac{15}{115}$ 1A simplification (3)	F L2 E
* 2.2.3	Number of months / *Aantal maande* = 12 × 7 = 84 months / *maande* ✓A Rent-to-own / *Huur-om-te-besit* = (R1 549 × 84) + R782 + R7 820 = R130 116 + R782 + R7 820 ✓MCA = R138 718 ✓CA Difference / *Verskil* = R138 718 – R78 200 ✓MCA = R60 518 ✓CA	1A correct number of months 1MCA adding ALL correct values 1CA simplification 1MCA subtracting values 1CA simplification (5)	F L3 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
* 2.3.1	Annual taxable income / *Jaarlikse belasbare inkomste* = R39 275,85 × 12 ✓ MA = R471 310,20 ✓ A Tax Bracket C / *Belastingkerf C* ✓ MCA	 1MA multiplying by 12 1A simplification 1MCA tax bracket C **AO** (3)	F L2 E
2.3.2	Tax before rebate / *Belasting voor kortings* 77 362 + 31% of taxable income above 370 500 ✓ SF = R77 362 + 31% (R471 310,20 – R370 500) = R77 362 + 31% (R100 810,20) = R77 362 + R31 251,162 ✓ MCA = R108 613,162 ✓ CA Annual tax payable / *Jaarlikse belasting betaalbaar* = R108 613,162 – R17 235 ✓RT = R91 378,162 = R91 378,16 ✓CA **OR/*OF*** Annual tax payable / *Jaarlikse belasting betaalbaar* ✓✓ MCA ✓ SF = R77 362 + 0,31 (R471 310,20 – R370 500) – R17 235 ✓RT = R91 378,16 ✓CA	**CA from Question 2.3.1** 1SF correct substitution 1MCA adding values 1CA simplification 1RT rebate: R17 235 1CA simplification **OR/*OF*** 1SF correct substitution 2MCA adding values 1RT rebate: R17 235 1CA simplification (5)	F L3 M
		[30]	

QUESTION/*VRAAG* 3 [29 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
* 3.1.1	2015 ✓✓RT	2RT correct year (2)	D L2 M
* 3.1.2	Projected number of stores / *Geprojekteerde getal winkels* ✓RT ✓MA $= 2\,204 \times \frac{95{,}39}{100} + 2\,204$ = 2 102,3956 + 2 204 = 4 306,3956 = 4 306 ✓CA **OR/OF** Projected number of stores / *Geprojekteerde getal winkels* ✓RT $= 2\,204 \times \frac{195{,}39}{100}$ ✓MA OR × 1,9539 = 4 306 stores / *winkels* ✓CA	1RT correct value 2 204 1MA percentage calculation 1CA simplification **OR/OF** 1RT correct value 2 204 1MA percentage calculation 1CA simplification **AO** Accept: 4 307 (3)	D L2 M
* 3.1.3	Average Shoprite / *Gemiddelde Shoprite* ✓RT ✓RT = 153 726 ÷ 3 543 = 43,388653…. employees / *werknemers* ✓CA Average Pick n Pay / *Gemiddelde Pick n Pay* ✓RT = 90 000 ÷ 2 204 = 40,834845…. employees / *werknemers* ✓CA *Her statement is VALID / Haar bewering is GELDIG.* ✓O	1RT 153 726 1RT 3 543 1CA simplification 1RT both correct values 1CA simplification 1O conclusion **NPR** (6)	D L4 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
* 3.1.4	Probability / *Waarskynlikheid* ✓RT $= \frac{3}{10} \times 100\%$ ✓RT = 30% ✓CA	1RT correct numerator 1RT correct denominator 1CA simplification **AO** (3)	P L2 E
* 3.2.1	Sample / *Steekproef* = 32 ✓A✓A Population / *Populasie* = 12 342 ✓A **OR/*OF*** ✓✓A 32 and / *en* 12 342 ✓A No words used	1A counting to 32 1A sample 1A correct population **OR/*OF*** 2A sample in correct order 1A population in correct order (3)	D L2 M
* 3.2.2	Option E / *Opsie E* ✓✓A	2A correct option (2)	D L1 E
* 3.2.3	The value 127 is 60 minutes <u>more than the second highest</u> time in the dataset / *Die waarde 127 is 60 minute <u>meer as die tweede hoogste</u> tyd van die datastel.* ✓✓O	2O conclusion (2)	D L4 M
3.2.4 (a)	✓RT Quartile 3/Kwartiel $3 = \frac{28+29}{2}$ ✓MA = 28,5 ✓CA	1RT correct values 1MA concept of quartile 1CA simplification **AO** (3)	D L2 E
* 3.2.4 (b)	New Quartile 1/ *Nuwe Kwartiel 1* = 15 ✓RT New Quartile 3/ *Nuwe Kwartiel 3* = 28 ✓RT IQR = $Q_3 - Q_1$ ✓A IQR = 28 – 15 ✓MCA = 13 He is CORRECT. / *Hy is KORREK.* ✓O	1RT correct value 1RT correct value 1A correct formula 1MCA subtracting values 1O conclusion (5)	D L4 M
		[29]	

QUESTION/*VRAAG* 4 [31 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
* 4.1.1 (a)	Cost / *Koste* ✓A ✓A ✓A = R4 000 + R1 250 × (number of hours exceeding 5) *= R4 000 + R1 250 × (aantal ure meer as 5)* **OR/*OF*** Cost / *Koste* ✓A ✓A = R4 000 + R1 250 × *n* Where *n* = number of hours exceeding 5 *Waar n = aantal ure meer as 5* ✓A	1A fixed cost (R4 000) 1A multiply hours with tariff (R1 250) 1A number of hours more than 5 (3)	F L2 M
4.1.1 (b)	**P** = 4 000 ✓A **Q** = 5 250 ✓✓A **R** = 9 000 ✓A	1A value of P 2A value of Q 1A value of R (4)	F L2 M
* 4.1.2 (a)	Step graph / *Trapgrafiek* Stepwise graph / *Stapgewyse grafiek* ✓✓A	2A correct name (2)	D L1 E

Q/*V*	Solution/*Oplossing*	T&L
4.1.2 (b)	 **CA from 4.1.1 (b)** 1A starting point (0 ; 4 000) 1A (5 ; 4 000) 1A end point (9 ; 9 000) 1A joining ALL the points plotted on the slanted part of graph *1A beginpunt (0 ; 4 000)* *1A (5 ; 4 000)* *1A eindpunt (9 ; 9 000)* *1A verbind ALLE punte op die skuinsgedeelte van die grafiek* (4)	F L3 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
* 4.1.3	Time / *Tyd* = 18:00 – 01:30 = 7 hrs 30 min ≈ 8 hrs } ✓A Cost for DJ / *Koste vir platejoggie* = 8 × R1 000 ✓MCA = R8 000 ✓CA Total cost / *Totale koste* = R18 000 + R750 + R6 185 + R1 250 + R8 000 ✓MCA = R34 185 ✓CA	 1A calculating hours 1MCA multiply by R1 000 1CA simplification 1MCA adding all values 1CA simplification (5)	F L3 M
* 4.1.4	He charges a flat/fixed rate, which is not economical if the party ends early. / *Hy vra 'n vaste tarief wat nie ekonomies is indien die partytjie vroeg eindig nie* **OR/*OF*** ✓✓O He has a bad reputation / *Hy het 'n slegte reputasie.*	 2O correct reason (2)	F L4 E
4.2.1	Probability / *Waarskynlikheid* $= \frac{4}{16}$ ✓A ✓A = 0,25 ✓CA	 1A numerator 1A denominator 1CA simplification (3)	P L2 D
* 4.2.2	90 150 160 180 200 215 230 350 400 ✓A Median / *Mediaan* = 200 ✓✓A	 1A arranging 2A median **AO** (3)	D L2 M

Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
4.2.3	Range 2022 / *Omvang 2022* ✓RT = 360 – 70 ✓MCA = 290 ✓CA Range 2023 / *Omvang 2023* = 400 – 90 = 310 ✓A His statement is NOT VALID / *Sy bewering is NIE GELDIG NIE.* ✓O	 1RT both correct values 1MCA concept of range 1CA simplification 1A range 1O conclusion (5)	D L4 M
		[31]	

QUESTION/*VRAAG* 5 [31 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
5.1.1	Deficit / *Tekort* ✓✓A	2A correct word (2)	F L1 M
5.1.2	✓RT GST/*AVB* % = 100% – (15% + 15% + 4% + 7% + 6% + 2% + 34%) ✓MA = 100% – 83% = 17% ✓CA	1RT ALL correct values 1MA adding and subtracting 1CA simplification **AO** (3)	D L1 E
5.1.3	Defence / *Verdediging* ✓RT ✓MA = 8% × 45,03 lakh crore = 3,6024 lakh crore ✓CA	1RT correct percentage 1MA multiply by 45,03 1CA simplification **NPR** **AO** (3)	D L2 M
* 5.1.4	Corporation tax / *Korporatiewe belasting* ✓RT Income tax / *Inkomstebelasting* ✓RT Customs / *Doeane* ✓RT **OR/*OF*** Corporation tax / *Korporatiewe belasting* ✓RT GST / *AVB* ✓RT Non Debt Capital Receipts / *Nie-skuldkapitaal ontvangstes* ✓RT **OR/*OF*** Income tax / *Inkomstebelasting* ✓RT GST / *AVB* ✓RT Non Debt Capital Receipts / *Nie-skuld kapitaal ontvangstes* ✓RT	**CA from 5.1.2 for GST** 1RT correct source 1RT correct source 1RT correct source adding to 34% **OR/*OF*** 1RT correct source 1RT correct source 1RT correct source adding to 34% **OR/*OF*** 1RT correct source 1RT correct source 1RT correct source adding to 34% (3)	D L2 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
* 5.1.5	Interest payments / *Rentebetalings* ✓RT = 20% × 45,03 lakh crore = 9,006 lakh crore ✓A Unrounded / *Nie afgerond* = 9,006 × 100 × 100 000 = 90 060 000 rupees ✓C Rounded / *Afgerond* ✓R = 9 × 100 × 100 000 = 90 000 000 rupees Difference / *Verskil* = 90 060 000 – 90 000 000 = 60 000 rupees ✓CA His statement is NOT VALID / *Sy bewering is NIE GELDIG NIE.* ✓O **OR/*OF*** Interest payments / *Rentebetalings* ✓RT = 20% × 45,03 lakh crore = 9,006 lakh crore ✓A Difference / *Verskil* ✓R 9,006 – 9,000 = 0,006 lakh crore ✓CA Amount in rupees = 0,006 × 100 × 100 000 = 60 000 ✓C His statement is NOT VALID / *Sy bewering is NIE GELDIG NIE.* ✓O	1RT both correct values 1A simplification 1C conversion 1R rounded answer 1CA difference 1O conclusion **OR/*OF*** 1RT both correct values 1A simplification 1R rounded answer 1CA difference 1C conversion 1O conclusion (6)	F L4 D
* 5.2.1	Amount expressed in million/ *Bedrag uitgedruk in miljoen* = R302,4 billion/*miljard* × 1 000 ✓MA = R302 400 million / *miljoen* **OR/*OF*** ✓A R302 400 000 000	1 MA multiplying by 1 000 1A simplification **AO** (2)	F L1 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.2.2	R302 400 million = R302 400 × 44,479891 lakh ✓MA = 13 450 719,04 lakh ✓CA = 13 450 719,04 ÷ 100 ✓MCA = 134 507,1904 lakh crore ✓CA **OR / *OF*** R302 400 000 000 = $\frac{\text{R302 400 000 000}}{\text{R1 000 000}}$ ✓MA × 4 447 989,1 ✓CA ✓MCA = 1,345071904 ×1 000 000 000 000 ÷ 100 000 ÷ 100 = 134 507,1904 lakh crore ✓CA **OR / *OF*** R1 000 000 = 0,44479891 lakh crore ✓C R302 400 000 000 = $\frac{\text{302 400 000 000} \times 0,44479891}{\text{1 000 000}}$ ✓MA ✓MCA = 134 507,1904 lakh crore ✓CA	**CA from Question 5.2.1** 1MA multiplying by correct exchange rate 1CA simplification 1MCA dividing by 100 1CA simplification **OR / *OF*** 1MA multiplying by correct exchange rate 1CA simplification 1MCA ÷ 100 000 ÷ 100 1CA simplification **OR / *OF*** 1C ÷ 10 000 000 1MA multiplying by correct exchange rate 1MCA ÷ 1 000 000 1CA simplification **NPR** (4)	F L3 D
5.3.1	✓O ✓O As the years increase the inflation rate increases / *Soos die jare toeneem, verhoog die inflasiekoers.* **OR/*OF*** ✓O ✓O The inflation rate increases from 2020 to 2024 / *Die inflasiekoers verhoog vanaf 2020 tot 2024.*	1O years increase 1O rate increases **OR/OF** 1O rate increases 1O years increase (2)	D L4 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
* 5.3.2	Price at the end of 2023 / *Prys aan die einde van 2023* ✓A = 5 000 000 ÷ 1,08 ✓MA = 4 629 629,63 rupees ✓CA 5 000 000 ÷ 108% Price at end of 2022 / *Prys aan die einde van 2022* ✓MCA = 4 629 629,63 rupees ÷ 1,075 ✓MA 4 629 629,63 ÷ 107,5% = 4 306 632,214 rupees ✓CA **OR/*OF*** Price at the end of 2023 / *Prys aan die einde van 2023* ✓A = 5 000 000 × $\frac{100}{108}$ ✓MA = 4 629 629,63 rupees ✓CA Price at end of 2022 / Prys aan die einde van 2022 = 4 629 629,63 × $\frac{100}{107,5}$ ✓MCA ✓MA = 4 306 632,214 rupees ✓CA **OR/*OF*** Price at end of 2022 / *Prys aan die einde van 2022* ✓MA = 5 000 000 × $\frac{100}{108}$ ✓A × $\frac{100}{107,5}$ ✓MA ✓MCA ✓CA = 4 306 632,214 rupees ✓CA	1A 1,08 or 108% 1MA dividing by 1,08 or 108% 1CA simplification 1MCA 1,075 or 107,5% 1MA dividing by 1,075 or 107,5% 1CA simplification **OR/*OF*** 1A $\frac{100}{108}$ 1MA multiplying by $\frac{100}{108}$ 1CA simplification 1MCA $\frac{100}{107,5}$ 1MA multiplying by $\frac{100}{107,5}$ 1CA simplification **OR/*OF*** 1A identifying 1,08 or 108% 1MA multiplying by $\frac{100}{108}$ 1MCA identifying 1,075 or 107,5% 1MA multiplying by $\frac{100}{107,5}$ 2CA simplification **NPU** **NPR** (6)	F L3 D
		[31]	
		TOTAL/*TOTAAL*: 150	