basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/
NATIONAL SENIOR CERTIFICATE EXAMINATIONS

MATHEMATICAL LITERACY P1

2022

MARKS: 150

TIME: 3 hours

This question paper consists of 12 pages,
1 answer sheet and an addendum with 4 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 2.1
   - ANNEXURE B for QUESTION 3.2
   - ANNEXURE C for QUESTION 4.2
   - ANNEXURE D for QUESTION 5.3

        2.2   Answer QUESTION 4.1.7 on the attached ANSWER SHEET.

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

3.   Number the answers 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 off ALL final answers appropriately according to the given context, unless stated otherwise.

8.   Indicate units of measurement, where applicable.

9.   Maps and diagrams are NOT necessarily drawn to scale, unless stated otherwise.

10.   Write neatly and legibly.

QUESTION 1

1.1   Yvette runs a small business from home. She makes and sells lunch packs for learners and delivers them to school during their lunch break.

TABLE 1 shows the items per lunch pack and the respective cost prices.

TABLE 1: COST PRICE OF THE ITEMS

ITEM	COST PRICE (IN BULK)	ITEM COST (PER LUNCH PACK)
	100% fruit juice 24 per box R135,00	1 fruit juice = R5,63
	White bread 18 usable slices R13,99	2 slices of bread = R1,55
	Cheese slices 54 slices per pack R84,99	1 slice cheese = R1,57
	Apples … apples per bag R22,99	1 apple = R2,87
	Yoghurt 6 per pack R10,99	1 yoghurt = R1,83
	Sweets 24 per pack R85,00	1 sweet = R3,54
	Fomo tray 75 trays per pack R102,95	1 fomo tray = R1,37

[Adapted from www.checkers.com and www.takealot.com]

Use the information above to answer the questions that follow.

1.1.1   Show how the cost of ONE yoghurt was calculated.   (2)

1.1.2   Determine the maximum number of apples per bag.   (2)

1.1.3   Show that the total cost to make ONE lunch pack is R18,36.   (2)

1.1.4   The profit Yvette makes per lunch pack is R16,64.

Calculate the selling price of ONE lunch pack.   (2)

1.1.5   Define the term *profit* in the given context.   (2)

1.1.6   Write down, as a simplified ratio, the bulk price of the 100% fruit juice to the bulk price of sweets.   (3)

1.2   Yvette's lunch pack has the following bread/bread roll options to choose from:

- White bread (W), brown bread (B) or a bread roll (R)
- The bread or bread roll can be toasted (T) or not toasted (N).

The diagram below illustrates the different options.
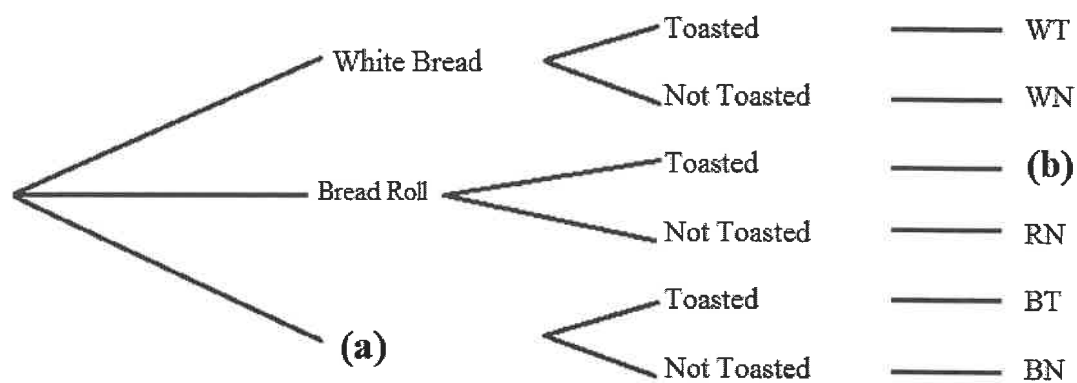
Use the above information to answer the questions that follow.

1.2.1   Name the type of diagram illustrated above.   (2)

1.2.2   Complete missing labels **(a)** and **(b)**.   (4)

1.2.3   Write down the total number of outcomes.   (2)

1.2.4   Calculate the number of toasted bread outcomes.   (2)

1.3 | A company recorded the number of cellphones sold in two of their stores.
The data for the last 12 months is given below.

STORE A:
 120   350   360   220   290   160   250   210   200   310   380   380

STORE B:
 180   260   440   380   180   400   230   320   420   210   170   140

The diagrams below represent the data for each store.

DATA DIAGRAMS FOR STORE A AND STORE B:
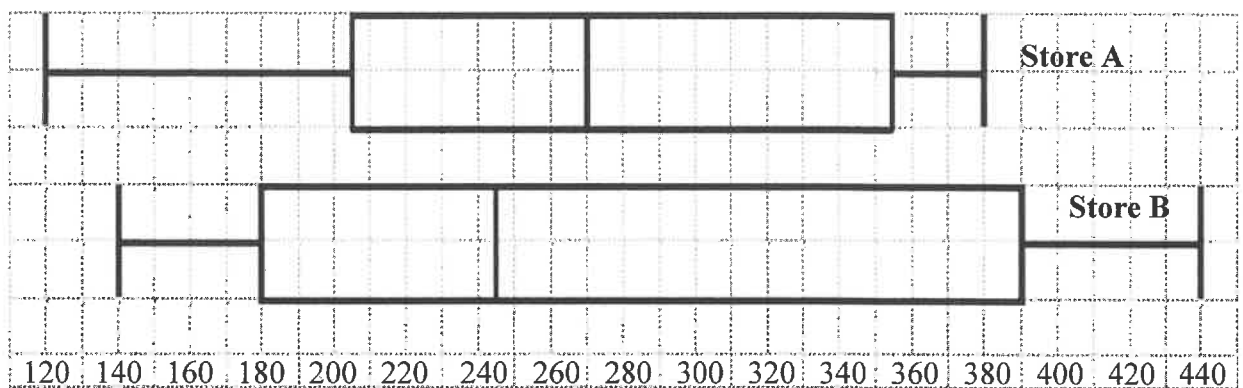
Use the information above to answer the questions that follow.

1.3.1	Identify the type of diagram drawn above.	(2)
1.3.2	Write out *IQR* in full.	(2)
1.3.3	State the median for Store A.	(2)
1.3.4	Calculate the difference between the maximum and minimum value for Store B.	(3)

[32]

QUESTION 2

2.1 | Bongiwe received her levy statement of account from Rango Property Specialist for her rented unit.

ANNEXURE A shows her adapted statement of account.

Use ANNEXURE A to answer the questions that follow.

| 2.1.1 | Write down the reference number that Bongiwe must use when she pays her account. | (2) |

| 2.1.2 | Give ONE reason why reference numbers are used when making payments. | (2) |

| 2.1.3 | Calculate the missing value **A**, which has been omitted from the statement. | (2) |

2.1.4   The total amount due for this invoice is R2 340,73, including 15% VAT.

Calculate the total amount due, excluding VAT.   (2)

2.1.5   Calculate (rounded to TWO decimal places) the standard levy for June 2021 as a percentage of the amount due on the statement.   (4)

2.1.6   Write down a possible payment option Rango Property Specialist will accept.   (2)

2.1.7   Blueberry Gardens have 49 units in total.

Calculate the total amount collected by the body corporate if all 49 units paid their levy CSOS on 1 July 2021.   (3)

2.1.8   The Blueberry Gardens body corporate increased the standard levy by 6,45% from 1 August 2021.

Calculate the new standard levy after the increase.   (4)

2.2

> Bongiwe has twins, Sandile and Sakhile, who attend a private school.
>
> The total fees payable per child for the school year (January to November) is as follows:
>
> - Charges for aftercare are R7 700 per school year or R700 monthly.
> - The first child's school fee is R2 793 per month or R30 723 per school year.
> - A 10% discount on school fees is given to a second child.
> - A further 7,5% discount is given if school fees are paid in full by 31 January.
> - The monthly transport cost is R929.
>
> [Adapted from http://www.schoolcommunicator.com]

Use the information above to answer the questions that follow.

2.2.1   Calculate the total transport cost for the twins for a full school year.   (3)

2.2.2   Bongiwe intends on paying the school fees in full on 30 January.

           Determine the total amount of money Bongiwe will spend in ONE school year for the twins to attend the private school, including aftercare and transport.   (8)

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QUESTION 3

3.1 | TABLE 2 below shows the estimated provincial half-yearly livestock numbers (in thousands) for the nine provinces in South Africa for August 2020 and February 2021.

TABLE 2: ESTIMATED PROVINCIAL LIVESTOCK NUMBERS (IN THOUSANDS) IN SOUTH AFRICA (AUG. 2020 AND FEB. 2021)

| PROVINCE | ESTIMATED LIVESTOCK NUMBERS (IN THOUSANDS) | | | | | |
| | Cattle | | Sheep | | Goats | |
	Aug. '20	Feb. '21	Aug. '20	Feb. '21	Aug. '20	Feb. '21
Western Cape	466	466	2 545	2 497	202	199
Northern Cape	419	418	5 182	5 079	448	446
Free State	2 054	2 023	4 330	4 362	215	211
Eastern Cape	3 050	3 059	6 513	6 394	1 991	1 968
KwaZulu-Natal	2 380	2 320	628	610	662	651
Mpumalanga	1 248	1 243	1 527	1 508	78	76
Limpopo	860	850	A	192	902	909
Gauteng	246	246	84	83	21	20
North West	1 576	1 545	596	585	651	641
Total	**12 299**	**12 170**	**...**	**21 310**	**5 170**	**5 121**

[Adapted from www.dalrrd.gov.za]

Use TABLE 2 above to answer the questions that follow.

3.1.1 Write down the province with the second highest number of sheep for February 2021. (2)

3.1.2 Calculate Eastern Cape's estimated total number of livestock for August 2020. (3)

3.1.3 The provincial mean number of sheep is 2 400 444.

A farmer in Limpopo stated that the missing value **A** in the table is less than 200.

Verify, showing ALL calculations, whether the farmer's statement is valid. (7)

3.2 | South Africa's agricultural sector sales in 2019 amounted to R317,6 billion.

ANNEXURE B shows the distribution of these sales, as well as a further distribution of livestock sales into animals and produce.

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

3.2.1 State whether the data displayed on ANNEXURE B is categorical or numerical data. (2)

3.2.2 Determine missing value **A**. (2)

3.2.3 Calculate, in millions, the actual rand value of horticulture sales. (3)

3.2.4 Give a valid reason why there is a category for other livestock under animals. (2)

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QUESTION 4

4.1

> The average monthly retail price for orange juice per litre in Canadian dollars (CAD) for 2018 to 2021 is shown on the ANSWER SHEET. The actual data values for each month in 2020 are also indicated.

Use the graphs on the ANSWER SHEET to answer the questions that follow.

4.1.1   Calculate (in CAD) the difference between the price of orange juice in January 2019 and in February 2019.   (3)

4.1.2   Write down the month and year in which the price of orange juice was at its lowest.   (2)

4.1.3   State the month and years in which the price of orange juice was exactly the same.   (2)

4.1.4   Determine the median monthly price of orange juice for 2020.   (4)

4.1.5   Describe the trend of the price of orange juice from February 2018 to July 2018.   (2)

4.1.6   An analyst predicted that the price of orange juice would drop by 0,16 CAD from February 2021 to March 2021.

Determine the year-on-year percentage increase from March 2020 to March 2021.

You may use the following formula:

$$\text{Percentage Increase} = \frac{\text{New value} - \text{Old value}}{\text{Old value}} \times 100\%$$

(5)

4.1.7   The analyst's prediction for the price of orange juice for the rest of the year 2021 is shown in TABLE 3 below.

TABLE 3: PREDICTED PRICE OF ORANGE JUICE FOR 2021

Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
4,25	4,28	4,3	4,05	4,35	4,2	4,15	4,27	4,2

Use the ANSWER SHEET to complete the line graph for March 2021 to December 2021.   (4)

4.2

> John considers moving from Toronto in Canada to either Cape Town or Ekurhuleni in South Africa.
>
> ANNEXURE C shows a comparison of the water tariffs in some of the metropolitan areas in South Africa.
>
> John estimates that he will use an average of 45 kℓ of water per month.

Use ANNEXURE C to answer the question that follows.

John states that if he chooses to live in Cape Town, he will be paying R3 600 more per year compared to a person living in Ekurhuleni who also uses an average of 45 kℓ of water per month.

Show, by means of calculations, whether John's statement is CORRECT. (10)

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QUESTION 5

5.1

Shamila, a teacher at a local high school, is going on retirement. The estimated value of her full pension fund benefit is R3 457 920,00.

She has two options to consider when she retires.

Option 1: Withdraw a third of the full pension fund benefit.

Option 2: Withdraw 100% of her full pension fund benefit.

TABLE 4 below indicates the tax payable on retirement benefits.

TABLE 4: RETIREMENT BENEFIT TAX TABLE
(1 March 2021 to 28 February 2022)

TAXABLE INCOME (R)	RATES OF TAX (R)
1–500 000	0% of taxable income
500 001–700 000	18% of taxable income above 500 000
700 001–1 050 000	36 000 + 27% of taxable income above 700 000
1 050 001 and above	130 500 + 36% of taxable income above 1 050 000

[Adapted from sars.gov.za]

Use the information above to answer the questions that follow.

5.1.1   Write out Shamila's full pension fund benefit in words.   (2)

5.1.2   Determine the amount of money that Shamila can withdraw if she chooses Option 1.   (2)

5.1.3   Shamila decides to choose Option 2 as she wants to loan money to her daughter, Suraya, who intends on relocating to New Zealand.

    (a)   Shamila states that the amount of tax she will pay on the estimated value of her pension fund of R3 457 920,00 is more than R1 000 000.

        Verify, showing ALL calculations, whether her statement is CORRECT.   (6)

    (b)   The ratio of the estimated value of Shamila's full pension (before tax) to her daughter's loan amount is:
        9,8798 : 1.

        Determine, to the nearest thousand rand, the amount that her daughter will borrow.   (4)

    (c)   Suraya agrees to borrow the money at a simple interest rate of 7,8% per annum. She intends to repay the total amount with interest at the end of a three-year period.

        Determine the total amount she will have to repay after three years.   (4)

5.2
> Suraya has established that the cost of relocating a family of four to New Zealand is approximately R280 000. Her husband is an entrepreneur and wants to start his own business in New Zealand. Suraya, who is a teacher, would need a skilled migrant resident visa, while her husband will need an entrepreneurs visa.
>
> A skilled migrant resident visa costs €2 093 and a visa for entrepreneurs costs NZ$4 745.
>
> TABLE 5 shows the exchange rate for selected countries on 3 September 2021.
>
> **TABLE 5: EXCHANGE RATE ON 3 SEPTEMBER 2021**
>
> | US dollar | $1 | 14,455516 ZAR |
> |---|---|---|
> | Euro | €0,0581765 | 1 ZAR |
> | British pound | £1 | 20,01924 ZAR |
> | Japanese yen | ¥1 | 0,13156142 ZAR |
> | New Zealand dollar | NZ$0,0969907 | 1 ZAR |
>
> [Adapted from www.new-zealand-immigration and www.businesstech.co.za]

Use the information above to answer the questions that follow.

5.2.1   Determine the exchange rate of the New Zealand dollar (NZ$) in terms of the euro (€) on 3 September 2021 in the form 1 NZD : ...   (4)

5.2.2   Calculate (rounded to the nearest R100) the total cost of the two visas that they will require on 3 September 2021.   (6)

5.3
> The graphs on ANNEXURE D represent the monthly exchange rate of the Chinese yuan and the US dollar from July 2020 to December 2020.
>
> [Adapted from www.new-zealand-immigration and www.businesstech.co.za]

Use ANNEXURE D to answer the questions that follow.

5.3.1   State, with a reason, which graph a Chinese citizen would use to explain that his country's currency is strengthening against the US dollar over the six-month period.   (3)

5.3.2   The same set of data was used to draw Graph A and Graph B.

Give a VALID reason why the graphs look different.   (2)
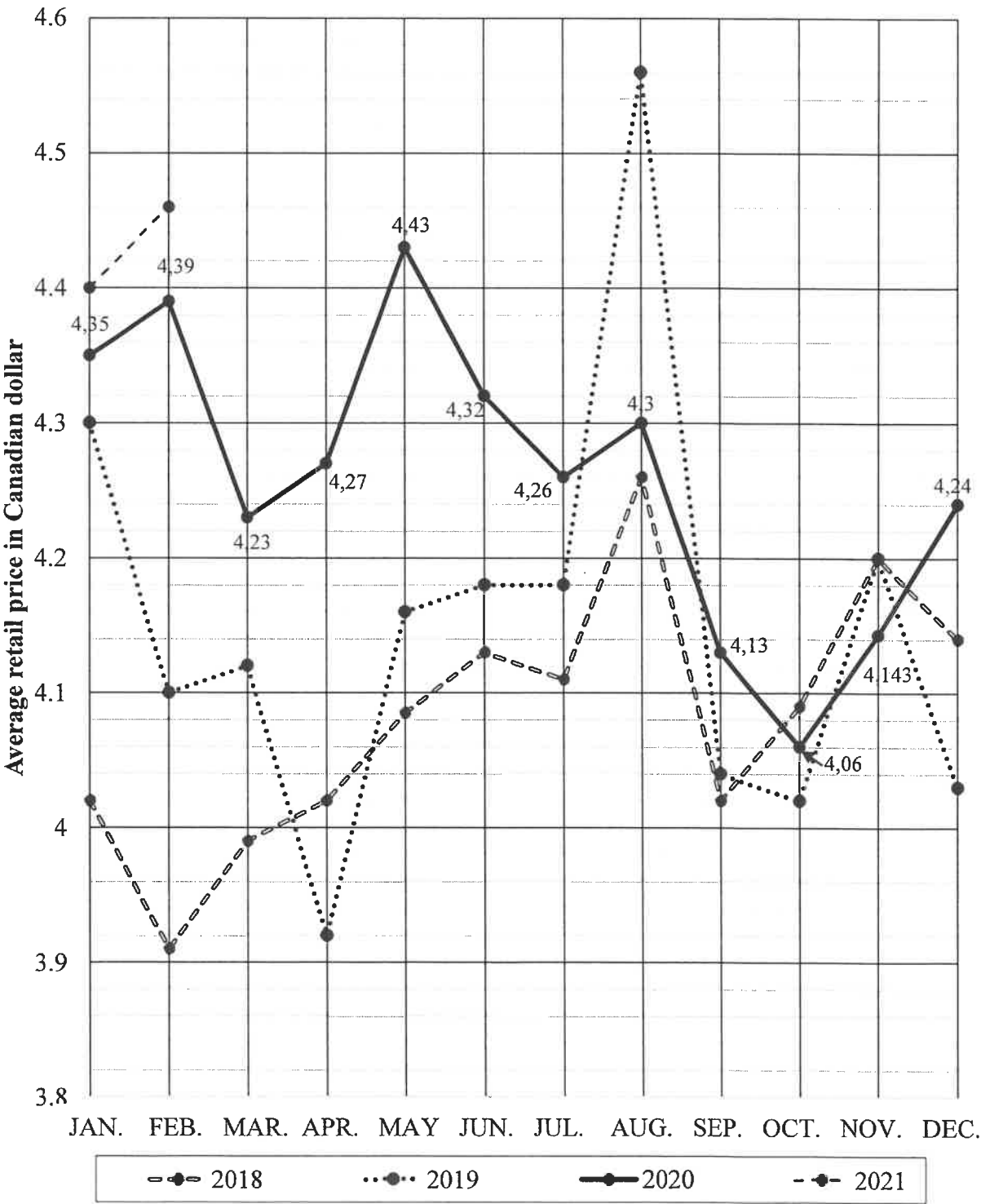
[33]

TOTAL: 150

ANSWER SHEET

QUESTION 4.1.7

CENTRE NUMBER:

EXAMINATION NUMBER:

Average monthly price of orange juice in Canada

basic education

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

MATHEMATICAL LITERACY P1/*WISKUNDIGE GELETTERDHEID V1*

2022

MARKING GUIDELINES/*NASIENRIGLYNE*

MARKS/*PUNTE*: 150

Symbol/*Kode*	Explanation/*Verduideliking*
M	Method/*Metode*
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*
AO	Answer only/*Slegs antwoord*
MCA	Method with consistent accuracy/*Metode met volgehoue akkuraatheid*
RCA	Rounding consistent with accuracy/*Afronding met volgehoue akkuraatheid*
*	Refer to Notes/*Verwys na notas*

These marking guidelines consist of 15 pages and 2 pages of notes
Hierdie nasienriglyne bestaan uit 15 bladsye en 2 bladsye notas.

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.

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 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.*

QUESTION/*VRAAG* 1 [32 MARKS/*PUNTE*] ANSWER ONLY FULL MARKS

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.1.1	Cost of 1 yoghurt/*Koste van 1 jogurt* ✓RT = R10,99 ÷ 6 ✓MA = R1,83	1RT correct values 1MA dividing by 6 (2)	F L1
*1.1.2	Number of apples per bag/ *Aantal appels per sak* = R22,99 ÷ R2,87 ✓MA = 8,01 = 8 ✓A	1MA dividing correct values 1A simplification (2)	F L1
1.1.3	Total cost in rand per lunch pack/ *Totale koste in rand per kospakkie* ✓RT ✓M = R5,63 + R3,54+ R2,87+ R1,83+ R1,57+ R1,55+ R1,37 = R18,36	1RT all correct values 1M adding correct values (2)	F L1
1.1.4	Selling price of ONE lunch pack/ *Verkoopprys van EEN kospakkie* ✓MA = R18,36 + R16,64 = R35,00 ✓A	1MA adding correct values 1A simplification (2)	F L1
*1.1.5	Profit is the difference between the Selling price and the Cost price Yvette makes when selling the lunch packs/ ✓✓A *Wins is die verskil tussen die verkoopprys en die kosprys wat Yvette maak deurdat sy kospakkies verkoop.*	2A difference between SP and CP (2)	F L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
*1.1.6	✓RT 135 : 85 ✓MA 27 : 17 ✓MCA	1RT correct values 1MA values in correct order. 1MCA simplification MCA if order is correct (3)	F L1
1.2.1	Tree diagram/*Boomdiagram* ✓✓A	2A tree diagram (2)	P L1
1.2.2	(a) Brown Bread/*Bruinbrood* ✓✓A (b) RT ✓✓A	2A correct option 2A correct outcome (4)	P L1
1.2.3	6 ✓✓A	2A correct number (2)	P L1
*1.2.4	2 ✓✓A	2A correct number (2)	P L1
1.3.1	Box-and-whisker /*Mond-en-snor, Houer-en-punt* ✓✓A	2A correct name (2)	D L1
1.3.2	Inter-Quartile Range/*Interkwartielomvang* ✓✓A	2A explanation (2)	D L1
*1.3.3	270 ✓✓RT	2RT correct value (2)	D L1
*1.3.4	Difference/*Verskil* ✓RT = 440 – 140 ✓RT = 300 ✓CA	1RT correct value 1RT correct value 1CA simplification CA if one value is correct and subtracting (3)	D L1
		[32]	

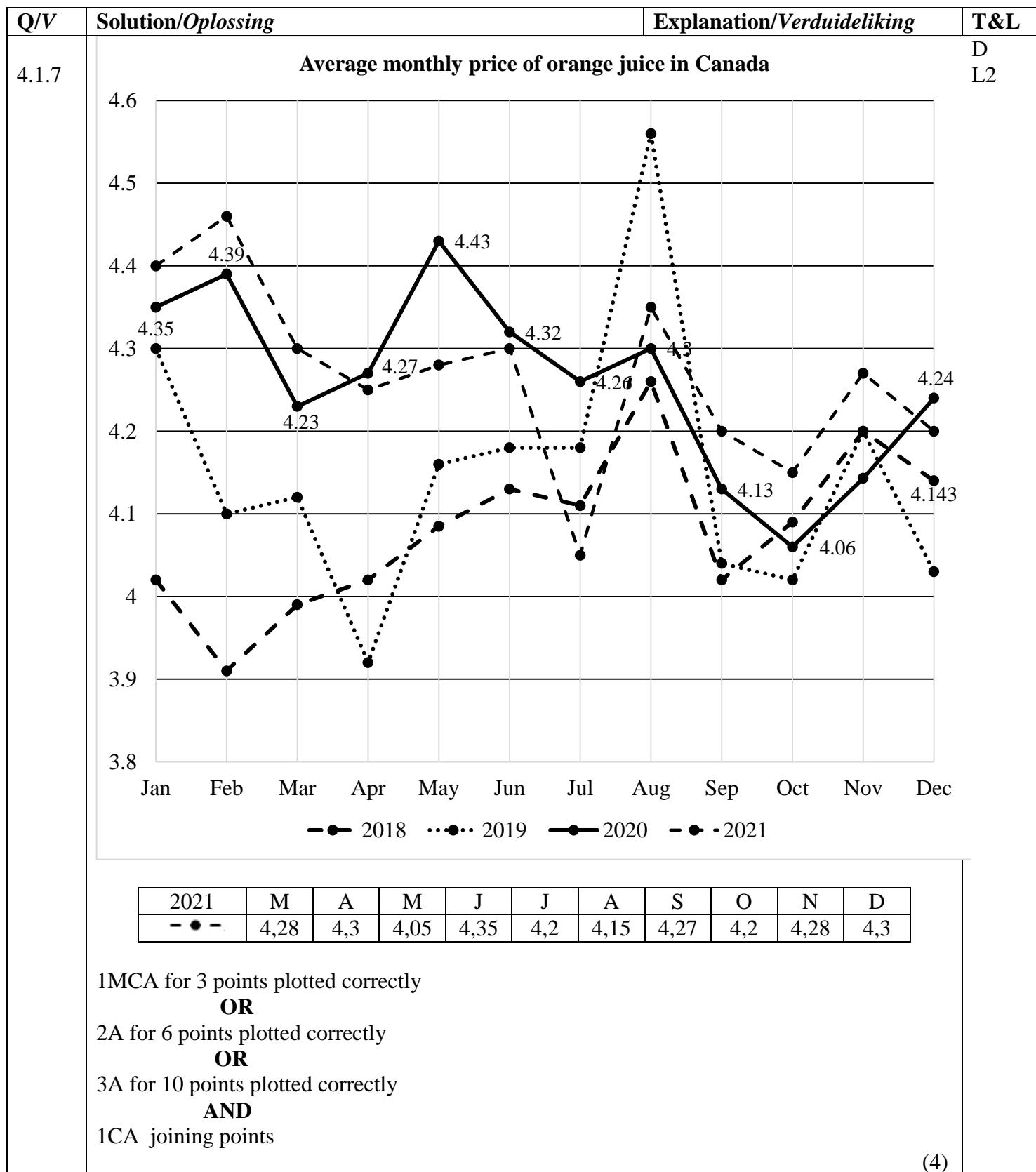| **QUESTION/*VRAAG* 2 [32 MARKS/*PUNTE*]**			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
2.1.1	BGD 0016 ✓✓A	2A correct reference number **AO** (2)	F L1
2.1.2	Easier to read numbers on long bank statements **OR** to identify which clients have made payments to their accounts **OR** convenience **OR** filing purposes/ ✓✓A *Makliker om getalle te lees op lang bankstate **OF** om die kliente te identifiseer wie die paaiemente na hulle rekeninge gemaak het **OF** gemak **OF** liasering doeleindes*	2A correct explanation (2)	F L4
*2.1.3	A = R3 205,51 – R3 206,00 ✓MA = – R0,49 ✓A **OR/*OF*** A = R1 498,14 – R1 498,63 ✓MA = - R0,49 ✓A	1MA subtracting correct values 1A simplification **OR/*OF*** 1MA subtracting correct values 1A simplification **AO** (2)	F L1
2.1.4	Total amount due excluding VAT/*Totale bedrag betaalbaar BTW uitgesluit* $= R2\ 340,73 \times \dfrac{100}{115}$ ✓MA $= R2\ 035,42$ ✓A **OR/*OF*** $= R2\ 340,73 \div 1,15$ ✓MA $= R2\ 035,42$ ✓A **OR/*OF*** VAT amount $= R2\ 340,73 \times \dfrac{15}{115}$ $= R305,31$ ✓MA Total amount excluding VAT $=$ R2 340,73 $-$ R305,31 $= R2\ 035,42$ ✓A	1MA multiplying by $\dfrac{100}{115}$ 1A simplification **OR/*OF*** 1MA dividing by 1,15 1A simplification **OR/*OF*** 1MA calculating VAT 1A calculating amount before VAT (2)	F L2

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.1.5	Percentage/*Persentasie* ✓RT $= \dfrac{\text{R1 498,63}}{\text{R2 340,73}} \times 100\%$ ✓RT = 64,02304378 % ✓CA = 64,02 % ✓R	1RT correct levy 1RT correct denominator 1CA simplification ⎢ CA if one value is correct ⎥ 1R rounding (4)	F L2
*2.1.6	All electronic bank payments **OR** All Bank Deposits **OR** Cheques ✓✓A *Alle elektroniese bank betalings **OF** Alle bank depositos **OF** Tjeks*	2A correct option (2)	F L1
2.1.7	Total amount collected/*Totale bedrag gekollekteer* ✓RT = 49 × R30,90 ✓MA = R1 514,10 ✓CA	1RT identifying correct levy 1MA multiplying correct values 1CA simplification ⎢ correct calculation using the standard levy ⎥ (3)	F L2
*2.1.8	Standard Levy increase/*Standaard heffings verhooging* = R1 498,63 × 6,45% ✓MA = R96,661635 = R96,66 ✓CA Standard Levy after increase/ *Standaard heffings na verhooging* = R1 498,63 + R96,66 ✓MCA = R1 595,29 ✓CA *(Accept R1 595,30)* **OR/*OF*** ✓A = R1 498,63 × $\dfrac{106,45}{100}$ ✓M ✓M = R1 595,29 ✓CA *(Accept R1 595,30)*	1MA correct value multiplied by 6,45% 1CA simplification 1MCA adding the increase 1CA simplification **OR/*OF*** 1A calculating 106,45% 1M multiplying by 106,45% 1M dividing by 100 1CA simplification (4)	F L2

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.1	Transport fee annually/ *Jaarlikse vervoerkoste* ✓MA $= 2 \times R929,00 \times 11$ ✓MA $= R20\ 438,00$ ✓ CA	 1MA multiplying R929,00 by 2 1MA multiplying by 11 1CA simplification (3)	F L2
2.2.2	After care for/*nasorg vir* 2: R7 700 × 2 = R15 400 ✓A School fees 2ⁿᵈ child with 10% discount: *Skoolfooie vir 2de kind met 10%-afslag* ✓MA R30 723 – R3 072,30 = R27 650,70 ✓CA Total school fee/*Totale skoolfooie* = R30 723 + R27 650,70 = R58 373,70 ✓CA Discount for paying early/*Afslag vir vroeg betaling* ✓MA = 7,5% × R58 373,70 = R4 378,03 School fee payable/ *Skoolfooie betaalbaar* = R58 373,70 – R4 378,03 = 53 995,67 ✓CA Total spent by parent/*Totaal Spandeer deur ouer*: After care + School fees+ Transport *Nasorg + Skoolfooie + Vervoer* = R15 400 + R53 995,67 + R20 438 ✓M = R89 833,67 ✓CA	**CA from Question 2.2.1** 1A after care fee 1MA calculating discount 1CA discounted School Fees by 10% 1CA total fee 1MA calculating 7,5% 1CA discounted school fees 1M adding all values 1CA total spending Aftercare: 1 mark 2nd learner fees: 2 marks Total fees – discount: 3 marks Adding and total: 2 marks (8)	F L3 **TR**
		[32]	

QUESTION/*VRAAG* 3 [21 MARKS/*PUNTE*]			
Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.1.1	Northern Cape (NC) /*Noord-Kaap (NK)* ✓✓RT	2RT correct answer (2)	D L1
*3.1.2	Estimated Total(Eastern Cape)/*Geskatte Totaal(Oos-Kaap)* ✓RT ✓MA (3 050 + 6 513 + 1 991) thousands/*duisende* = 11 554 000 ✓CA	1RT correctly estimated values 1MA adding values 1CA answer in correct format CA two correct values in thousands Penalty for omitting thousands = 2/3 marks **AO** (3)	D L1

3.1.3	$$2\,400,444 = \frac{2\,545+5\,182+4\,330+6\,513+628+1\,527+A+84+596}{9}$$
	 ✓C ✓M
	        ✓A
	A + 21 405 = 2 400, 444 × 9 ✓MA
	        ✓MCA
	A = 21 603,996 – 21 405
	
	   = 198,996 ✓CA
	
	His assumption is valid/*Sy aanname is geldig* ✓O
	
	OR/*OF*
	        ✓M
	2 400 444 × 9 provinces/*provinsies*
	= 21 603 996 ✓MCA
	= 21 603,996 thousand/*duisend* ✓C
	        ✓MCA ✓A
	A = 21 603,996 – (2 545+5 182+4 330+6 513+628+
	    1 527+84+596)
	   = 198,996 ✓CA
	His assumption is valid/*Sy aanname is geldig* ✓O
		1M concept of mean
		1C converting to table values
		1A adding table values
		1MA multiplying by 9
		1MCA simplification
		
		1CA simplification
		
		1O conclusion
		
		OR/*OF*
		1M multiplying by 9
		
		1MCA simplification
		1C converting to table values
		1MCA subtracting
		1A adding rest of values
		
		1CA simplification
		1O conclusion
		(7)
			D
			L4
			TR

3.2.1	Numerical data/*Numeriese Data* ✓✓A	2A correct answer (2)	D L1
3.2.2	A = 25% − (5 + 2 + 2)% ✓MA = 16% ✓CA	1MA subtracting correct value 1CA simplification **AO** (2)	D L2

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.2.3	Horticulture/*Tuinbou* = 27% × R317,6 billion/*miljard* ✓MA = R85,752 billion/*miljard* ✓CA = R 85 752 million/*miljoen* ✓C	 1MA calculating % 1CA simplification 1C converting to million (3)	D L2
3.2.4	South Africa has other livestock like goats and pigs whose percentage is <u>very small</u>/ *Suid Afrika het ander vee soos bokke en varke wie se persentasie <u>baie klein</u> is.* **OR/*OF*** ✓✓A Any other poultry that the percentage is <u>to small</u>/ *Enige ander pluimvee wat se persentasie <u>te klein</u> is*	 2A correct answer (2)	D L4
		[21]	

QUESTION/*VRAAG* 4 [32 MARKS/*PUNTE*]			
Q/V	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
4.1.1	February/*Februarie* 2019 CAD 4,10 ✓RT January/*Januarie* 2019 -CAD 4,30 ✓M Hence cost/*Gevolglik kos* CAD 0,20 less/*minder* ✓A	1RT correct values 1M subtracting 1A simplification (3)	D L2
4.1.2	✓RT ✓RT February/*Februarie* 2018 **OR/*OF*** ✓RT 02/2018 ✓RT	1RT correct month 1RT correct year (2)	D L2
*4.1.3	November 2018 ✓RT November 2019 ✓RT **OR/*OF*** 11/2018 ✓RT 11/2019 ✓RT **OR/*OF*** ✓RT November 2018 and 2019 ✓RT	1RT correct month 1RT correct years (2)	D L2
*4.1.4	<table><tr><td>4,06</td><td>4,13</td><td>4,143</td><td>4,23</td><td>4,24</td><td>4,26</td></tr><tr><td>4,27</td><td>4,3</td><td>4,32</td><td>4,35</td><td>4,39</td><td>4,43</td></tr></table> ✓A ✓RT Median/*Mediaan* $= \dfrac{4,26 + 4,27}{2}$ ✓M Median/*Mediaan* = CAD 4,265 ✓A	1A arranging in order 1RT correctly middle values 1M concept of median (÷2) 1A simplification (4)	D L3
*4.1.5	✓A The price <u>increases steadily</u> until it reaches June, thereafter it <u>decreases slightly</u>/*Die prys <u>verhoog geleidelik</u> totdat dit Junie bereik, waarna dit <u>effens afneem</u>.* ✓A	1A increase 1A indicate decrease (2)	D L4
*4.1.6	Price for March 2021/*Prys vir Maart 2021* CAD4,46 - CAD0,16 =CAD4,30 ✓A Percentage Increase/*Persentasie toename* ✓MCA ✓A $= \dfrac{4,30 - 4,23}{4,23}$ ✓A $\times 100\%$ = 1,65% ✓CA	1A finding price of March 1MCA substituting new value 1A substituting old value 1A denominator 1CA simplification No penalty for unit (5)	D L3

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.1.7	**Average monthly price of orange juice in Canada**		D L2

2021	M	A	M	J	J	A	S	O	N	D
- ● -	4,28	4,3	4,05	4,35	4,2	4,15	4,27	4,2	4,28	4,3

1MCA for 3 points plotted correctly
      OR
2A for 6 points plotted correctly
      OR
3A for 10 points plotted correctly
      AND
1CA joining points

(4)

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
			F
4.2	Cape Town/*Kaapstad*		L4
			TR
	✓RT		
	Fixed Monthly/*Vaste maandelikse koste* = R104,50	1RT fixed monthly	
	6 kℓ × R15,10 = R 90,60	1RT using correct values	
	4,5 kℓ × R20,75 = R 93,38		
	24,5 kℓ × R28,20 ✓RT = R690,90 ✓S	1S calculating tariffs	
	10 kℓ × R52,04 = R520,40		
	= **R1499,78** ✓CA	1CA finding total cost	
	Ekurhuleni		
	Fixed Monthly/*Vaste maandelikse koste* = R0,00		
	6 kℓ × R13,50 = R81,00	1RT using correct values	
	9 kℓ × R22,24 = R200,16 ✓S	1S calculating tariffs	
	15 kℓ × R27,24 ✓RT = R408,60		
	15 kℓ × R33,90 = R508,50		
	= **R1198,26** ✓CA	1CA finding total cost	
	Difference per month/*Verskil per maand*:		
	R1499,78 – R1198,26 = R301,52 ✓MCA	1MCA finding monthly	
		difference	
	Difference per year/*Verskil per jaar*:		
	R301,52 × 12		
	= R3618,24 ✓MCA	1MCA finding yearly	
		difference	
	He is incorrect/*Hy is nie korrek nie.* ✓O	1O correct conclusion	
		(10)	
		[32]	

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
QUESTION/*VRAAG* 5 [33 MARKS/*PUNTE*]			
5.1.1	Three million, four hundred and fifty seven thousand, nine hundred and twenty rand/ ✓✓A *Drie miljoen vier honderd sewe en vyftig duisend nege honderd en twintig rand.*	2A correct answer	F L1
			(2)
5.1.2	$\frac{1}{3}$ withdrawal/*ontrek* $= \frac{1}{3} \times$ R3 457 920 ✓MA = R1 152 640 ✓A	1MA multiplying by fraction 1A simplification **AO**	F L1
			(2)
5.1.3 (a)	Tax/*Belasting* R130 500 + 36% of taxable income above 1 050 000 ✓A *van belasbare inkomste* R130 500 + 36% (R3 457 920,00 − R1 050 000,00) ✓SF R130 500 + (36% × R2 407 920) ✓S R130 500 + R866 851,20 ✓MCA = R997 351,20 ✓CA Her statement is not correct/ *Haar bewering is nie korrek nie.* ✓O	1A correct tax bracket 1SF correct substitution 1S simplification 1MCA simplification 1CA simplification 1O not correct	F L4
			(6)

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.1.3 (b)	Loan amount/*Lening bedrag* $\qquad\quad$ ✓A = R3 457 920,00 ÷ 9,8798 $\quad$ ✓MA = R349 998,99 $\quad$ ✓CA = R350 000,00 **OR/***OF* R350 thousand/*duisend* ✓R $\qquad\qquad$ ***OR/OF*** Loan amount/*Lening bedrag* = L $\dfrac{9,8798}{1} = \dfrac{3\ 457\ 920}{L}$ $\quad$ ✓A $L = \dfrac{3\ 457\ 920}{9,8798}$ ✓MA $\quad$ = R349 998,99 ✓CA $\quad$ = R350 000,00 **OR/***OF* R350 thousand/*duisend* ✓R	 1A using correct values 1MA dividing by 9,8798 1CA simplification 1R rounded to nearest 1 000 **OR/*OF*** 1A using correct values 1MA dividing by 9,8798 1CA simplification 1R rounded to nearest 1 000 $\hfill$ (4)	F L3
5.1.3 (c)	 Total interest/*Totale rente* = R350 000 × $\dfrac{7,8}{100}$ × 3 ✓MA = R 81 900 ✓MCA Total amount/*Totale bedrag* =R81 900 + R350 000 ✓MCA = R431 900 ✓CA	**CA from Question 5.1.3(b)** 1MA multiply by % and 3 1MCA simplification ┌─────────────────────┐ │ At least two correct values │ └─────────────────────┘ 1MCA adding values 1CA simplification $\hfill$ (4)	F L2

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.2.1	Determine the exchange rate/*Bepaal die wisselkoers* $0{,}0969907$ NZD $= 1$ ZAR $\checkmark$RT $0{,}0581765$ € $= 1$ ZAR $\checkmark$RT $\therefore \dfrac{0{,}0969907}{0{,}0969907}$ NZD $= \dfrac{0{,}0581765}{0{,}0969907}$ € $\checkmark$M $\therefore 1$ NZD $= 0{,}59981524$ € $\checkmark$CA	1RT correct exchange rate 1RT correct exchange rate 1M dividing by exchange rate 1CA simplification (4)	F L2
*5.2.2	Total cost/*Totale koste* $0{,}0969907$ NZD $= 1$ ZAR $0{,}0581765$ € $= 1$ ZAR Skilled migrant visa/*Geskoolde migrante visa* $= \dfrac{2\,093}{0{,}0581765} \times 1$ $\checkmark$MA $= $ R35 976,726 $= $ R35 976,73 $\checkmark$A Visa for entrepreneurs/ *Visa vir entrepreneurs* $= \dfrac{4\,745}{0{,}0969907} \times 1$ $\checkmark$MA $= $ R48 922,21625 $= $ R48 922,22 $\checkmark$A $= $ R35 976,73 + R48 922,22 $\checkmark$MCA $= $ R84 898,95 $\approx$ R84 900 $\checkmark$R	 1MA dividing by exchange rate 1A simplification 1MA dividing by exchange rate 1A simplification 1MCA adding values 1R simplification NP for early rounding (6)	F L3 **TR**

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.3.1	Graph/*Grafiek* A ✓A As the months go by it costs less Chinese yen to buy one US dollar **OR** The scale on the vertical axis was manipulated to show a steeper decline/ ✓✓O *Soos die maande verby gaan kos dit minder jen om een VSA dollar te koop **OF** Die skaal van die vertikale as was gemanipuleer om 'n skerper afname te toon.*	1A Graph A 2O correct reason (3)	D L4
5.3.2	Using a different scale. *Deur gebruik te maak van 'n ander skaal.* ✓✓O	2O correct reason (2)	D L4
		[33]	
		TOTAL/*TOTAAL*: 150	

NOTES:	
Level 4 Questions: Calculations must be evident in order to award the conclusion/opinion mark. When rounding it must be correctly rounded to a minimum of 2 decimal places unless stated otherwise. In Level 3 and Level 4 type Questions correct early rounding will not be penalised.	
QUESTION 1	
1.1.2	Accept: R22,99 ÷ 8 = R2,87 Therefore, there are 8 apples
	Accept reverse calculation i.e. R2,87 × 8 = R22,99
1.1.5	Cover expenses and still able to make extra = 2 marks
1.1.6	Unit Ratio = 3 marks $\dfrac{135}{135}$: $\dfrac{85}{135}$ 1 : 0,629629629 **OR** $\dfrac{135}{85}$: $\dfrac{85}{85}$ 1,588235294 : 1 Accept accurate reverse calculation
1.2.4	If answer is 3 = 1/2 marks 3/6 = 0 marks 2/4 = 1/2 marks
1.3.3	If calculated = 2 marks If the median of store B (245) used = 1/2 marks
1.3.4	Use Store A = 1/3 marks (CA)
QUESTION 2	
2.1.3	If a positive R0,49 is given = 1/2 marks
2.1.6	Acceptable examples: Bank deposit EFT – card swipe Debit order Stop order Internal Transfer
2.1.8	Any other value from addendum × 6,45% = 3/4 marks
QUESTION 3	
3.1.2	AO - 11 554 = 2/3 marks

QUESTION 4		
4.1.3	As the question is indicated (wording) the following can also be accepted: 1) Sept 2018 and Oct 2019 2) Nov 2020 and Dec 2018 3) Jan 2019 and Aug 2020 = 1/2 marks	
4.1.4	Must show 4,265 in order to get the mark for 4,27	
4.1.5	Steadily increasing to June then decline in July month = full marks	
	Upward trend and downward trend = 1/2 marks	
4.1.6	Candidates left out % sign. Awarded full marks. Percentage is implied in "percentage increase"	
QUESTION 5		
5.2.2	No penalty for early rounding: = R36 000 + R48 900 ≈ R84 900	
	If multiplying and adding (the same unit) = 2/6 marks (MCA;R)	