KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY

PROVINCIAL STANDARDISED ASSESSMENT

MARCH 2026

MARKS: 100

TIME: 2 hours

This question paper consists of 11 pages and a 11-page Special Answer Book.

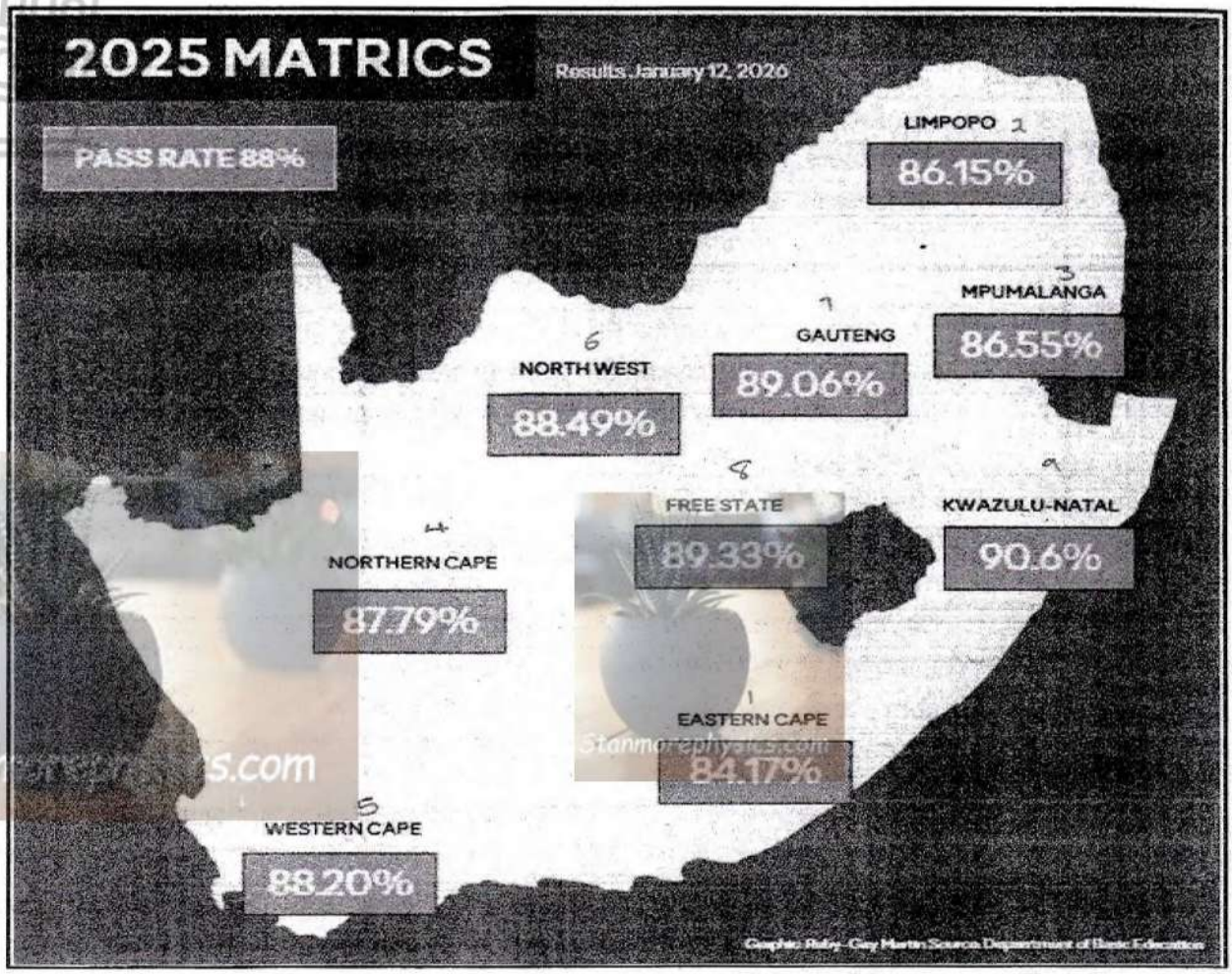
INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Answer ALL the questions in the SPECIAL ANSWER BOOK provided.
3. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.

4. Show ALL calculations clearly.
5. Round off ALL final answers appropriately according to the given context, unless stated otherwise.
6. Indicate units of measurement, where applicable.
7. Diagrams are NOT necessarily drawn to scale, unless stated otherwise.
8. Write neatly and legibly.

QUESTION 1

1.1 The Class of 2025 achieved a national pass rate of 88% in the final examinations, as released on 12 January 2026. The pass percentages for each province are shown below.



[Adapted from www.timeslive.co.za]

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

1.1.1 Identify the province that attained first position. (2)

1.1.2 Arrange the provincial pass rates shown above in ascending order. (2)

1.1.3 Determine the province that represents the median of the data above. (2)

1.1.4 Determine the unit ratio of the KwaZulu-Natal pass rate to the Western Cape pass rate, rounded to two decimal places (2)

1.1.5 Calculate the difference between the highest provincial pass rate and the lowest provincial pass rate. (2)

1.1.6 A province is selected at random from the nine provinces. Calculate the probability as a simplified fraction that the selected province has a pass rate of at least 89%. (3)

1.2 TABLE 1 below gives definitions of terminology used in Mathematical Literacy.

TABLE 1: DEFINITIONS OF TERMINOLOGY USED IN MATHEMATICAL LITERACY

LETTER	DEFINITIONS
A	The fixed amount of money an employee earns before any additional allowances, bonuses, or deductions.
B	The amount an employee takes home after all deductions
C	The interest calculated only on the original amount borrowed or invested
D	The value of a currency in relation to the cost of living in another country
E	An arrangement where a fixed amount of money is automatically paid from your bank account to another account at regular intervals
F	The interest calculated on both the principal amount and any interest that has already been added.
G	The general increase in the prices of goods and services over time, which reduces the purchasing power of money
H	An arrangement where a bank automatically allows a third party to withdraw varying amounts from your account

Use TABLE 1 above and match the definitions with the terminology below. Write only the letter (A-H) next to the question numbers (1.2.1 to 1.2.4), e.g. 1.2.5 J

1.2.1 Simple Interest (2)

1.2.2 Basic Salary (2)

1.2.3 Debit order (2)

1.2.4 Buying power (2)

[21]

QUESTION 2

2.1 James intends to invest R50 000 for a period of 12 months, making an additional deposit of R3 500 at the end of each month. His bank offers an interest rate of 7,05% per annum, compounded monthly. TABLE 2 below shows the projected growth of his investment.

TABLE 2: JAMES' INVESTMENT FOR 12 MONTHS

Month	Opening Balance (R)	Monthly Payment (R)	Balance with Payment (R)	Interest (R)	Closing Balance with Interest (R)
1	50 000	3 500	53 500	314,31	53 814,31
2	53 814,31	3 500	57 314,31	336,72	57 651,03
3	57 651,03	3 500	61 151,03	359,26	61 510,29
4	61 510,29	3 500	65 010,29	381,94	65 392,23
5	65 392,23	3 500	68 892,23	404,74	69 296,97
6	69 296,97	3 500	72 796,97	427,68	73 224,65
7	73 224,65	3 500	76 724,65	450,76	77 175,41
8	77 175,41	3 500	80 675,41	473,97	81 149,38
9	81 149,38	3 500	84 649,38	497,32	85 146,70
10	85 146,70	3 500	88 646,70	520,80	89 167,50
11	89 167,50	3 500	92 667,50	544,42	93 211,92
12	93 211,92	3 500	96 711,92	B	C

[Adapted from James' investment account]

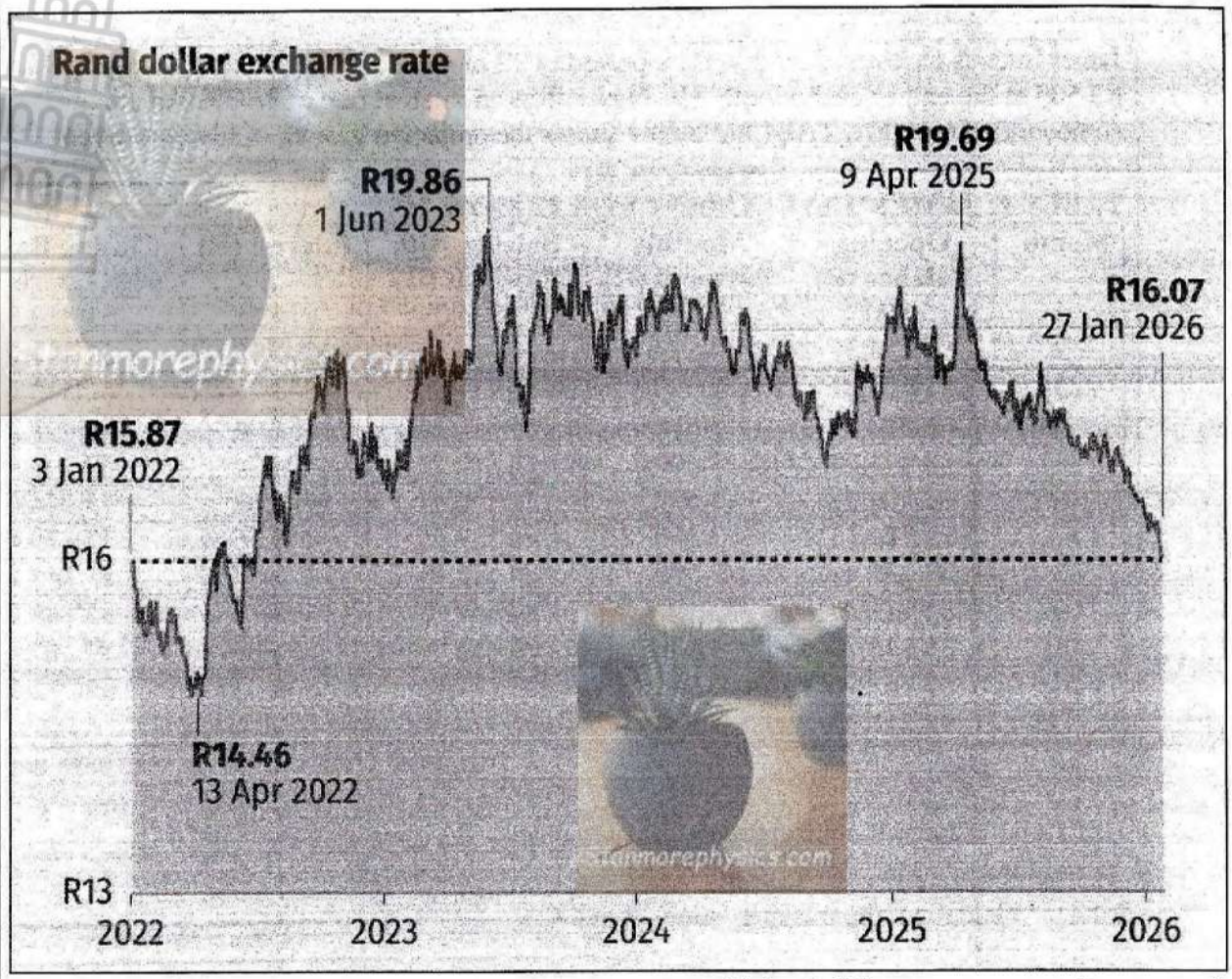
Use TABLE 2 and the information above to answer the questions that follow.

2.1.1 Calculate the missing values B and C. (5)

2.1.2 Calculate the total interest that James will earn at the end of the 12-month investment period. (4)

2.1.3 Explain, using TABLE 2 above, how compounding monthly affects the total interest earned compared to earning simple interest. (2)

2.2 The graph below shows the rand dollar exchange rates from January 2022 to January 2026.



[Adapted from www.roundup.org.za]

Use the information above to answer the questions that follow.

2.2.1 Identify the exact date (day, month, and year) on which the rand was at its strongest. (2)

2.2.2 As of January 2026, South Africa's national debt stands at R6,09 trillion. Convert this amount into US dollars using the rand-dollar exchange rate from the graph above. (3)

2.2.3 James visited the USA in April 2022 and January 2026. For each of the visits, he exchanged R50 000 for US dollars. He claims that during his January 2026 visit, he received $346.42 less than he did in April 2022.

Use the exchange rates provided above to verify whether James' statement is correct. (6)

2.3 Food inflation rates for 2026, 2027, and 2028 are projected to be 4.4%, 3.2%, and 3.0%, respectively. TABLE 3 below shows the 2026 food basket prices for Johannesburg, Durban, and Cape Town.

TABLE 3: FOOD BASKET PRICES FOR THREE CITIES – 2026

City	2026 Food Basket Price (R)
Johannesburg	R5 515,69
Durban	R5 295,36
Cape Town	R5 389,36

[Adapted from www.businesstech.co.za]

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

2.3.1 Calculate the probability that a year, chosen at random from the given period, has a food inflation rate greater than 3%. (2)

2.3.2 Calculate the difference in food basket prices between Johannesburg and Cape Town. (2)

2.3.3 Calculate the projected food basket price in Durban for 2028 using the 2027 and 2028 inflation rates. (4)

[30]

QUESTION 3

3.1

TABLE 4 below shows the number of births registered at Home Affairs. A baby's birth has to registered within 30 days.

TABLE 4: BIRTH REGISTRATIONS FOR SOUTH AFRICA 2023

Age of mother	Number of birth registrations			Percentage		
	Total	Current	Late	Total	Current	Late
10–14	3 417	2 311	1 106	100.0	67.6	32.4
15–19	128 192	100 095	28 097	100.0	78.1	21.9
20–24	198 314	183 990	14 324	100.0	92.8	7.2
25–29	224 081	212 256	11 825	100.0	94.7	5.3
30–34	200 301	190 186	10 115	100.0	95.0	5.0
35–39	127 010	120 396	6 614	100.0	94.8	5.2
40–44	38 650	36 391	2 259	100.0	94.2	5.8
45–49	2 702	2 389	313	100.0	88.4	11.6
50–54	173	107	66	100.0	61.8	38.2
Unspecified outside the 10–54 age range	A	216	9 082	100.0	2.3	97.7
Total	932 138	848 337	83 801	100.0	91.0	9.0

[Source:www.statssa.gov.za]

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

3.1.1 Determine the percentage of late birth registrations in 2023. (2)

3.1.2 Determine the total number of birth registration with mothers under the age of 20. (2)

3.1.3 Determine the median number of current registrations in 2023. (3)

3.1.4 Calculate the missing value A in TABLE 4, if the mean total number of birth registrations was 93213,8. (3)

3.2 The mass of a new born baby is shown in the box and whisker plot below.

BOX AND WHISKER PLOT OF BIRTH MASS AT A HOSPITAL

[Adapted source www: medium.com]

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

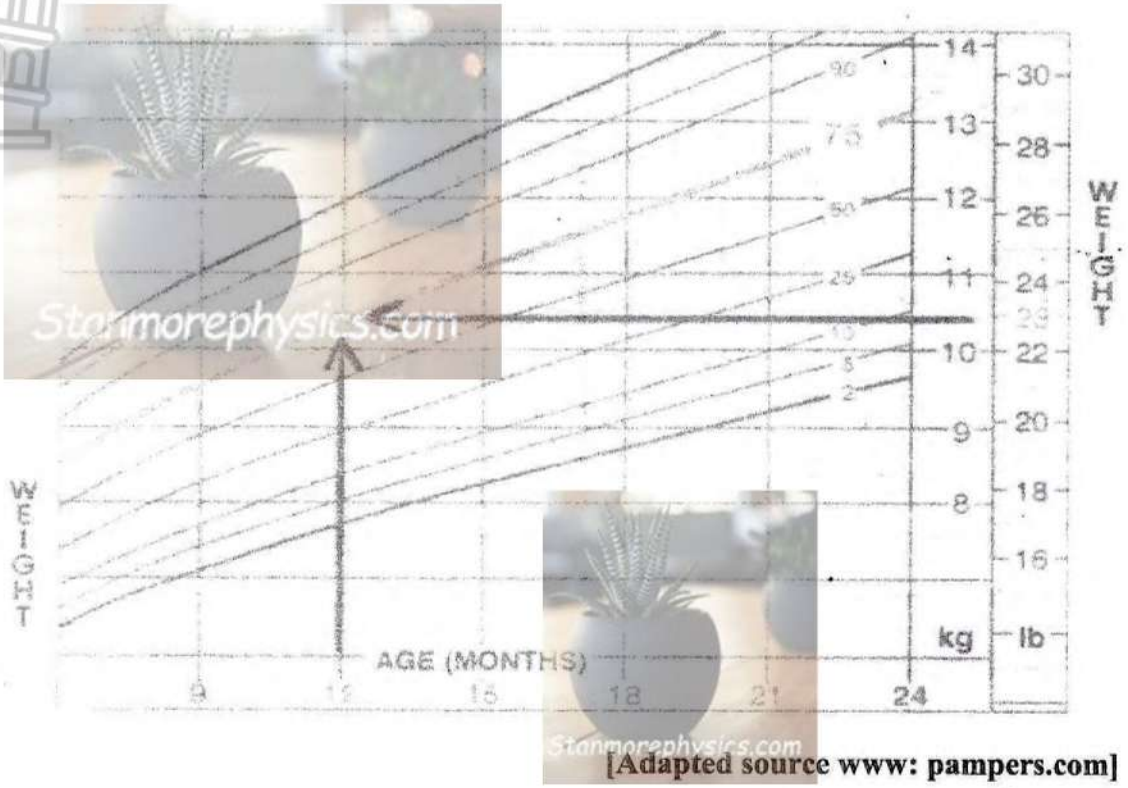
3.2.1 Name the Quartile that supports this statement, "25% of the babies had a mass of less than 2,9kg". (2)

3.2.2 Calculate the inter quartile range for the birth mass. (3)

3.2.3 A nurse stated that the top 25% of babies have birth mass with a difference of 0,3 kg. Verify, showing all calculations whether the statement is correct. (3)

3.3 The extract from the growth chart below shows the age and weight of babies.

GROWTH CHART SHOWING AGE AND WEIGHT OF A BABY BOY



[Adapted source www: pampers.com]

Use the growth chart and information above to answer the questions that follow.

3.3.1 Identify the age and weight (in kilograms) of a baby on the 75th-percentile curve. (2)

3.3.2 Explain what the 75th-percentile curve represents. (2)

3.3.3 At 24 months, the baby should have been on the 75th-percentile curve, but was on the 50th-percentile curve. Determine the difference in weight and provide a possible reason for this difference. (3)

[25]

QUESTION 4

4.1 Mr Michaels is 45 years old and earns a salary of R22 500 per month. He contributes 7,5% of his salary to a pension fund. Mr Michael belongs to a private medical aid scheme and pays medical aid for his family of four. ANNEXURE A shows the annual Income tax rates and Rebate table for the year 2024/2025.

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

4.1.1 Explain the term *medical aid credit.* (2)

4.1.2 Show how the amount of R77 362 in the tax table was calculated. (3)

4.1.3 Determine Mr Michaels' annual taxable income. (3)

4.1.4 Determine the amount of tax Mr Michaels will pay per month. (8)

4.2 Starlink is an international mobile service provider that is not yet licensed to operate in South Africa. TABLE 5 below shows the company's cell phone tariff structure.

TABLE 5: COMPARISON OF RESIDENTIAL AND ROAMING COSTS FOR 2026

	Residential Option	**Roaming Option**
Once off - Hardware cost	R6 800	R6 800
Cost per Month	R540	R900
Cost per GB of data	R2,16	R9,00
Free DATA allowance	250GB	100GB
Portability	Fixed address only	Works in 150 countries
Down load speed	100 Mbs	127 Mbs

[Adapted Source : https://www.techinafrica.com]

NOTE: Roaming refers to the ability to use your mobile phone on another network outside your service provider's coverage area, usually when you are in a different country.

Use TABLE 5 above to answer the questions that follow.

4.2.1 Write a formula to represent the total cost of the Residential option for the first month of usage. (3)

4.2.2 A claim has been made that the difference between the two options in the first month is R2 000 when 500 GB of data is used.
Verify, showing all working, if this claim is VALID. (5)

[24]

TOTAL [100]

QUESTION 4

ANNEXURE A

TAX RATES FOR THE 2024/2025 TAX YEAR

TAX BRACKET	TAXABLE INCOME (in R)	TAX RATES (in R)
1	0–237 100	18% of taxable income
2	237 101–370 500	42 678 + 26% of taxable income above 237 100
3	370 501–512 800	77 362 + 31% of taxable income above 370 500
4	512 801–673 000	121 475 + 36% of taxable income above 512 800
5	673 001–857 900	179 147 + 39% of taxable income above 673 000
6	857 901–1 817 000	251 258 + 41% of taxable income above 857 900
7	1 817 001 and more	644 489 + 45% of taxable income above 1 817 000

REBATES	AMOUNT
Below age 65	R17 235
Age (65–74)	R9 444
Age 75 and over	R3 145

MEDICAL TAX CREDITS PER MONTH FOR 2024/2025	
Taxpayer	R364
Taxpayer and one dependent	R728
Each additional dependent	R246

[Source adapted: www.sars.gov.za]

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MARKING GUIDELINE

MARCH 2026

MARKS: 100

SYMBOL	EXPLANATION
MA	Method with accuracy
MCA	Method with Consistent accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT	Reading from a table/ graph/ diagram/Map/document
SF	Correct substitution in a formula
O	Opinion/ reason/deduction/example/Explanation
R	Rounding off
AO	Answer only full marks
NPU	No penalty for omitting unit, but wrong unit is penalised. incorrect rounding off etc.
NPR	No penalty for correct rounding / units

This marking guideline consists of 8 pages.

NOTES:

- 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.

QUESTION 1 [21 MARKS] ANSWER ONLY FULL MARKS			
Ques	**Solution**	**Explanation**	**T & L**
1.1.1	KwaZulu-Natal✓✓RT	2RT Correct Province **Accept KZN** (2)	DH L1 E
1.1.2	84,17%, 86,15%, 86,55%, 87,79%, 88,20%, 88,49%, 89,06%, 89,33%, 90,6%✓✓A	2A correct Order (2)	DH L1 E
1.1.3	Western Cape✓✓A	2A Correct Province **Accept WC** (2)	DH L1 E
1.1.4	✓RT 90,6 : 88,20 = 1 : 0,97✓A	1 RT for both correct values and order 1A Correct unit ratio **Accept 1,03 :1** (2)	DH L1 E
1.1.5	Difference = 90,6% - 84,17%✓MA = 6,43% ✓A	1MA subtracting correct values 1A correct answer (2)	DH L1 M
1.1.6	Probability (≥ 89%) = $\frac{3✓A}{9✓A}$ = $\frac{1}{3}$✓S	1A correct numerator 1A correct Denominator 1S simplification (3)	P L1 M
1.2.1	C✓✓A	2A correct answer (2)	F L1 M
1.2.2	A✓✓A	2A correct answer (2)	F L1 M
1.2.3	H✓✓A	2A correct answer (2)	F L1 M
1.2.4	D✓✓A	2A correct answer (2)	F L1 M
		[21]	

QUESTION 2 [30 MARKS]			
Ques	**Solution**	**Explanation**	**T & L**
2.1.1	Monthly Interest rate = $\frac{7{,}05\ \%}{12}$ = 0,5875%✓A B = 0,5875 % × R96 711,92✓MA = R568,18✓A C = R96 711,92 + R568,18✓MCA = R97 280,10✓CA **OR** B = R96 711,92 × 7,05 %✓MA = R 6818,19036 ÷ 12✓MA = R568,18✓A C = R96 711,92 + R568,18✓MCA = R97 280,10✓CA	1A correct interest rate 1MA multiplying by 0,5875% 1A correct interest 1MCA adding interest 1CA answer 1MA multiplying by 7,05% 1MA for dividing by 12 1A correct answer 1MCA adding interest 1CA answer (5)	F L2 M
2.1.2	✓MA Total Invested = R 50 000 + (12 × R3 500) = R 92 000 ✓A ✓MCA Total interest = R97 280,10 – R92 000 = R5 280,10✓CA **OR** Total interest = 314,31+336,72+359,26+381,94+404,74+427,68+ 450,76+473,97+497,32+520,80+544,42✓MA ✓A = R 4711,92 + R568,18✓MCA = R 5 280,10 ✓CA	**CA from 2.1.1** 1MA multiplying 12 by R3 500 1A Total invested 1MCA subtracting R92 000 1CA answer **OR** 1MA adding 11 correct values 1A for R 4 711,92 1MCA adding interest for the 12th month 1CA correct amount (4)	F L2 M
2.1.3	Compounding, interest is calculated on the increasing balance each month. From the table, the interest grows from R314,31 in month 1 to R568,68 in month 12. ✓✓O **OR** Compounding monthly earns more total interest than simple interest because interest is calculated on interest earned each month✓✓O	2O correct explanation (2)	F L4 M
2.2.1	13 April 2022✓✓RT	1RT correct answer (2)	F L1 E

2.2.2	R6,09 trillion = R6 090 000 000 000✓C Debt = R6 090 000 000 000 ÷ R16,07✓MA = $378 967 019 290,6✓A	1C Conversion 1MA dividing by R16,07 1A answer **Accept 0,3789670193 trillion** (3)	F L3 M
2.2.3	April 2022 = R50 000 ÷ R14,46 ✓MA = $3 457,81✓A January 2026 = R50 000 ÷ R16,07 = $3 111,39✓A Difference = $3 457,81 – $3 111,39✓MCA = $346,42✓CA Statement is CORRECT✓O	1MA dividing by R14,46 1A correct amount 1A correct amount 1MCA subtracting 1CA answer 1O opinion **Accept $346,43** (6)	F L4 M
2.3.1	P (Inflation > 3%) = $\frac{2✓A}{3✓A}$	1A for Numerator 1A for Denominator (2)	P L1 M
2.3.2	Difference = R5 515,69 – R5 389,36✓MA = R126,33✓A	1MA subtracting 1A answer (2)	F L2 M
2.3.3	2027 Price = 103,2% × R5 295,36✓MA = R5 464,81✓A 2028 Price = 103% × R5 464,81✓MCA = R5 628,75✓CA **OR** 2027 Increase: 3,2% × R5 295,36 = R169,45✓A Price: R5 295,36 + R169,45 = R5 464,81✓A 2028 Increase: 3% × R5 464,81 = R163,94✓CA Price: R5 464,81 + R163,94 = R5 628,75✓CA	1MA multiplying by 103,2% 1A answer 1MCA multiplying by 103% 1CA answer **OR** 1A increase for 2027 1A price for 2027 1CA increase for 2028 1CA answer (4)	F L3 M
		[30]	

QUESTION 3 [25 MARKS]			
Ques	**Solution**	**Explanation**	**T &L**
3.1.1	% Of late registrations = 9%✓✓ RT	2RT correct answer (2)	DH L1 E
3.1.2	Total = 3 417 +128 192✓ MA = 131 609✓ A	1MA adding correct values 1A correct answer (2)	DH L2 E
3.1.3	107; 216; 2 311; 2 389; 36 391; 100 095; 120 396; 183 990; 190 186;212 256 ✓ A Median = (36 391 + 100 095) ÷ 2✓MA = 68 243✓CA	1A arranging data 1MA adding and dividing by 2 1CA correct answer (3)	DH L2 E
3.1.4	✓MA A = (93 213,8×10) – (3 417 + 128 192 + 198 314 + 224 081 + 200 301 + 127 010 + 38 650 + 2 702+ 173)✓MA = 9 298✓CA **OR** ✓MA $93\,213{,}8 = \frac{3\,417 + 128\,192 + 198\,314 + \cdots + A}{10\checkmark MA}$ A = 9 298✓CA	1MA multiplying 1MA subtracting sum of correct values 1CA correct answer **OR** 1MA adding all correct values 1MA dividing by 10 1CA correct answer (3)	DH L3 M
3.2.1	Quartile 1✓✓ RT	2RT correct answer **Accept Lower Quartile/Q1** (2)	DH L1 E
3.2.2	✓RT IQR = 3,1 – 2,9✓RT = 0,2kg ✓CA	1RT for Q3 1RT for Q1 1CA correct answer (3)	DH L3 M
3.2.3	✓RT Difference = 3,4 – 3,1✓MCA = 0,3 kg Statement is correct✓O	**CA from 3.2.2** 1RT for maximum value 1MCA for subtracting Q3 1O for conclusion (3)	DH L4 E

3.3.1	✓RT 12 months and 10 ,4kg✓RT	1RT for 12 months 1RT for 10,4 kg (2)	DH L1 E
3.3.2	The baby weighs more than 75% of babies of the same age and less than the top 25%.✓✓O **OR** 25% babies are heavier than this baby and 75% of babies are lighter than this baby.✓✓O	2O correct explanation (2)	DH L4 M
3.3.3	Difference = 13,2 kg – 12,1kg ✓RT = 1,1kg. ✓CA Poor nutrition / illness ✓O	1RT subtracting correct values 1CA answer 1O correct explanation (3)	DH L4 M
			[25]

QUESTION 4 [24 MARKS]			
Ques	**Solution**	**Explanation**	**T &L**
4.1.1	It is a tax rebate/discount given for medical aid contributions that reduces your tax payable to SARS.✓✓O **OR** A medical aid tax credit is a fixed amount that is deducted from the tax a person has to pay each month for contributing to a registered medical aid scheme.✓✓O	2O correct explanation (2)	F L1 M
4.1.2	✓MA ✓MA ✓RT Tax Rate = R 42 678 + [26% × (R 370 500 – R 237 100)] = R 77 362	1MA for adding 42678 1MA for multiplying by 26% 1RT for 370 500 (3)	F L2 M
4.1.3	✓MA Annual taxable income = R22500 – (R22 500 ×7,5%) = R 20 812,5× 12 ✓MA = R249 750✓A **OR** ✓MA Annual Taxable Income = R 22 500 × 12 ✓MA = R 270 000 – (R 270 000× 7,5%) = R 249 750✓A	1MA multiplying by 7,5% and subtracting 1MA multiplying by 12 1A correct answer **OR** 1MA multiplying by 12 1MA multiplying by 7,5% and subtracting 1A correct answer (3)	F L2 M
4.1.4	✓A ✓SF Annual tax = R42 678 + 26% (R 249 750 – R 237 100) = R45 967✓CA Rebate = R45 967 - R17 235 ✓MCA = R28 732 Tax payable = R28 732 – 12 (R 728 + R 246 +R 246)✓MCA = R14 092✓CA Tax payable per month = R14 092 ÷ 12✓MCA = R1 174,33✓CA	**CA from Q4.1.3** 1A correct tax bracket 1SF correct substitution 1CA correct answer 1MCA subtracting R 17 235 1MCA subtracting MTC 1CA answer 1MCA dividing by 12 1CA simplification (8)	F L3 M

4.2.1	Total Cost ✓A ✓A ✓MA = R6800 + R540 + R2,16 [(Number of GB.250) – 250 GB] **OR** Total Cost ✓A ✓A ✓MA = R6800 + R540 + R2,16 × **n** (where **n** is the number of GB above 250)	1A for R6 800 1A for R 540 1MA for multiplying R2,16 and subtracting >250GB 1A for R6 800 1A for R 540 1MA multiplying R2,16 by n (3)	F L2 M
4.2.2	Total Cost for Residential = R6 800 + R540 + R2,16 (500 – 250 GB) ✓SF = R7 880 Total Cost for Roaming = R6 800 + R900 + R9 (500 – 100 GB) ✓SF = R11 300 Difference =R 11 300 – R 7 880✓MCA =R3 420✓CA Claim is INVALID✓ O	**CA from 4.2.1** 1SF substitution 1SF substitution 1MCA subtracting 1CA simplification 1O Conclusion (5)	F L2 M
			[24]
		TOTAL MARKS:	**100**