



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA



**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

MATHEMATICAL LITERACY P1

PREPARATORY EXAMINATION

SEPTEMBER 2022

MARKS: 150

TIME: 3 hours

**This question paper consists of 14 pages
including 1 answer sheet and an Addendum with 1 Annexure.**

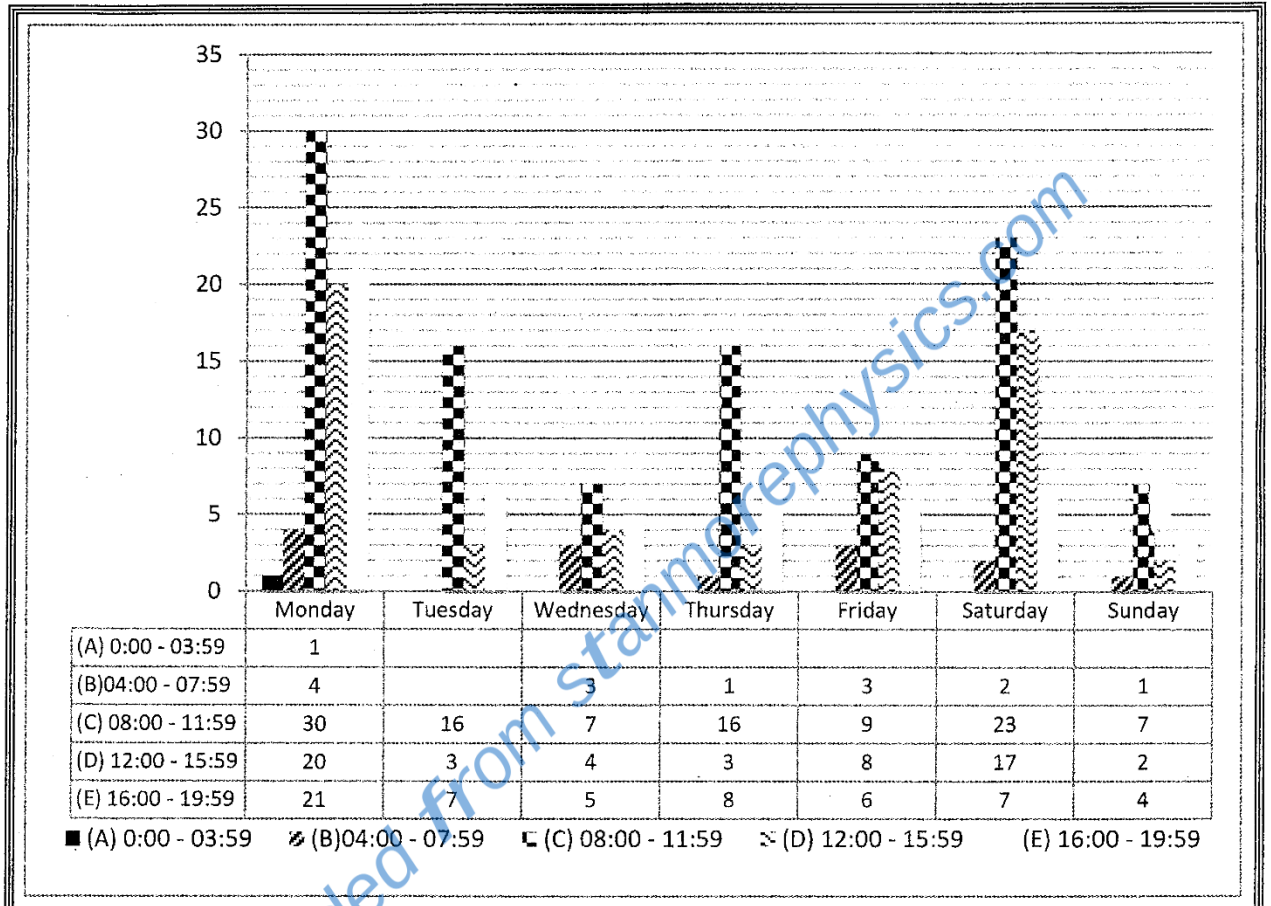
INSTRUCTIONS AND INFORMATION

1. This question paper consists of FIVE questions. Answer ALL the questions.
2. 2.1 Use ANNEXURE A in the ADDENDUM to answer QUESTION 2.2.
2.2 Answer QUESTION 5.1.2. on the attached ANSWER SHEET.
2.3 Write your name 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. Cash-in-transit robberies are a serious problem in South Africa. The graph below shows the days and times when robberies are committed.

ROBBERY OF CASH-IN-TRANSIT: DAYS AND TIMES OF THE WEEK



Source: [www.businesstech.co.za]

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

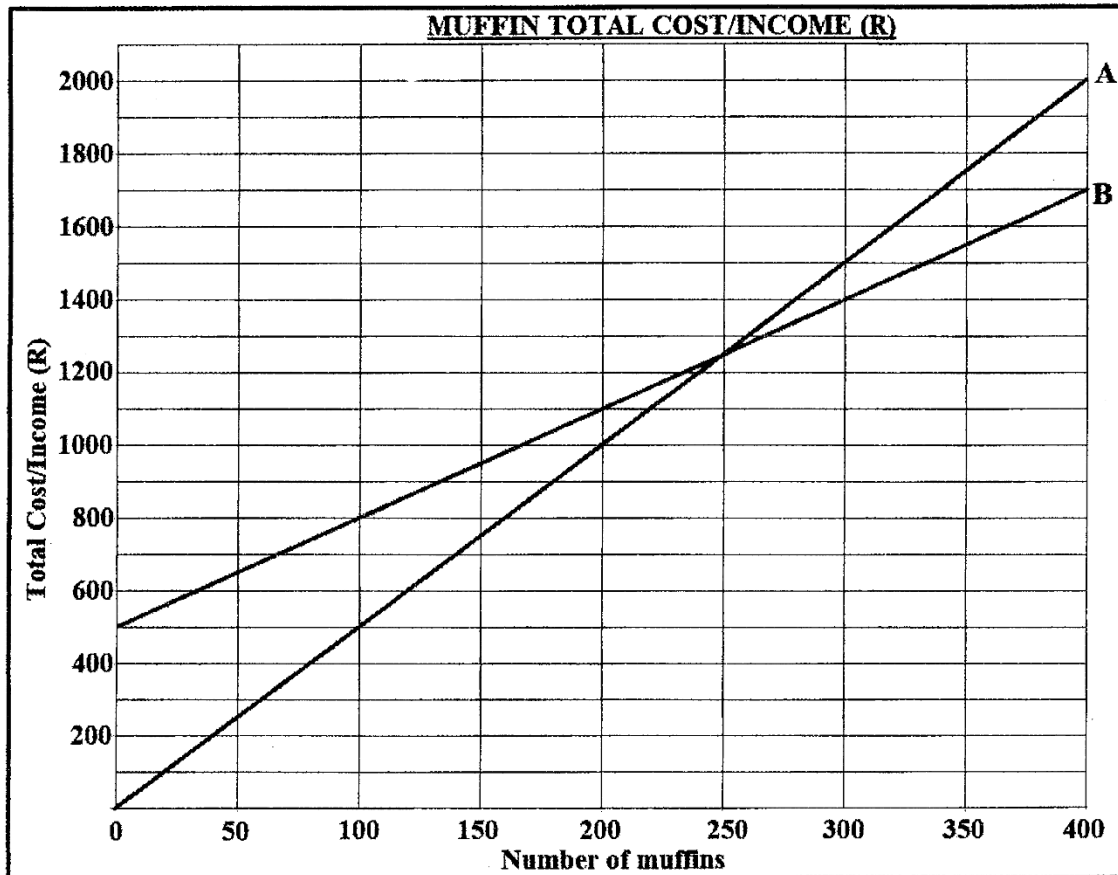
- 1.1.1 Identify which day of the week had the greatest number of robberies. (2)
- 1.1.2 Calculate the total number of robberies that occurred on Saturday. (2)
- 1.1.3 Determine how many robberies occurred from 8:00 – 11:59 on Thursday. (2)
- 1.1.4 Calculate the difference between the highest and the lowest number of robberies that occurred on a Monday. (2)
- 1.1.5 Write down the time interval that had the highest number of robberies throughout the week. (2)

- 1.2 The School Governing Body of Green Fields High School approved 2022 annual school fees of R17 500 which includes a 10% increase from 2021 school fees. If the annual fees are paid by March 2022 there will be a discount equivalent to the percentage increase in the school fees.

Use the information above to answer the questions that follow.

- 1.2.1 Write down the percentage discount given to those who fully paid the school fees in March. (2)
- 1.2.2 Calculate the annual school fees for 2021 rounded off to the nearest R1. (2)
- 1.2.3 Lerumo's parents chose the ten equal monthly payments option in 2022. Calculate their monthly payment. (2)
- 1.2.4 If the 2021 school fees was R15 909 and increased to R17 500 in 2022, calculate the increase in the school fees. (2)

- 1.3 Green Fields High School Matric Dance Committee bakes and sells muffins to raise funds for the matric dance. Given below is the graph for total cost and total income for the muffins.



Use the graph above to answer the questions that follow.

- 1.3.1 Explain the meaning of the word “total cost” in the context above. (2)
- 1.3.2 State what each of the line graphs A and B represent. (2)
- 1.3.3 Write down the fixed cost. (2)
- 1.3.4 Determine the cost for baking 300 muffins. (2)
- 1.3.5 Calculate the selling price for each muffin. (2)
- 1.3.6 Write down the number of muffins to be sold to break-even. (2)

[30]

QUESTION 2

- 2.1 Umlalazi Municipality published the financial statements for 2020 and 2021 for the different votes or departments labelled Vote 1 to Vote 13 as shown in TABLE 1 below.

TABLE 1: FINANCIAL PERFORMANCE OF DEPARTMENTS/VOTES

| VOTE | 2020 | | 2021 | |
|------------------------|------------------------|----------------------------|------------------------|----------------------------|
| | REVENUE R thousands | EXPENDITURE R thousands | REVENUE R thousands | EXPENDITURE R thousands |
| Vote 1 | 204 409 | 78 556 | 156 335 | 28 211 |
| Vote 2 | 66 587 | 50 753 | 47 441 | 27 564 |
| Vote 3 | - | 2 595 | - | 1 236 |
| Vote 4 | 5 290 | 17 659 | 151 | 9 310 |
| Vote 5 | 26 | 16 982 | 20 | 9 515 |
| Vote 6 | 3 | 11 932 | 2 | 6 120 |
| Vote 7 | 37 687 | 39 052 | 37 830 | 38 515 |
| Vote 8 | 2 765 | 12 125 | 1 685 | 8 013 |
| Vote 9 | 39 666 | 101 502 | 15 866 | 51 716 |
| Vote 10 | 15 532 | 27 294 | 8 207 | 13 299 |
| Vote 11 | 78 899 | 81 680 | 37 022 | 38 481 |
| Vote 12 | - | 4 | - | 0 |
| Vote 13 | - | 365 | - | 9 |
| TOTAL | 450 864 | - | - | 9 |
| SURPLUS/DEFICIT | 10 365 | | C | |

[Adapted from www.umlalazi.gov.za]

Study TABLE 1 above and answer the questions that follow.

- 2.1.1 Explain the term “surplus” in this context. (2)
- 2.1.2 Show how the 2020 surplus of R10 365 was calculated. (3)
- 2.1.3 One councillor stated that the percentage difference in the expenditure for Vote 13 from 2020 to 2021, was greater than -29%. Use calculations to verify the statement.

You may use the formula:

$$\% \text{ difference} = \frac{\text{2021 expenditure} - \text{2020 expenditure}}{\text{2020 expenditure}} \times 100\% \quad (4)$$

- 2.1.4 If a vote is picked at random, what is the probability that its expenditure for 2021 is greater than R27 000 000? Write your answer as a percentage. (3)

- 2.2 Dream Big High School received an electricity account statement for the school from uMlalazi Municipality. ANNEXURE A is an extract of the account statement with some values and amounts left out.

Use ANNEXURE A to answer the following questions.

- 2.2.1 Explain the term “*opening balance*” in this context. (2)
- 2.2.2 Show, using the meter readings that the value of **D** is 15 012. (2)
- 2.2.3 Calculate the missing value **E**. (2)
- 2.2.4 Use calculations to verify if the VAT amount of R4 374,81 was calculated correctly. (4)

- 2.3 Mr Mdletshe is 68-year-old businessman, married with three grand children who are also covered by his medical aid. As a company director, Mdletshe earns a monthly income of R42 000 and donates R2 500 every month to a local Orphanage. TABLE 2 below shows Individual Income Tax Rates for 2022.

N.B: Donations by natural persons not exceeding R100 000 are allowable tax deductions.

TABLE 2: INDIVIDUAL INCOME TAX RATES – 2022

| Taxable income (R) | Rates of tax (R) |
|--|---|
| 1 – 226 000 | 18% of taxable income |
| 226 001 – 353 100 | 40 680 + 26% of taxable income above 226 000 |
| 353 101 – 488 700 | 73 726 + 31% of taxable income above 353 100 |
| 488 701 – 641 400 | 115 762 + 36% of taxable income above 488 700 |
| 641 401 – 817 600 | 170 734 + 39% of taxable income above 641 400 |
| 817 601 – 1 731 600 | 239 452 + 41% of taxable income above 817 600 |
| 1 731 601 and above | 614 192 + 45% of taxable income above 1 731 600 |
| Rebates | |
| Primary Rebate (Persons under 65) | R15 714 |
| Secondary Rebate (Persons 65 and under 75) | R24 327 |
| Tertiary Rebate (Persons 75 and over) | R27 198 |
| Medical Aid Tax Credits | |
| Main member | R332 |
| First dependant | R332 |
| For each additional dependant | R224 |

[Adapted from www.sars.gov.za]

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

- 2.3.1 Calculate:

- (a) Mdletshe’s annual taxable income. (3)
- (b) annual medical tax credits. (4)

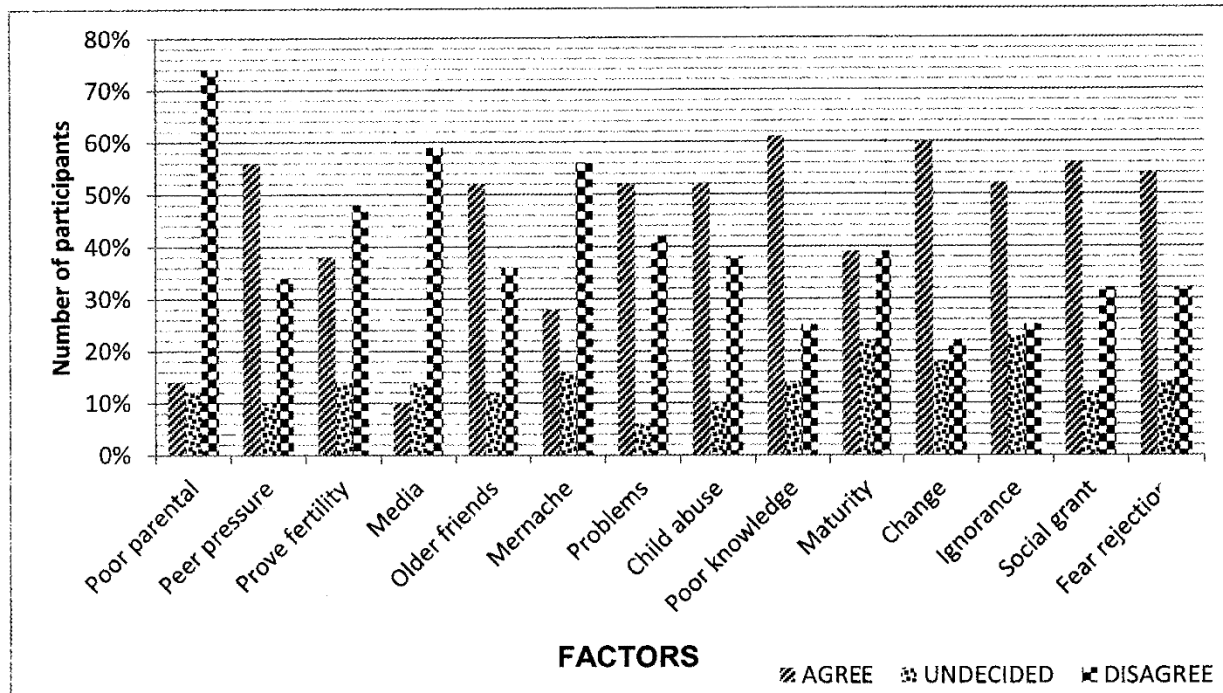
- 2.3.2 Mr Mdletshe claims that his tax is not more than R4 500. Verify his claim. (9)

[38]

QUESTION 3

3.1 A survey was conducted to try and identify factors that influenced adolescent pregnancy rate in the Greater Giyane Municipality, Limpopo Province. The results are shown in the graph below.

FACTORS INFLUENCING ADOLESCENT PREGNANCY IN GREATER GIYANE



[Adapted from www.sciencedirect.com]

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

- 3.1.1 Define the term 'mode' in this context. (2)
- 3.1.2 State whether the data shown above is discrete or continuous. (2)
- 3.1.3 Identify the type of graph shown and state one possible reason why the graph was chosen to display the data. (2)
- 3.1.4 Which factor has the greatest influence on adolescent pregnancy in Greater Giyane? (2)
- 3.1.5 If the data was collected from a sample of 150 girls from 4 schools, calculate the number of girls who disagreed with "poor parental" as a factor. (2)
- 3.1.6 Give one disadvantage of the mean. (2)

3.2

TABLE 3 below shows the 2020 and 2021 matric results for each of the nine provinces in South Africa.

TABLE 3: PROVINCIAL MATRIC PASS RATES FOR 2020 AND 2021

| PROVINCES | PASS RATE IN YEARS | | |
|---------------|--------------------|-------|-----------------------|
| | 2020 | 2021 | PERCENTAGE DIFFERENCE |
| FREE STATE | 85,1% | 85,7% | 0,6% |
| GAUTENG | 83,3% | 82,8% | -0,5% |
| WESTERN CAPE | 79,9% | 81,2% | 1,3% |
| NORTH WEST | 76,2% | 78,2% | 2,0% |
| KWAZULU-NATAL | 77,6% | 76,8% | F |
| MPUMALANGA | 73,7% | 73,6% | -0,1% |
| EASTERN CAPE | 68,1% | 73,0% | 4,9% |
| NORTHERN CAPE | 66,0% | 71,4% | 5,4% |
| LIMPOPO | 68,2% | 66,7% | -1,5% |

[Adapted from www.insideeducation.co.za]

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

3.2.1 Calculate the missing value F. (2)

3.2.2 Determine the median percentage difference. (3)

3.2.3 Calculate the country's mean percentage pass rate for 2021. (4)

[21]

QUESTION 4

4.1

In the Zulu culture the bride groom is expected to pay lobola by sending 11 cows to the bride's family. Siyacela invested R60 000 at the end of December 2018 at 9,8% per annum simple interest to raise money for lobola.

He hopes to pay lobola end of December 2024. On average the current (2022) cost of a lean cow is R8 500. The projected livestock inflation rates for 2023 and 2024 are 11,8% and 9% respectively.



[Adapted from www.ultralix.com]

Use the given information above to answer the questions that follow.

- 4.1.1 Calculate manually the total interest earned on the investment will be at the end of 2024. (4)
- 4.1.2 Use the projected livestock inflation rates to calculate the cost of each lean cow in 2024. (7)
- 4.1.3 Show with calculations whether Siyacela will have enough money to buy the 11 cows in 2024. (5)
- 4.1.4 Siyacela's sister wants to donate \$1 450 to assist him with lobola. This amount is equivalent to R21 117,51. Determine the exchange rate in the form: **\$1 = R ...** (2)

- 4.2 People prefer to buy lean cows because they are cheaper. The buyer will have to feed them for a certain period of time. The frequency table below shows the masses of lean cows in a nearby cattle farm.

TABLE 4: MASSES OF LEAN COWS IN KILOGRAMS

| INTERVAL (KG) | FREQUENCY | CUMULATIVE FREQUENCY |
|---------------|-----------|----------------------|
| 220 – 229 | 15 | 15 |
| 210 – 219 | 28 | 43 |
| 200 – 209 | 9 | 52 |
| 190 – 199 | 12 | 64 |
| 180 – 189 | 7 | 71 |
| 170 – 179 | 10 | 81 |
| 160 – 169 | 20 | 101 |
| 150 – 159 | 7 | 108 |
| 140 – 149 | 11 | 119 |
| 130 – 139 | 4 | 123 |
| 120 – 129 | 2 | 125 |

Use the TABLE 4 above to answer the following questions.

- 4.2.1 Which statistical cycle stage is shown by the table above? (2)
- 4.2.2 Determine the number of cows that weighed less than 170 kg. (2)
- 4.2.3 Calculate the percentage of cows that weigh more than 180 kg. (3)

- 4.3 The two-way table below shows the Mathematical Literacy test results from 1 550 learners in one of the districts in KZN.

TABLE 5: MATHEMATICAL LITERACY TEST RESULTS

| | PASS | FAIL | TOTALS |
|--------|-------|------|--------|
| BOYS | 350 | G | 460 |
| GIRLS | 820 | 270 | H |
| TOTALS | 1 170 | 380 | 1 550 |

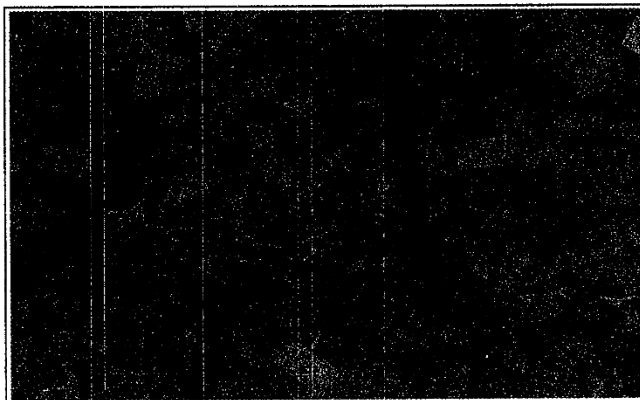
Use TABLE 5 above to answer the questions that follow.

- 4.3.1 Calculate the missing values of G and H. (4)
- 4.3.2 Use the two-way table above to determine the probability that a learner chosen at random is a boy that passed the test. Write the answer as a fraction in its simplest form. (3)

[32]

QUESTION 5

- 5.1 Nomsa grows and sells amadumbe (yams) to raise extra cash to support her family. She sells amadumbe in 5 kg packs for R30 per pack. Each empty red mesh bag costs her R5. The total fix cost is R500 per month excluding the red mesh bags.



Use the information above to answer the questions that follow.

- 5.1.1 The formula below is used to calculate Nomsa's total cost for the month.

$$\text{Total Cost (R)} = \text{R500} + \text{R5} \times \text{number of mesh bags}$$

TABLE 3: TOTAL COST/INCOME FOR AMADUMBE PACKS

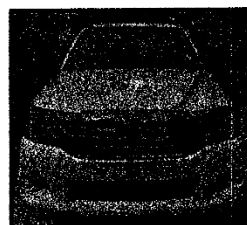
| | | | | | | |
|---------------------------------|-----|----------|-------|----------|------|-----|
| NUMBER OF AMADUMBE PACKS | 0 | 20 | 40 | Q | 80 | (4) |
| TOTAL COST (R) | 500 | P | 700 | 825 | 900 | |
| TOTAL INCOME (R) | 0 | 600 | 1 200 | 1 950 | 2400 | |

Use the given formula above to calculate the values of **P** and **Q**.

- 5.1.2 The graph for total cost is drawn on the ANSWER SHEET provided. On the same set of axes draw the graph for total income. (4)
- 5.1.3 Explain the importance of understanding the break-even point in the given context. (2)

- 5.2 Nomsa wants to buy a used bakkie. She viewed an Autotrader on the internet as shown below.

Retail price: R150 000
 Deposit: R30 000
 Repayment period: 6 years
 Monthly instalment: R2 208,00
 Estimated interest rate: 9,75% p.a

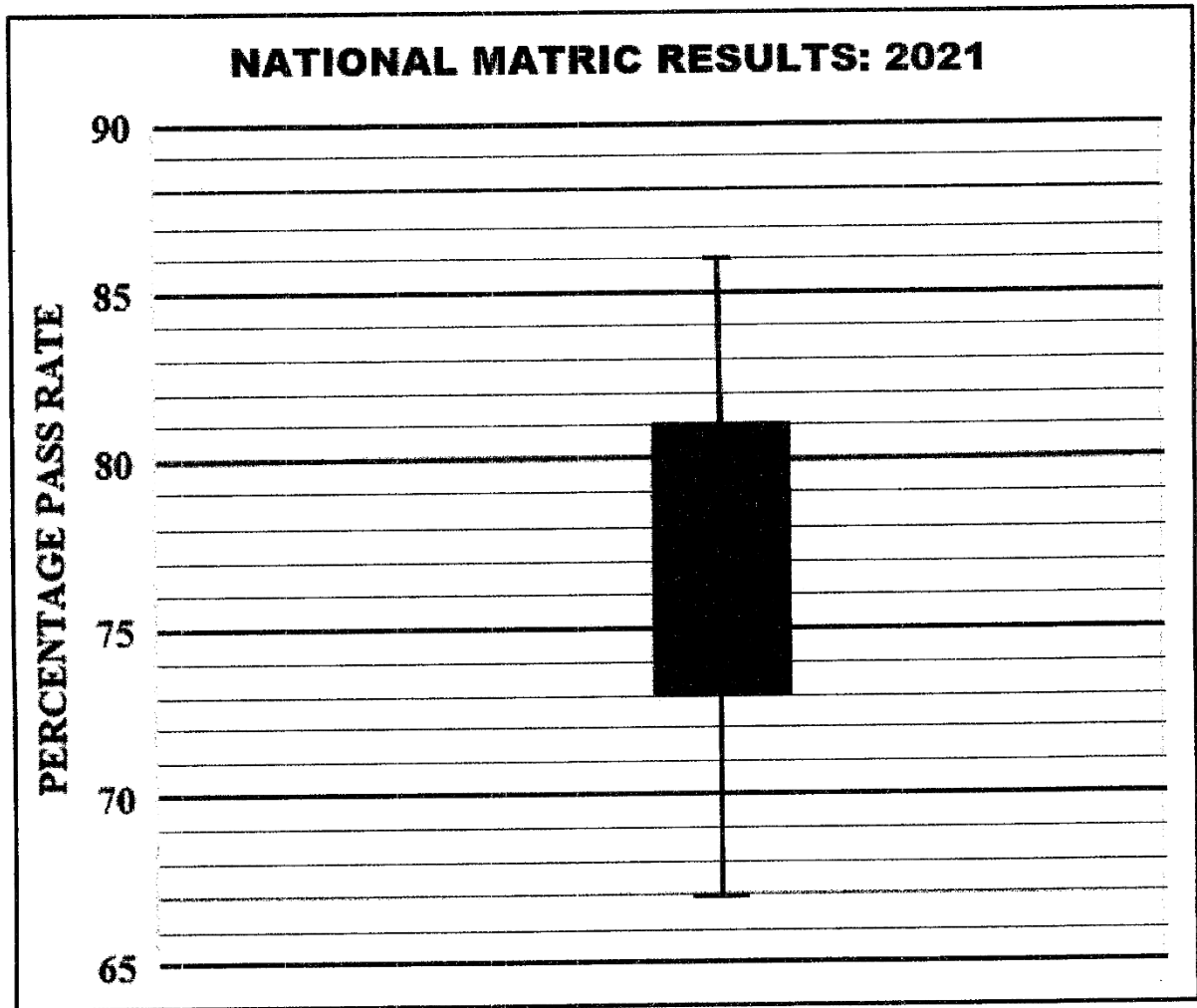


[Adapted from www.autotrader.co.za]

- 5.2.1 Calculate the real cost of the loan.
 You may use the formula: (3)
- $$\text{Real cost of the loan} = \text{monthly repayment} \times \text{total number of months.}$$
- 5.2.2 Show how the total interest of **R38 976,00** was calculated. (4)

5.3

The box-and-whisker plot below shows the 2021 matric pass rates for the nine provinces rounded off to the nearest whole numbers.



[Adapted from www.careersportal.co.za]

Use the box-and-whisker plot and the information above to answer the following questions.

5.3.1 Write down the minimum and maximum pass rates. (2)

5.3.2 One Mathematical Literacy learner stated that the difference between the range and the Inter-Quartile Range (IQR) is 12%. Verify, using calculations whether the statement is correct.

Stanmorephysics.com

You may use the formula: $IQR = Q_3 - Q_1$ (6)

5.3.3 Free State Province had the highest pass rate for 2021 matric results. If 35 055 Grade 12 learners wrote, calculate the number of learners who failed. (4)

[29]

TOTAL MARKS: 150



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GRADE 12

MATHEMATICAL LITERACY P1

ADDENDUM

PREPARATORY EXAMINATION

SEPTEMBER 2022

This Addendum consists of 2 pages with 1 Annexure.

ANNEXURE A

QUESTION 2.2

UMLALAZI MUNICIPALITY

VAT REG. No.: 4170193181
P O BOX 37, ESHOWE, 3815
ESHOWE



UMLALAZI MUNICIPALITY

CONTACT: ESHOWE: (035) 473 3300
MTUNZINI: (035) 473 3460
GINGINDLOVU: (035) 473 3470

FAX: (035) 474 4733

| | |
|------------------|--------------|
| ACCOUNT NUMBER: | 000002112519 |
| INVOICE DATE: | 20220510 |
| INDIGENT DATE: | 0 |
| NOTIFIED DEMAND: | 84 |

STREET ADDRESS/STAND
KANGELA STREET ESHOWE 81
P O BOX 37
ESHOWE

TAX INVOICE STATEMENT

VAT REFERENCE: 0

METER READING

| METER TYPE | METER No. | OLD READING | NEW READING | CONSUMPTION | READING DATE |
|------------|-----------|-------------|-------------|-------------|--------------|
| kVA | E6420079 | 0 | 73 | 73 | 20220419 |
| kWh | K6420079 | 959619 | 974631 | D | 20220419 |

ACCOUNT DETAILS

| DATE | CODE | DESCRIPTION | UNITS | TARIFF (in Rand) 15% VAT Inclusive | VALUE (in Rand) 15% VAT Inclusive |
|----------|------|----------------------------------|-------|---------------------------------------|--------------------------------------|
| 20220419 | | OPENING BALANCE | 0 | .00000 | 36 927,84 |
| 20220419 | E311 | R: ER-SG-Electricity-ES-Industry | 73 | 228,45507 | 16 677,22 |
| 20220419 | E310 | R: ER-SG-Electricity-ES-Industry | D | R0.91965 | 13 805,86 |
| 20220419 | ECAP | R: ER-SG-Electricity-ES-Industry | 0 | .00000 | 555,86 |
| 20220419 | R440 | R: ER-SG-Electricity-ES-Industry | 0 | 217.50000 | 2 501,25 |
| 20220503 | | PAYMENT VB0620T | 0 | .00000 | -36 927,84 |

| 120 DAYS+ | 90 DAYS | 60 DAYS | 30 DAYS | CURRENT | VAT | TOTAL DUE |
|---|---------|---------|-----------------|---------|----------------------|-----------|
| .00 | .00 | .00 | .00 | E | 4 374,81 | F |
| New tariffs implemented with effect from 01 July 2017 | | | DUE DATE | | RECEIPT UP TO | |
| | | | 20220531 | | 20220430 | |
| Banking details: FNB, ACCOUNT NUMBER: 52191999999 | | | | | | |

*Accounts unpaid on the date payable are subject to interest charged at a standard rate of 10% per annum, compounded monthly and services will be suspended. Please notify the municipality in writing of the termination of any services, in order to avoid being held responsible for any costs.

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- kWh (kilowatt hour) is the unit of three-phase electricity.
- kVA (kilovolt-ampere) is the unit for transformer electricity.

ANSWER SHEET

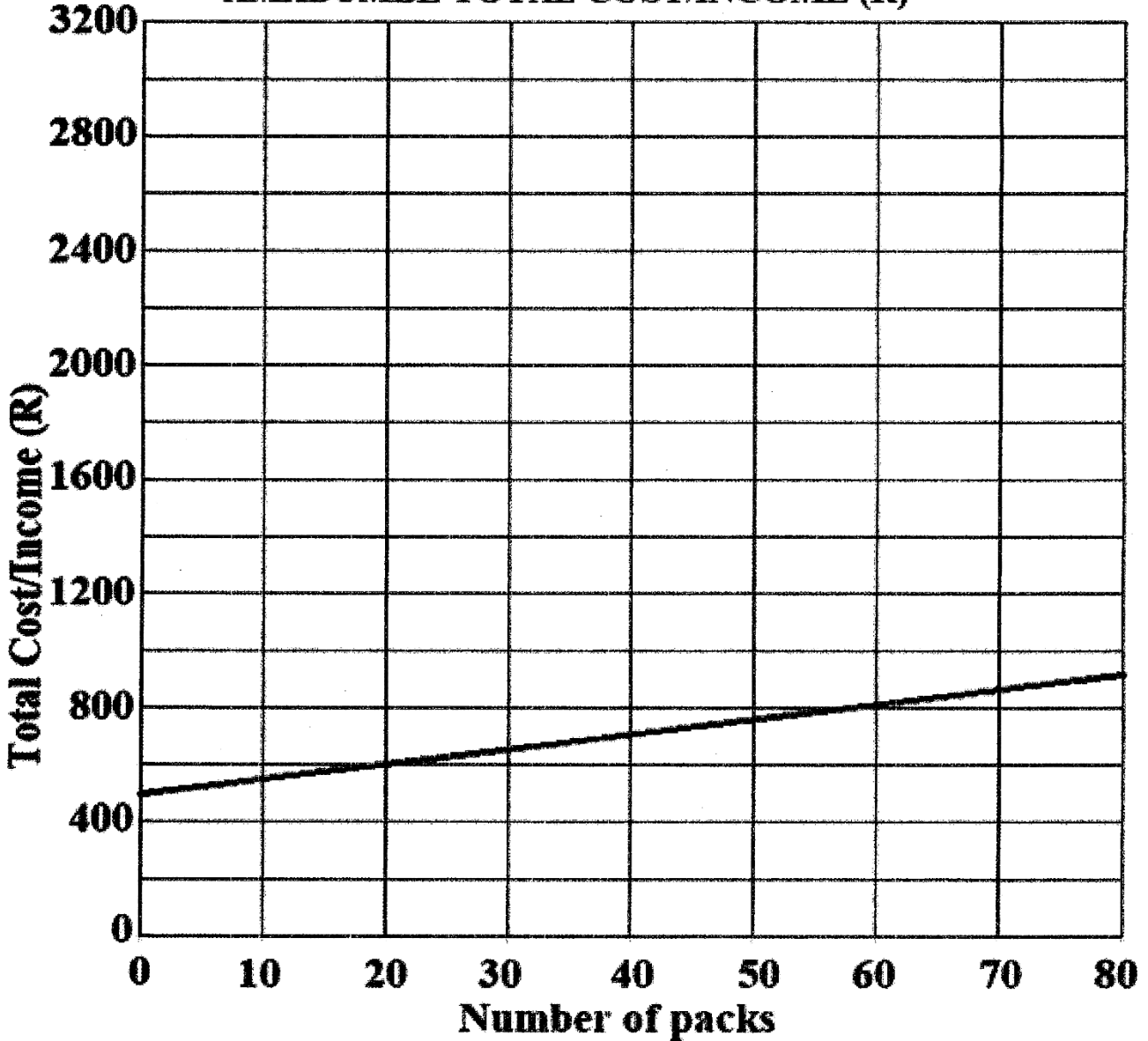
QUESTION 5.1.2

NAME OF LEARNER: _____

GRADE 12 _____



AMADUMBE TOTAL COST/INCOME (R)



TEAR OFF PAGE



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GRADE 12

MATHEMATICAL LITERACY P1

PREPARATORY EXAMINATION

MARKING GUIDELINE

SEPTEMBER 2022

MARKS: 150


| SYMBOL | EXPLANATION |
|-------------|---|
| M | Method |
| MA | Method with accuracy |
| CA/MCA | Consistent accuracy/ Method with Consistency Accuracy |
| A | Accuracy |
| C | Conversion |
| S | Simplification |
| RT/RG/RD/RM | Reading from a table/ graph/ diagram/map |
| SF | Correct substitution in a formula |
| O | Opinion/ reason/deduction/example/Explanation |
| J | Justification |
| R | Rounding off |
| F | deriving a formula |
| AO | Answer only full marks |
| P | Penalty e.g. for units, incorrect rounding off etc. |
| NPR | No penalty for rounding / units |
| | |


This marking guideline consists of 9 pages.

| QUESTION 1 [30 MARKS] (Answer Only (AO) Full marks) | | | |
|--|--|---|------------------|
| Ques | Solution | Explanation | T & L |
| 1.1.1 | Monday✓✓RT | 2RT correct answer (2) | DH L1 |
| 1.1.2 | Total = 2 + 23 + 17 + 7✓MA = 49✓A | 1MA adding all correct values 1A correct answer (2) | DH L1 |
| 1.1.3 | 16✓✓ RT / RG | 2RT/RG Correct answer (2) | DH L1 |
| 1.1.4 | range = 30 – 1✓M = 29✓A | 1M Subtraction 1A Correct answer (2) | DH L1 |
| 1.1.5 | 08:00 – 11:59✓✓RT OR C✓✓RT | 2RT Correct amount (2) | DH L1 |
| 1.2.1 | 10%✓✓A | 2A Correct percentage (2) | F L1 |
| 1.2.2 | 2021 fees = R17 500 ÷ 110%✓M = R15 909✓A OR 2021 fees = R17 500 × 100 ÷ 110✓M = R15 909✓A OR 2021 fees = R17 500 ÷ 1,10✓M = R15 909✓A | 1M dividing by 110% 1A Correct answer OR 1M multiplying by 100 and dividing by 110 1A Correct answer OR 1M dividing by 1,10 1A Correct answer (2) | F L1 |
| 1.2.3 | Monthly payment = R17 500 ÷ 10✓M = R1 750✓A | CA from 1.2.2 1M dividing by 10 1A Correct answer (2) | F L2 |
| 1.2.4 | Annual increase = R17 500 – R15 909✓M = R1 591✓A | 1M Subtraction 1A Correct answer (2) | F L1 |
| 1.3.1 | All expenses including fixed costs incurred in baking muffins✓✓0 | 2O explanation (2) | F L1 |
| 1.3.2 | A is the graph for Total Income✓A B is the graph for Total Cost✓A | 1A Total Income 1A Total Cost (2) | F L1 |
| 1.3.3 | R500✓✓RG | 2RG Correct answer (2) | F L1 |
| 1.3.4 | Cost of baking 300 muffins: = R1500 ✓✓RG | 2RG Correct value (2) | F L1 |
| 1.3.5 | Selling Price = R500 ÷ 100✓M = R5✓A | 1M dividing by 100 1A Correct answer (2) | F L1 |
| 1.3.6 | 250 muffins✓✓RG | 2RG Correct answer | F |


| | | | |
|--|--|-------------|----|
| | | (2) | L1 |
| | | [30] | |

QUESTION 2 [38 MARKS]

| Ques | Solution | Explanation | T & L |
|-------|--|--|---------------------------------|
| 2.1.1 | Money left after expenses have been paid ✓✓ O | 2O explanation (2) | F L1 |
| 2.1.2 | Total Expenditure = 78 556 + 50 753 + 2 595 + 17 659 + 16 982 + 11 932 + 39 052 + 12 125 + 101 502 + 27 294 + 81 680 + 4 + 365 ✓M = 440 499 ✓A difference = 450 864 – 440 499 ✓M = 10 365 | 2M adding expenses 1A Correct answer 1M subtracting NPR  (3) | F L3 |
| 2.1.3 | % difference = $\frac{259 - 365}{365} \times 100\%$ ✓RT ✓SF = -29,04% ✓A The claim is NOT true ✓O | 1RT Correct values 1SF substitution 1A Correct answer 1O (4) | F L4 |
| 2.1.4 | $\frac{5}{13} \times 100 = 38,46\%$ ✓A ✓CA | 1A numerator 1A denominator 1CA Correct percentage NPR (3) | P L2 |
| 2.2.1 | Amount owed by the school for electricity brought forward at the start of the account period ✓✓ O | 2O explanation (2) | F L1 |
| 2.2.2 | ✓RT ✓M A = 974 631 – 959 619 = 15 012 | 1RT both correct values 1M for subtraction (2) | F L1 |
| 2.2.3 | B = R16 677,22 + R13 805,86 + R555,86 + R2 501,25 ✓M = R33 540,19 ✓A | 1M for adding 1A Correct answer (2) | F L2 |
| 2.2.4 | VAT exclusive amount = R33 540,19 ÷ 1,15 ✓M = R29 165,38 ✓CA OR VAT exclusive amount = R33 540,19 × 100 ÷ 115 ✓M = R29 165,38 ✓CA OR VAT exclusive amount = R33 540,19 ÷ 115% ✓M = R29 165,38 ✓CA | CA from 2.2.3 1M dividing by 1,15 1A Correct answer 1M dividing by 115 1A Correct answer 1M dividing by 1,15 1A Correct answer | F |

| | | | |
|--|--|---|-----------|
| | <p>VAT exclusive amount = $R33\,540,19 \times (15 \div 115)$ ✓M $= R29\,165,38$ ✓CA</p> <p>VAT = $R33\,540,19 - R29\,165,38$ ✓M $= R4\,374,81$</p> <p>YES it was calculated correctly ✓O</p>  | <p>1M dividing by 115 1A Correct answer</p> <p>1M subtracting</p> <p>1O opinion</p> <p>(4)</p> | <p>L4</p> |
|--|--|---|-----------|

| | | | |
|--------------|---|--|--------------------|
| <p>2.3.1</p> | <p>✓M ✓M</p> <p>(a) Annual taxable income = $12(R42\,000 - R2\,500)$ $= R474\,000$ ✓CA</p> <p>OR</p> <p>(a) Annual taxable income = $12 \times R42\,000 - (12 \times R2\,500)$ ✓M $= R504\,000 - R30\,000$ ✓S $= R474\,000$ ✓CA</p> | <p>1M multiplying by 12 1M subtracting R2 500 1CA Correct answer</p> <p>OR</p> <p>1M multiplying by 12 1S simplifying 1CA Correct answer</p> <p>(3)</p> | <p>F</p> |
| | <p>✓M ✓M ✓M</p> <p>(b) Annual Medical Tax Credits = $12(2 \times R332 + 3 \times R224)$ $= R16\,032$ ✓CA</p> <p>OR</p> <p>(b) Annual Medical Tax Credits = $(12 \times R664) + (12 \times R672)$ ✓✓M $= R7\,968 + R8\,064$ ✓S $= R16\,032$ ✓CA</p> | <p>1M multiplying by 12 1M multiplying 332 by 2 1M multiplying 224 by 3 1CA Correct answer</p> <p>OR</p> <p>1M multiplying by R664 1M multiplying by R672 1S simplification 1CA Correct answer</p> <p>(4)</p> | <p>F</p> <p>L3</p> |
| <p>2.3.2</p> | <p>✓A</p> <p>Annual tax = $R73\,726 + 31\%(R474\,000 - R353\,100)$ ✓SF $= R111\,205 - 15714 - 24\,327 - 16\,032$ $= R55\,132$ ✓CA</p> <p>Monthly tax = $R55\,132 \div 12$ ✓M $= R4\,594,33$ ✓CA</p> <p>Claim is INCORRECT ✓O</p> | <p>CA from 2.3.1</p> <p>1A Correct Tax bracket 1SF Correct substitution 2M Subtracting both rebates 1M Subtracting MTC 1CA Correct answer</p> <p>1M Dividing by 12 1CA Correct answer</p> <p>1O Opinion</p> <p>(9)</p> | <p>F</p> <p>L4</p> |
| [38] | | | |

| QUESTION 3 [21 MARKS] | | | |
|-----------------------|--|---|----------|
| Ques | Solution | Explanation | T & L |
| 3.1.1 | The mode is the data values of the factors influencing adolescent pregnancy that occurs most often or frequently. ✓✓O | 2O explanation (2) | DH L1 |
| 3.1.2 | discrete ✓✓A | 2A Correct answer (2) | DH L1 |
| 3.1.3 | Compound/multiple bar graph ✓A Easy comparison of different responses/Data ✓O Easy interpretation of different responses/Data ✓O | 1A Correct answer 1O opinion (2) | DH L4 |
| 3.1.4 | Poor knowledge ✓✓A  | 2A Correct answer (2) | DH L2 |
| 3.1.5 | Number of girls = $74\% \times 150$ ✓M = 111 ✓A | 1M multiplying by 74% 1A Correct answer (2) | DH L2 |
| 3.1.6 | Negatively affected by outlier(s) ✓✓A | 2A answer (2) | DH L1 |
| 3.2.1 | $F = 76,8\% - 77,6\%$ ✓M = $-0,8\%$ ✓A | 1M subtracting 1A Correct answer (2) | DH L2 |
| 3.2.2 | 5,4%; 4,9%; 2,0%; 1,3%; 0,6%; $-0,1\%$; $-0,5\%$ – 0,8%; $-1,5\%$ ✓✓M median = 0,6% ✓A OR $-1,5\%$; $-0,8\%$; $-0,5\%$; $-0,1\%$; 0,6%; 1,3%; 2,0%; 4,9%; 5,4% ✓✓M median = 0,6% ✓A | 2M Arranging in correct order 1A Correct answer 2M Arranging in correct order 1A Correct answer (3) | DH L2 |

| | | | |
|-------|---|---|--------------|
| 3.2.3 | $\begin{aligned} & \check{\check{M}} \\ \text{mean} &= (85.1 + 83.3 + 79.9 + 76.2 + 77.6 + 73.7 + 68.1 + 66.0 + 68.2) \div 9 \\ &= 689,4\% \div 9 \check{M} \\ &= 76,6\% \check{A} \end{aligned}$ | 2M adding percentages 1M dividing by 9 1A Correct answer (4) | DH L2 |
| | | [21] | |

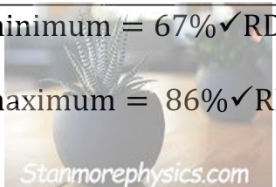


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|-------|---|--|---------------------|
| 4.1.3 | <p>Total cost in 2024 = $11 \times R10\,358,27 \checkmark M$ $= R113\,940,97 \checkmark CA$</p> <p>Total amount from investment = $R60\,000 + R35\,280 \checkmark M$ $= R95\,280 \checkmark A$</p> <p>He will NOT have enough money $\checkmark O$</p> | <p>CA from 4.1.2 1M multiplying 1CA simplification 1M adding 1A Correct answer</p> <p>1O opinion</p> <p>(5)</p> | <p>F</p> <p>L4</p> |
| 4.1.4 | <p>$\\$1\,450 = R21\,117,51$</p> $\$1 = \frac{R21\,117,51}{1\,450} \checkmark M$ $= R14,56 \checkmark A$ | <p>1M dividing by 1450</p> <p>1A for Correct answer</p> <p>(2)</p> | <p>F</p> <p>L2</p> |
| 4.2.1 | Organising data $\checkmark \checkmark A$ | <p>2 correct answer</p> <p>(2)</p> | <p>DH</p> <p>L1</p> |
| 4.2.2 | <p>Number of cows less 170kg = $20 + 7 + 11 + 4 + 2 \checkmark M$ $= 44 \checkmark A$</p> | <p>1M adding 1A Correct answer</p> <p>(2)</p> | <p>DH</p> <p>L2</p> |
| 4.2.3 | <p>Percentage of cows = $(71 \div 125) \times 100 \checkmark M$ $= 56,8\% \checkmark A$</p> | <p>1M multiplying 1A Correct answer</p> <p>(2)</p> | |
| 4.3.1 | <p>G = $460 - 350 \checkmark M$ $= 110 \checkmark A$</p> <p style="text-align: center;">OR</p> <p>G = $380 - 270 \checkmark M$ $= 110 \checkmark A$</p> <p style="text-align: center;">OR</p> <p>H = $1\,550 - 460 \checkmark M$ $= 1\,090 \checkmark A$</p> <p style="text-align: center;">OR</p> <p>H = $820 + 270 \checkmark M$ $= 1\,090 \checkmark A$</p> | <p>1M Subtraction 1A Correct answer</p> <p style="text-align: center;">OR</p> <p>1M Subtraction 1A Correct answer</p> <p style="text-align: center;">OR</p> <p>1M Subtraction 1A Correct answer</p> <p style="text-align: center;">OR</p> <p>1M Addition 1A Correct answer</p> <p>(4)</p> | <p>P</p> <p>L2</p> |
| 4.3.2 | <p>P (boy that passed the test) = $\frac{350 \checkmark M}{1\,170 \checkmark M} = \frac{35 \checkmark A}{117 \checkmark A}$</p> | <p>1M for 350 1M for 1 170 1A for 35 1A for 117</p> <p>(4)</p> | <p>P</p> <p>L2</p> |
| | | [32] | |

QUESTION 5 [29 MARKS]

| Ques | Solution | Explanation | T & L |
|-------|---|---|-----------------|
| 5.1.1 | $P = R500 + R5 \times 20 \checkmark SF$ $= R600 \checkmark A$ $Q = (R825 - R500) \div R5 \checkmark M$ $= 65 \checkmark A$ | 1SF substitution 1A Correct answer 1M method 1A Correct answer | F L2 |
| (4) | | | |
| 5.1.2 | <p style="text-align: center;">AMADUMBE TOTAL COST/INCOME (R)</p> <p style="font-size: small;">The graph displays two linear functions. The vertical axis represents Total Cost/Income in Rand (R), ranging from 0 to 3200 with major grid lines every 400 units and minor grid lines every 200 units. The horizontal axis represents the Number of packs, ranging from 0 to 80 with major grid lines every 10 units and minor grid lines every 5 units. One line, representing variable costs, starts at the origin (0, 0) and passes through points (20, 600), (40, 1200), and (60, 1800). The other line, representing total costs including a fixed cost, starts at (0, 500) and passes through points (20, 600), (40, 700), and (60, 800). The two lines intersect at 20 packs with a total cost/income of 600 R. Checkmarks are placed on the steeper line at (0, 0), (20, 600), (40, 1200), and (60, 1800).</p> | <p>1A initial point 1A intersection point 1A any correct point on line 1A joining the points</p> | F L3 |
| (4) | | | |
| 5.1.3 | It helps her understand the number of packs she needs to sell to cover her cost $\checkmark \checkmark 0$ | 20 | F L4 |

| | | | |
|-------|--|---|-------------|
| | | (2) | |
| 5.2.1 | $\checkmark C \quad \checkmark M$ $\text{Real cost of the loan} = 72 \times R2\,208$ $= R158\,976 \checkmark A$ | 1C conversion 1M multiplying by 72 1A Correct answer | F L3 |
| | | (3) | |
| 5.2.2 | $\text{Loan amount} = R150\,000 - R30\,000 \checkmark M$ $= R120\,000 \checkmark A$ $\text{Total Interest} = R158\,976 - R120\,000 \checkmark M$ $= R38\,976 \checkmark CA$ | CA from 5.2.1 1M subtraction 1A simplifying 1M Subtracting 1A Correct answer | F L3 |
| | | (4) | |

| Ques | Solution | Explanation | T & L |
|-------|--|--|--------------|
| 5.3.1 | $\text{minimum} = 67\% \checkmark RD$ $\text{maximum} = 86\% \checkmark RD$  | 1RD minimum value 1RD maximum value (2) | DH L2 |
| 5.3.2 | $\text{Range} = 86\% - 67\% \checkmark M$ $= 19\% \checkmark A$ $\text{IQR} = 81\% - 73\% \checkmark SF$ $= 8\% \checkmark CA$ $\text{difference} = 20\% - 8\% \checkmark M$ $= 12\%$ Statement is CORRECT $\checkmark O$ | 1M Subtracting 1A Correct answer 1SF Correct Substitution 1CA Correct answer 1M Subtraction 1O Opinion (6) | DH L4 |
| 5.3.3 | $\text{Free State pass rate} = 86\% \checkmark RD$ $\text{Percentage for failures} = 14\% \checkmark A$ | 1RD pass 1A failure rate | DH |

| | | | |
|-------------------------|--|--|----|
| | <p>Number of failures = $14\% \times 35\,055$ ✓M = 4 908 ✓A</p> <p style="text-align: center;">OR</p> <p>Number of passes = $86\% \times 35\,055$ ✓M = 30 147,3 ✓A</p> <p>Number of failures = $35\,055 - 30\,147,3$ ✓M = 4 908 ✓A</p> | <p>1M multiplying 1A Correct answer</p> <p style="text-align: center;">OR</p> <p>1M multiplying by 86% 1A simplifying</p> <p>1M subtracting 1A Correct answer</p> <p style="text-align: right;">(4)</p> | L3 |
| | | [29] | |
| TOTAL MARKS: 150 | | | |