## NATIONAL SENIOR CERTIFICATE

## GRADE 11

## NOVEMBER 2020

## MATHEMATICAL LITERACY P1 EXEMPLAR

## MARKS: <br> 100

TIME:

2 hours


This question paper consists of 9 pages, including an answer sheet.

## INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. 2.1 Use the ANSWER SHEET for QUESTION 4.3.2.
2.2 Write your NAME and GRADE in the spaces provided on the ANSWER SHEET for QUESTION 4.3.2.
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. Maps and diagrams are not necessarily drawn to scale, unless stated otherwise.
5. Round off ALL final answers according to the context used, unless stated otherwise.
6. Indicate units of measurement, where applicable.
7. Start EACH question on a NEW page.
8. You may use an approved calculator (non-programmable and non-geographical), unless stated otherwise.
9. Show ALL calculations clearly.
10. Write neatly and legibly.

## QUESTION 1

1.1 Moses earns a gross salary of R10 500 per month. The basic monthly expenses used from the income are as follows:

Housing expense $21 \%$; Food $36 \%$, Transport $10 \%$; Cellphone bills $1,9 \%$. The rest is for savings.

Use the above information to answer the following questions.
1.1.1 Calculate the total gross salary per annum.
1.1.2 Determine the amount of the monthly food expense.
1.1.3 Write down the ratio of the housing percentage to the food percentage in the simplest form.

### 1.1.4 Calculate Moses's percentage for savings from his salary.

1.2 Thando, a Mathematical Literacy teacher, collected and analysed test results of his class. The test was marked out of a total mark of 50 . The results of the learners are indicated below:

| 38 | 21 | 12 | 18 | 41 |
| :--- | :--- | :--- | :--- | :--- |
| 28 | 24 | 34 | 10 | 35 |

Use the above information to answer the questions that follow.
1.2.1 Is the above data primary or secondary?
1.2.2 Write down the highest mark obtained in the test.
1.2.3 Explain the meaning of the term 'median'.
1.2.4 Write down the mark out of 50 for a learner who achieved $70 \%$ in the test.
1.2.5 Write down the number of learners who failed the test, if the pass mark is 20 out of 50 .
1.3 A shopkeeper bought a dress for R750 and sold it, making a loss of R50.
1.3.1 Explain the meaning of the term 'loss' in this context.
1.3.2 Calculate the percentage loss made on the sale.

## QUESTION 2

Mrs Rogue invested money monthly from 2016 to 2020 at Company A. She terminated her investment and received the statement below from Old Mutual:

| Contract number | Contracting <br> party | Name of <br> Investment plan | Start date <br> of contract | Last <br> premium <br> due date |
| :--- | :--- | :--- | :---: | :---: |
| 17801249 | R. Rogue | Smart MAX <br> Focused <br> Education Plan/1 | $01 / 07 / 2016$ | $30 / 06 / 2031$ |
| Fund value as at 23 March 2020 |  |  |  |  |
| Investment fund |  |  |  |  |
| Allan Gray Balanced Fund C Class | 8266,470 | Anit price (cents) | Number of <br> units | Fund value |
| Total | A | R8 038,07 |  |  |

## Difference between fund value and termination value

| Fund value |  |  |  |  | R8 038,07 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Reduction fees and transaction charges |  |  |  |  | B |
| Termination value |  |  |  |  | R6 995,25 |
| Withdrawals up to 23 March 2020 |  |  |  |  | R765,57 |
|  |  |  |  |  |  |
| Expected premium details as at 23 March 2020 |  |  |  |  |  |
| Current premium | Annual Increase rate | Next premium increase | New premium | Investment fund(s) | Premium Split |
| R332,75 monthly | ... | 01/07/2020 | R366,02 | Allan Gray Balanced Fund C Class | 100\% |
| Total contributions since contract start date |  |  |  |  |  |
| Total premiums paid |  |  |  |  | R12 924,75 |

2.1.1 Write down the name of the investment plan that Mrs Rogue has.
2.1.2 Calculate the value of $\mathbf{A}$, the number of units earned from the given fund value.
2.1.3 Show by means of calculations that Mrs Rogue lost $45,88 \%$ of the total premiums she contributed towards the fund by terminating her investment before the last premium.
2.1.4 Calculate the value (in Rands) of $\mathbf{B}$, the reduction fees and transaction charges.
2.1.5 Write down the withdrawal value as at 23 March 2020.
2.1.6 Calculate the percentage increase on the monthly premium. Give your final answer to the nearest percentage.
You may use the following formula:
Percentage increase $=\frac{\text { new } \text { premium }- \text { current premium }}{\text { current } \text { premium }} \times 100 \%$
Alice sells food from a kiosk that she rents in a township. The expenses associated with ingredients and labour for a plate amount to R30.
The formula for expenses: Expenses $=$ R500 + R30 $\times$ Number of plates
She sells food per plate. The graph below shows her expenses and income for a month.

ALICE'S EXPENSES AND INCOME FROM SALES


Use the above information and the graph to answer the questions that follow.
2.2.1 Write down the independent variable in the above context.
2.2.2 Determine the amount Alice pays as fixed expenses.
2.2.3 Write down the formula for the income if a plate is sold at R50, in the form of: Income $=. .$.
2.2.4 Determine the profit at the break-even point.
2.2.5 Determine the loss when 8 plates are sold.

## QUESTION 3

The Global Wellness Institute did research about the amount of spa revenue generated in different regions of the world in 2017.

TABLE 1: NUMBER OF SPAS, REGIONS AND THE REVENUE GENERATED

| Regions | Names of Regions | Number of <br> Spas | Revenue in <br> Billion dollars (\$b) |
| :---: | :--- | :---: | :---: |
| $\mathbf{P}$ | North America | 30394 | 22,9 |
| $\mathbf{Q}$ | Latin America-Caribbean | 13856 | 6,6 |
| $\mathbf{R}$ | Sub-Saharan Africa | 3984 | $\ldots$ |
| $\mathbf{S}$ | Middle East - North Africa | 6057 | 2,8 |
| $\mathbf{T}$ | Europe | 46282 | 33,3 |
| $\mathbf{V}$ | Asia - Pacific | 48679 | 26,5 |
|  |  | $\ldots$ | $\ldots$ |

[Source: globalwellnessinstitute.org]

Use the information above to answer the questions that follow.
3.1 Calculate the total number of spas used for the research in 2017.
3.2 Calculate the mean number of spas used. Give your final answer to the nearest whole number.
3.3 Express the number of spas in Europe as a percentage of the total number of spas.
3.4 Determine the number of regions that lies above the range number of spas.
3.5 Write down the unit ratio of spas in regions $\mathbf{P}$ and $\mathbf{V}$.
3.6 Calculate the total revenue in billion dollars for the spas if sub-Saharan Africa's revenue is $\$ 5,0$ billion less than Latin America-Caribbean's revenue.
3.7 Calculate the median revenue of the regions.
3.8 Determine the probability (as a percentage) of randomly selecting a region with more than 40000 spas.

## QUESTION 4

4.1

GOOD BOYS CAR WASHING BAY is in an area where water is charged according to the water tariffs structure shown in TABLE 2 below.

TABLE 2: WATER TARIFF STRUCTURE

| Block | Usage in <br> kilolitre (k̊) | Normal Charge per kilolitre <br> (k̊) (Excluding VAT) |
| :---: | :---: | :---: |
| 1 | $0-6$ | R0,00 |
| 2 | $+6-15$ | R9,35 |
| 3 | $+15-30$ | R11,16 |
| 4 | $+30-45$ | R12,53 |
| 5 | $+45-60$ | R13,98 |
| 6 | $60+$ | R15,34 |

NOTE: VAT is Value Added Tax. The VAT rate is $15 \%$.
Use TABLE 2 above to answer the question that follow.
Calculate how much GOOD BOYS CAR WASHING BAY pays a month including VAT when they use $25 \mathrm{k} \ell$ of water and give a reason why a step up (increasing block rate) system of water tariffs is used to charge water consumption other than a flat single rate.
4.2 Andile received a donation from his brother who works in Rwanda. The donation was 745 614,04 Rwanda Francs (RWF). The bank deducted $10 \%$ for bank charges. Andile states that he will receive R12 750. Verify the statement with the necessary calculations.

Use the exchange rate $\mathbf{R} 0,019=1 \mathbf{R W F}$
4.3 Ibanda High School recorded absentees in the Grade 11 Mathematical Literacy class during the first week when schools reopened after the COVID-19 pandemic break. The data is shown in the table below.

|  | Monday | Tuesday | Wednesday | Thursday | Friday |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Girls | 4 | 6 | 8 | 7 | 10 |
| Boys | 5 | 3 | 8 | 9 | 7 |

Use the above information to answer the questions that follow.
4.3.1 Determine the probability that a learner chosen at random was absent on Wednesday.
4.3.2 Complete the double bar graph on the ANSWER SHEET provided by plotting the missing bars for the number of boys and girls absent.
4.4 A Grade 11 Mathematical Literacy class at Ibanda High wrote an examination marked out of 100 marks. The results arranged in ascending order are shown below.

| 23 | 41 | 42 | 50 | 50 | 51 | 54 | 55 | 56 | 57 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 60 | 61 | 65 | 66 | 66 | 67 | 68 | 69 | 70 | 70 |
| 70 | 72 | $\mathbf{C}$ | 74 | 76 | 79 | 82 | 85 | 86 | 88 |

Use the above information to answer the questions that follow.
4.4.1 The mean of the above data is equal to 64,2 . A learner calculated that the value of $\mathbf{C}$ in the above data is 74 . Verify, with the necessary calculations, whether the answer is valid.
4.4.2 The frequency table of the above data is shown below.

| Class interval | Frequency |
| :---: | :---: |
| $20-29$ | 1 |
| $30-39$ | D |
| $40-49$ | 2 |
| $50-59$ | 7 |
| $60-69$ | 8 |
| $70-80$ | 8 |
| $80-89$ | 4 |

Determine the value of $\mathbf{D}$ and give a reason for your answer.

## ANSWER SHEET

## QUESTION 4.3.2

NAME OF LEARNER:

GRADE 11:


## NATIONAL SENIOR CERTIFICATE

## GRADE 11

## NOVEMBER 2020

## MATHEMATICAL LITERACY P1 MARKING GUIDELINE EXEMPLAR

MARKS: 100

| Symbol |  |
| :--- | :--- |
| M | Method |
| MA | Method with accuracy |
| CA | Consistent accuracy |
| A | Accuracy |
| C | Conversion |
| S | Simplification |
| RT/RG/RM | Reading from a table/Reading from a graph/Read from map |
| F | Choosing the correct formula |
| SF | Substitution in a formula |
| J | Justification |
| P | Penalty, e.g. for no units, incorrect rounding off etc. |
| R | Rounding Off/Reason |
| AO | Answer only |
| NPR | No penalty for rounding |

This marking guideline consists of 8 pages.

## MARKING GUIDELINES

## 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 incorrect item presented.


## LET WEL:

- As 'n kandidaat'n vraag TWEE keer beantwoord, merk slegs die EERSTE poging.
- As 'n kandidaat 'n antwoord van'n vraag doodtrek (kanselleer) en nie oordoen nie, merk die doodgetrekte (gekanselleerde) poging.
- Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyn toegepas, maar dit hou by die tweede berekeningsfout op.
- Wanneer 'n kandidaat aflesings vanaf'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra verkeerde item.

| QUESTION 1 [23 marks] |  |  |  |
| :---: | :---: | :---: | :---: |
| Ques. | Solution | Explanation | T\&L |
| 1.1.1 | $\begin{align*} \text { Annual gross salary } & =\text { R10 } 500 \times 12 \checkmark \mathrm{M} \\ & =\text { R126 } 000 \quad \checkmark \mathrm{~A} \tag{2} \end{align*}$ | 1M Multiply by 12 <br> 1A Gross per annum | $\begin{gathered} \hline \mathrm{F} \\ \mathrm{~L} 1 \end{gathered}$ |
| 1.1.2 | $\begin{align*} \hline \text { Monthly food expense } & =\text { R10 } 500 \times 36 \% \checkmark \mathrm{M} \\ & =\text { R3 } 780 \quad \checkmark \mathrm{CA} \tag{2} \end{align*}$ | 1M \% Calculation <br> 1CA Amount | $\begin{gathered} \hline \mathrm{F} \\ \mathrm{~L} 1 \end{gathered}$ |
| 1.1.3 | $\begin{align*} & \text { Housing } \%: \text { Food } \% \\ & =21 \%: 36 \% \checkmark \mathrm{M} \\ & =7: 12 \checkmark \mathrm{CA} \tag{2} \end{align*}$ | 1M Correct values and order <br> 1CA Simplest form | $\begin{gathered} \hline \text { F } \\ \text { L1 } \end{gathered}$ |
|  | $\checkmark \mathrm{M}$ |  |  |
| 1.1.4 | $\begin{aligned} \text { Savings } \% & =100 \%-(21 \%+36 \%+10 \%+1,9 \%) \\ & =100 \%-68,9 \% \vee \mathrm{M} \\ & =31,1 \% \checkmark \mathrm{CA} \end{aligned}$ | 1M Adding correct values 1M Subtracting from 100 1CA Percentage | $\begin{gathered} \hline \text { F } \\ \text { L1 } \end{gathered}$ |
| 1.2.1 | Primary data $\checkmark \checkmark$ A | 2A Correct data type | $\begin{gathered} \hline \mathrm{D} \\ \mathrm{~L} 1 \\ \hline \end{gathered}$ |
| 1.2.2 | $41 \checkmark \checkmark$ RT | 2RT Highest mark | $\begin{gathered} \hline \mathrm{D} \\ \mathrm{~L} 1 \\ \hline \end{gathered}$ |
| 1.2.3 | Median is the middle value of a set of data which is arranged from small to big. $\checkmark \checkmark \mathrm{A}$ | 2A Explanation <br> (2) | $\begin{gathered} \text { D } \\ \text { L1 } \end{gathered}$ |
| 1.2.4 | $35 \checkmark \checkmark \mathrm{~A}$ | 2A Correct mark | $\begin{gathered} \hline \mathrm{D} \\ \mathrm{~L} 1 \\ \hline \end{gathered}$ |
| 1.2 .5 | $3 \checkmark \checkmark \mathrm{RT}$ | 2RT No. of learners failed | $\begin{gathered} \hline \mathrm{D} \\ \mathrm{~L} 1 \\ \hline \end{gathered}$ |
| 1.3.1 | Loss is when the cost is more than the income. $\checkmark \checkmark \mathrm{A}$ <br> OR <br> Loss incurred when selling price is less than cost price of an item. $\checkmark \checkmark$ A | 2A Correct explanation <br> (2) | $\begin{gathered} \hline \text { F } \\ \text { L1 } \end{gathered}$ |
| 1.3.2 | $\begin{aligned} \% \text { loss } & =\frac{50}{750} \times 100 \% \checkmark \mathrm{M} \\ & =6,67 \% \checkmark \mathrm{CA} \end{aligned}$ | 1M Fraction multiplied by 100\% <br> 1CA Percentage <br> NPR | $\begin{gathered} \hline \text { F } \\ \text { L1 } \end{gathered}$ |
|  |  | [23] |  |


| QUES | OON 2: FINANCE [30 marks] |  |  |
| :---: | :---: | :---: | :---: |
| Ques. | Solution | Explanation | Topic /Level |
| 2.1.1 | SmartMAXFocussed Education Plan $1 \checkmark \checkmark$ RT | 2A Correct investment plan <br> (2) | $\begin{gathered} \hline \mathrm{F} \\ \mathrm{~L} 1 \end{gathered}$ |
| 2.1.2 | $\begin{align*} \text { Number of units } & =\frac{8266,470}{100} \checkmark \mathrm{C} \\ & =\mathrm{R} 82,6647 \checkmark \mathrm{CA} \\ & =\frac{8038,07}{82,6647} \checkmark \mathrm{M} \\ & =97,23703104 \checkmark \mathrm{CA} \tag{4} \end{align*}$ | 1C Converted to Rands 1CA Value <br> 1M Division <br> 1CA No. of units | $\begin{gathered} \hline \mathrm{F} \\ \mathrm{~L} 2 \end{gathered}$ |
| 2.1.3 | $\begin{aligned} \% \text { loss } & =12924,75-6995,25 \quad \mathrm{M} \\ & =\text { R5 929,50 } \checkmark \mathrm{S} \\ & =\frac{5929,50}{12924,75} \times 100 \quad \checkmark \mathrm{M} \\ & =45,88 \% \\ & \begin{aligned} \text { Percentage loss } & =\frac{6995,25}{12924,75} \times 100 \quad \text { OR } \\ & =54,12 \% \\ & =100 \%-54,12 \% \quad \checkmark \mathrm{M} \\ & =45,88 \% \end{aligned} \end{aligned}$ | 1M Subtraction of values 1S Simplification 1M Dividing correct values 1M Multiply by $100 \%$ <br> OR <br> 1M Dividing correct values 1M Multiply by $100 \%$ 1S Simplification 1M Subtraction of \% | $\begin{gathered} \text { F } \\ \text { L3 } \end{gathered}$ |
| 2.1.4 | $\begin{aligned} \mathrm{B} & =\text { R8 038,07 }-\mathrm{R} 6995,25 \checkmark \mathrm{MA} \\ & =\text { R1 042,82 } \checkmark \mathrm{C} \mathrm{~A} \end{aligned}$ | 1MA Subtraction 1CA Correct answer | $\begin{gathered} \hline \mathrm{F} \\ \mathrm{~L} 2 \end{gathered}$ |
| 2.1.5 | R765,57 $\checkmark \checkmark$ RT | 2RT Correct value | $\begin{gathered} \hline \mathrm{F} \\ \mathrm{~L} 2 \\ \hline \end{gathered}$ |
| 2.1.6 | $$ | 1RT Correct values <br> 1SF Substitution 1S Simplification <br> 1R Nearest \% <br> (4) | $\begin{gathered} \text { F } \\ \text { L2 } \end{gathered}$ |
| 2.2.1 | Number of plates $\checkmark \checkmark$ RT | 2RT Number of plates <br> (2) | $\begin{gathered} \hline \text { F } \\ \text { L2 } \end{gathered}$ |
| 2.2.2 | Fixed expenses $=$ R500 $\checkmark \checkmark$ RT | 2RT Fixed expenses | $\begin{gathered} \hline \mathrm{F} \\ \mathrm{~L} 2 \end{gathered}$ |
| 2.2.3 | Income $=$ R $50 \times$ Number of plates sold $\checkmark \mathrm{M} \checkmark \mathrm{A}$ | 1M Multiplication with R50 <br> 1A Correct formula | $\begin{gather*} \mathrm{F}  \tag{2}\\ \mathrm{~L} 2 \end{gather*}$ |
| 2.2.4 | R0 OR (No Profit) $\checkmark \checkmark$ RT | 2RT No profit (2) | $\begin{gathered} \mathrm{F} \\ \mathrm{~L} 2 \end{gathered}$ |


| 2.2.5 | $\begin{aligned} & \text { Loss for } 8 \text { plates }= \text { Expenses }- \text { Income } \\ & \checkmark \mathrm{RT} \\ & \checkmark 740-400 \checkmark \mathrm{RT} \\ &=\mathrm{R} 340 \checkmark \mathrm{~A} \\ & \mathbf{O R} \end{aligned} \quad \begin{aligned} & \text { Expenses }=500+8 \times 30=\mathrm{R} 740 \checkmark \mathrm{M} \\ & \text { Income }=50 \times 8=\text { R400 } \\ & \text { Loss }=740-400=\text { R } 340 \checkmark \mathrm{~A} \end{aligned}$ | 1RT R740 <br> 1RT R400 <br> 1M Subtraction <br> 1A Loss <br> (From graph allow $340 \pm 10$ ) <br> OR <br> IM for R740 <br> 1 M for R400 <br> 1M subtraction <br> 1A for R340 exact answer (4) | $\begin{gathered} \hline \text { F } \\ \text { L3 } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
|  |  | [30] |  |


| QUESTION 3: DATA HANDLING (18 marks) AND PROBABILITY (3 marks) |  |  | T/L |
| :---: | :---: | :---: | :---: |
| Ques. | Solution | Explanation |  |
| 3.1 | $\begin{align*} & \text { Total number of spas } \\ & =30394+13856+3984+6057+46282+48679 \\ & =149252 \checkmark \mathrm{M} \checkmark \mathrm{~A} \tag{2} \end{align*}$ | 1M Adding correct values <br> 1A Total | $\begin{gathered} \text { D } \\ \text { L1 } \end{gathered}$ |
| 3.2 | $\begin{aligned} \text { Mean } & =\frac{149252}{6} \checkmark \mathrm{M} \\ & =24875,33 \\ & =24875 \checkmark \mathrm{R} \end{aligned}$ | CA from 3.1 <br> 1M Division <br> 1R Whole number | $\begin{gathered} \mathrm{D} \\ \mathrm{~L} 2 \end{gathered}$ |
| 3.3 | $\text { European spas as a } \begin{aligned} \% & =\frac{46282}{149252} \times 100 \checkmark \mathrm{M} \\ & =31 \% \checkmark \mathrm{CA} \end{aligned}$ | $\begin{aligned} & \text { 1M Fraction with correct } \\ & \text { values and } \\ & \text { multiplication by } 100 \\ & \text { 1CA Percentage } \end{aligned}$ | $\begin{gathered} \hline \mathrm{D} \\ \mathrm{~L} 2 \end{gathered}$ |
| 3.4 | $\begin{aligned} \text { Range } & =48679-3984 \\ & =44695 \checkmark \text { S } \end{aligned}$ <br> Number of regions above range $=2 \mathrm{CA} \checkmark$ | 1S Calculate range 1CA Number of regions (2) | $\begin{gathered} \hline \text { D } \\ \text { L3 } \end{gathered}$ |
| 3.5 | $\begin{aligned} 30394: 48679 & =1: \frac{48679}{30394} \checkmark \mathrm{M} \checkmark \mathrm{M} \\ & =1: 1,60 \checkmark \mathrm{CA} \end{aligned}$ | 1M Ratio <br> 1M Fraction 1CA Unit ratio <br> NPR | $\begin{gathered} \hline \text { D } \\ \text { L3 } \end{gathered}$ |
| 3.6 | $\begin{aligned} \text { Revenue in sub-saharan Africa } & =6,6-5,0 \checkmark \mathrm{M} \\ & =1,6 \checkmark \mathrm{~S} \end{aligned}$ <br> Total revenue for spas $\begin{aligned} & =22,9+6,6+1,6+2,8+33,3+26,5 \checkmark \mathrm{M} \\ & =\$ 93,7 \text { billion } \checkmark \mathrm{CA} \end{aligned}$ | 1M Subtraction 1S Simplification 1M Addition 1CA Total revenue Penalise 1 mark if not in billions | $\begin{gathered} \hline \mathrm{D} \\ \mathrm{~L} 3 \end{gathered}$ |
| 3.7 | $\begin{aligned} & 1,6 ; 2,8 ; 6,6 ; 22,9 ; 26,5 ; 33,3 \checkmark \mathrm{M} \\ & \text { Median revenue }=\frac{6,6+22,9}{2} \checkmark \mathrm{M} \\ &=\$ 14,75 \text { billion } \checkmark \mathrm{CA} \end{aligned}$ | CA the value \$1,6 from 3.6 included in the data 1M Arranging in order of descending or ascending 1M Concept of median 1CA Answer in billions | $\begin{gathered} \hline \text { D } \\ \text { L3 } \end{gathered}$ |
| 3.8 | $\begin{aligned} & \hline \text { P (Regions with more than } 40000 \text { spas) } \\ & \begin{array}{l} \checkmark \mathrm{RT} \\ = \end{array} \frac{2}{6} \times 100 \checkmark \mathrm{M} \\ &= 33,33 \% \checkmark \mathrm{CA} \end{aligned}$ | 1RT Correct numerator and denominator 1M Multiplication by 100 <br> 1CA Percentage <br> NPR | $\begin{gathered} \hline \mathrm{P} \\ \mathrm{~L} 2 \end{gathered}$ |
|  |  | [21] |  |


| QUESTION 4: FINANCE (12 marks), DATA HANDLING (11 marks) ANDPROBABILITY (3 marks) |  |  |  |
| :---: | :---: | :---: | :---: |
| Ques. | Solution | Explanation | T/L |
| 4.1 | Increased block rate tariffs to encourage saving of water $\checkmark \mathrm{A}$ | 1 M Cost of first $6 \mathrm{k} \ell$ <br> 1M Cost for both 9 and 10 kilolitres 1CA Total cost <br> 1M Multiply by $15 \%$ <br> 1CA Cost including VAT <br> 1A Reason | $\begin{gathered} \text { F } \\ \text { L4 } \end{gathered}$ |
| 4.2 | $\left.\left.\begin{array}{l} \begin{array}{rl} \mathrm{R} 0,019 & =1 \mathrm{RWF} \\ \mathrm{R} ? \quad & =745614,04 \mathrm{RWF} \checkmark \mathrm{M} \\ \mathrm{R} ? \quad & =0,019 \times 745614,04 \checkmark \mathrm{M} \end{array} \\ \quad=\mathrm{R} 14166,66676 \checkmark \mathrm{~S} \end{array}\right\} \begin{array}{rl} \text { Bank charges } & =14166,66676 \times \frac{10}{100} \checkmark \mathrm{M} \\ & =\mathrm{R} 1416,666676 \checkmark \mathrm{~A} \end{array}\right\} \begin{aligned} \text { Andile received } & =\mathrm{R} 14166,66676-1416,66676 \checkmark \mathrm{M} \\ & =\mathrm{R} 12750 \end{aligned}$ <br> Statement is valid. $\checkmark \mathrm{A}$ <br> OR <br> Statement is valid $\checkmark$ CA | 1M Concept of ratio <br> 1M Multiplication <br> 1S Simplification value in $R$ <br> 1M Multiplication of $10 \%$ <br> 1A Value of $10 \%$ <br> 1M Subtraction <br> 1A Valid <br> OR <br> 1M Multiplication of $10 \%$ <br> 1A Value of $10 \%$ <br> 1M Subtraction <br> 1S Simplification value <br> 1M Concept of ratio <br> 1M Multiplication <br> 1CA Valid | $\begin{gathered} \mathrm{F} \\ \mathrm{~L} 4 \end{gathered}$ |



