



**LIMPOPO**  
PROVINCIAL GOVERNMENT  
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF  
**EDUCATION**

**VHEMBE WEST DISTRICT**

**GRADE 11**

**MATHEMATICAL LITERACY**  
**MID-YEAR EXAM PAPER 1**  
**JUNE 2023**

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**TOTAL: 75 MARKS**

**DURATION: 1½ HOURS**

**The paper consists of 9 pages, including the cover page and answer sheet.**

## INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Show ALL calculations.
3. Number the answers correctly according to the numbering system used in this question paper.
4. Start EACH question on a NEW page.
5. Round off all final answers appropriately according to the context unless stated otherwise.
6. An approved calculator (non-programmable and non-graphical) may be used, unless stated otherwise
7. Indicate units of measurement where applicable.
8. Maps and diagrams are not necessarily drawn according to scale, unless stated otherwise.
9. Write neatly and legibly.



## QUESTION 1

- 1.1 Simon Ngobeni hired Builders Hardware to renovate his garage. On completion, Builders Hardware supplied Simon with an invoice. Study the invoice and answer the questions that follow.

QTY	DESCRIPTION	Unit Price	TOTAL(R)
5	Tiles-12 m per box code 55AS33	92,50	A
2	20L Rock-glow paint 445CCB6	189,95	379,90
2	Dry walls	B	1040,00
1	Sliding door	960	960
	Labour (per hour)	7250,00	7250,00
	Subtotal		10092,40
	15 % VAT		C
	TOTAL PAYABLE		11606,26

Early payment special: -5% discount if you pay this account by 7 August 2022

- 1.1.1 In which month was the work on Simon's garage completed? (2)
- 1.1.2 Determine the total cost of the job. (2)
- 1.1.3 Calculate the missing value of A and B in the table (4)

1.1.4 Calculate the VAT payable (C on table) (2)

1.1.5 Simon paid the account before 07 AUGUST. Determine the amount that he paid and also the amount that he saved. (4)

1.2 The amount of money paid by the Employer to Unemployment Insurance Fund (UIF) is calculated as follows: 1% of basic salaries from workers plus 1 % of basic salaries from the Employer.

1.2.1 Builders Hardware pay their workers a total of R 138 048.00 for basic salary per month. Determine the total amount they will pay over to the UIF. (3)

[17]

**QUESTION 2**

2.1 Takalani who lives in England, established a small bakery for her unemployed sister Thendo who is living in South Africa. The bakery specializes in pre-order/butter biscuits. Thendo has a fixed fee of R90 and spends a further R15 for ingredients for each kilogram of buttered biscuits she bakes. Thendo sells the biscuits for R40.00 per kg.

Table 1 below is indicating the cost and income per kilogram of buttered biscuits produced.

**Table 1**

Kilograms	0	1	2	3	4	7	C
Cost	90	105	A	135	150	195	240
Income	0	40	80	120	B	280	400

2.1.1 Determine Thendo’s fixed cost. (2)

2.1.2 Write a formula that Thendo can use to calculate her cost.  
Write it in the form COST = ..... (2)

2.1.3 Calculate the value of A, B and C on the table. (6)

- 2.1.4 Use the values on the table to draw the graph that represents the cost per kilograms. Use the provided answer sheet. Label the graph you draw, and label both axes. (4)
- 2.2 The cost to establish the bakery was R 300 000. 1 Rand = 0.042 British pounds.
- 2.2.1 Determine the amount Takalani had to pay to establish the bakery in British pounds (2)
- 2.2.2 Which is the stronger currency, rand or pound? (2)
- [18]

### QUESTION 3

- 3.1 Solly is staying with his wife and sharing the payment of water bills with Tumi, the single mother of three. They agreed to share the bill proportionally according to the family members. The following tariffs were used to determine the amount payable for month of February.

**Table 2**

CATEGORIES	WATER USAGE	PRICE in rand per kl (Vat exclusive)
1	0kl - 12kl	0,00
2	13kl - 28kl	7,96
3.	29kl - 60kl	13,55
4	More than 60kl	16,80
A Fixed charge of R55 is added if more than 28 kl is used		

- 3.1.1 The two families used 82 kl in the month of February . Show all your calculations to prove that the total cost for the two families will be R985,50 (5)
- 3.1.2 . Determine the amount of the total cost that Solly will have to pay. (3)
- 3.1.3 Suppose the fixed charge is increased by 9 % , calculate the new fixed charge. (2)
- 3.1.4 Advise the family on a method to save water. (2)

3.2 Solly must decide on the best deal for the phone costs for him and his wife.



DEAL	CALL COSTS
A	*150 free minutes *R2.50 per minutes for calls after free minutes used
B	*100 free minutes *R1,50 per minutes for calls after free minutes

3.2.1 Solly's wife uses her phone on average 120 min per month. Determine which is the best deal for her. (2)

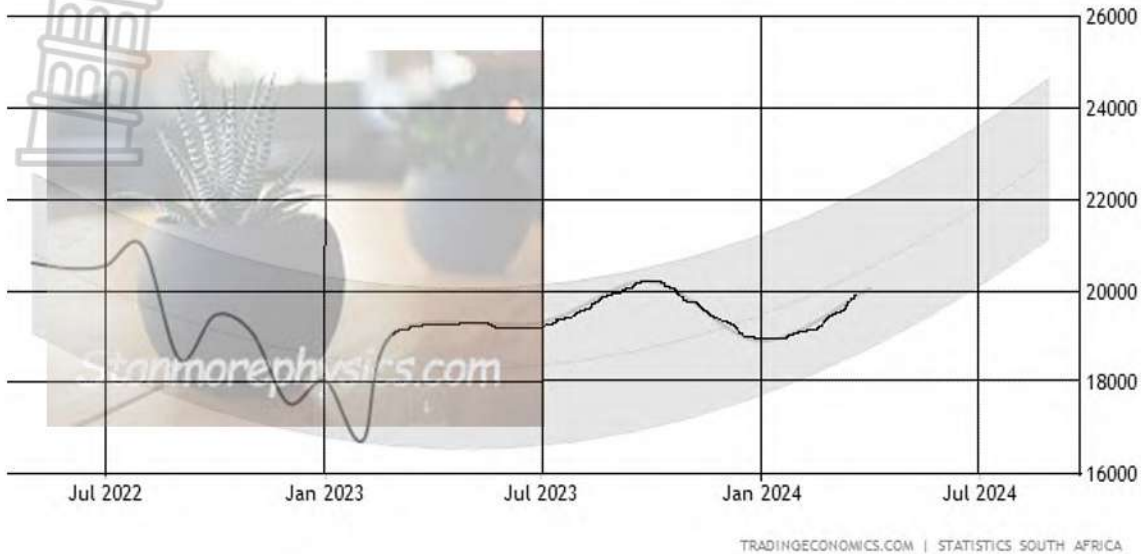
3.2.2 Solly uses his phone on average 200 min per month. Determine which is the best deal for him. (4)



[18]

**QUESTION 4**

4.1 The graph below represents the electricity production and forecast of production in South Africa in Gigawatt -hour. Study the graph and answer the questions.



- 4.1.1 Describe the trend of production of electricity from July 2022 to January 2023 (2)
- 4.1.2 Determine the electricity production in January 2023. (2)
- 4.1.3 What happens if the electricity production is too low to meet the needs of the country? (2)

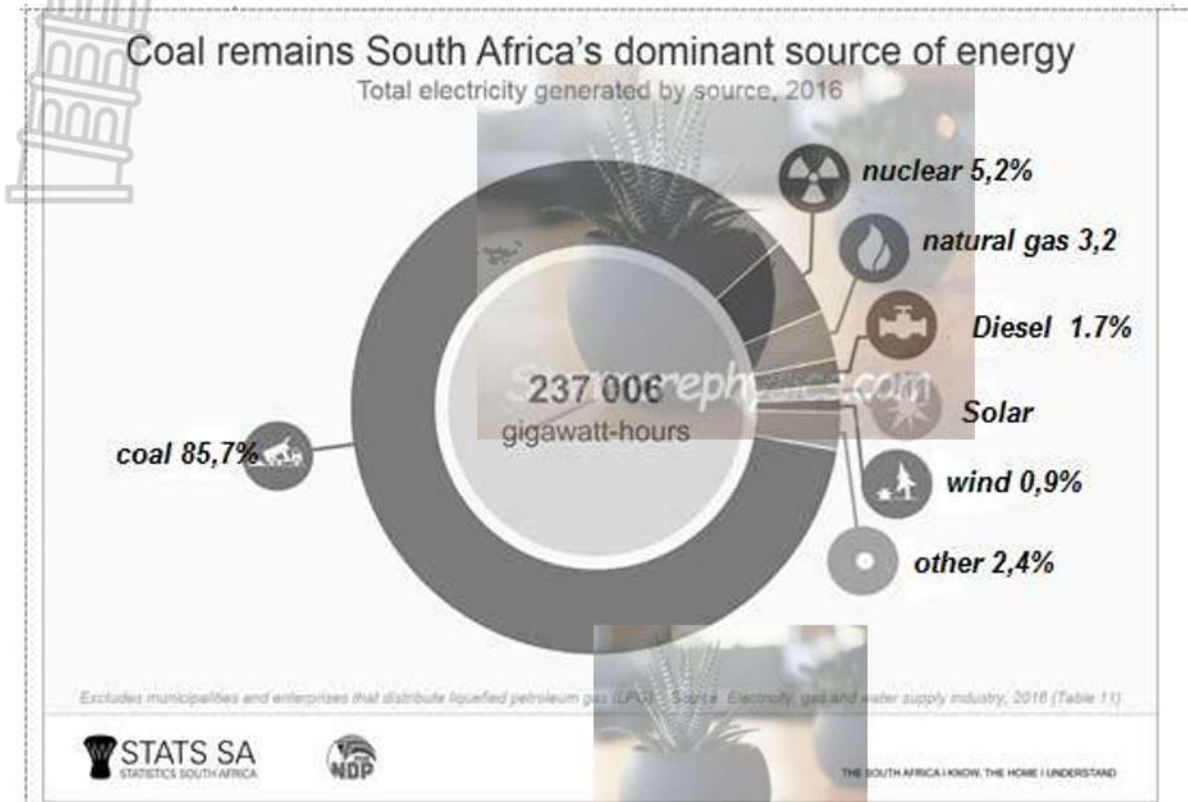
4.2 Harrison has been studying temperature patterns of his hometown. In table 3 below is the average day and night temperatures that he recorded for a year.

**Table 3**

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Day	26	27	24	20	19	A	15	19	22	23	24	25
Night	18	17	15	12	9	8	6	11	13	14	14	16

- 4.2.1 The mean (average) of day temperature is 22. Calculate the day temperature A in the month of JUNE. (4)
- 4.2.2 Determine the median of the night temperature. (3)
- 4.2.3 Determine the smallest temperature difference between day and night temperatures. (2)
- 4.2.4 What is the probability (as a fraction) for randomly selecting a month at night with temperature less than 10. (2)

4.3 Use the pie chart below and answer the questions that follow.



4.3.1 Calculate the percentage energy produced by solar. (3)

4.3.2 Calculate the gigawatts hours produced by coal. Round your answer off to one decimal place. (2)

[22]

TOTAL 75

**ANSWERSHEET**      **NAME:** .....

**Question 2.2.3**

