LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

MOPANI WEST DISTRICT

GRADE 12

MATHEMATICAL LITERACY P1

PRE-JUNE EXAM

19 MAY 2023

Stanmorephysics

MARKS: 100

TIME: 2 hours

THIS QUESTION PAPER CONSISTS OF 8 PAGES INCLUDING THIS COVER PAGE

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INSTRUCTIONS AND INFORMATION

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



QUESTION 1

1.1. Hazel operates a Spaza Shop and orders his stock, in cartons, from makro. Given below is an extract from a makro catalogue and all prices include 15% VAT. The price of each carton is written below each item.



1.1.1 Explain the meaning of the word "selling price" in the context of hazel's shop. (2)

1.1.2 Write down the cost price for a 2-liter bottle of soda cold drink. (2)

1.1.3 Identify items which cost the same amount per carton. (2)

1.1.4 Determine the total number of items on the carton. (2)

1.1.5 Calculate the total cost price of the items on the cartons above. (3)

[11]

QUESTION 2

2.1

HAZEL decides to start a new business venture and bake chocolate muffins. She sells the muffins for R25,00 each.
Her only fixed cost is paying her 16-year-old niece R500 a month to maintain the business' social media page.
Her variable costs include the ingredients and the electricity. She calculated that the variable cost per muffin is R15,00.

Use the information above to answer the following questions.

2.1.1 Define the term fixed cost in the given context. (2)

2.1.2 Explain why electricity is classified as a variable cost. (2)

2.1.3 HAZEL states that she will make R1 500 profit if she sells 200 muffins.

Verify, showing all calculations whether her statement is correct. (6)

2.2.

HAZEL did not qualify to receive NSFAS and approached the bank for a loan to pay for her university fees for one year.
She applied for a loan of R30 000, 00 with the following conditions:

- A once-off initiation fee of R1 207, 50 (15% VAT inclusive)
- A monthly service fee of R69
- An interest rate of 24, 5% compounded annually.

Use the information above to answer the questions that follow.

2.2.1 Determine the amount of VAT charged on the initiation fee. (3)

2.2.2 HAZEL stated that the total loan value will be R19 364, 25 more than the original amount if she paid it off over a 24-month period.

Verify, showing all calculations, if HAZEL statement is correct. (8)

2.2.3 State one reason why a student would choose to study in a province different from their home province. (2)

2.3

MR MAAKE is 35 years old and earns a gross salary of R27 500. She contributes 7.5% of his annual gross income towards pension fund. He is married with one child and a member of the medical aid scheme.

TABLE 1: TAX RATES FOR 2022/23 TAX YEAR (1 Mar.2022 to 28 Feb.2023)

TAX BRACKET	TAXABLE INCOME(R)	RATES OF TAX (R)
1	1 – 226 000	18% of taxable income
2	226 001 – 353 100	40 680 +26% of taxable income above 226 000
3	353 101 – 488 700	73 726 + 31% of taxable income above 353 100
4	488 701 – 641 400	115 762 + 36% of taxable income above 488 700
5	641 401 – 817 600	170 734 + 39% of taxable income above 641 400
6	817 601 – 1 731 600	239 452 + 41% of taxable income above 641 400
7	1 731 601 and above	614 192 + 45% of taxable income above 1 731 600

[Adapted from www.sars.gov.za]

TABLE 2 below shows the tax rebates and medical credits for 2022/23 tax year.

TABLE 2: TAX REBATES AND MEDICAL AID CREDITS FOR THE 2022/23 TAX YEAR

TAX REBATE	
Primary	R16 425
Secondary (65 and olser)	R9 000
Tertiary (75 and older)	R2 997
MEDICAL CREDITS PER MONTH FOR MEDICAL FUND MEMBERS	
Main member	R347
First dependent	R347
Each additional dependent	R234

[Adapted from www.sars.gov.za]

Use TABLE 1 and TABLE 2 above to answer the questions that follow.

2.3.1. Explain the word gross income as it is used in the given context. (2)

2.3.2. Determine MR MAAKE annual taxable income for the year 2022/23. (5)

2.3.3 Calculate his monthly tax. (6)

2.3.4. Due to the repo rate in the country his salary was reduced from R27500 to R24800. Calculate the percentage decrease. (4)

[40]

QUESTION 3

The data below shows the percentage marks achieved by grade 12 mathematical literacy learners.
The class consist of 20 learners.

64 57 58 62 59 **A** 60 61 62 71
62 65 66 64 75 80 **B** **B** 92 85

A is the lowest percentage mark.

Use the information above to answer the questions that follow.

3.1.1. State the difference between discrete data and continuous data. (2)

3.1.2. Determine the percentage of the data set that lies between the lower quartile and the upper quartile. (2)

3.1.3. Calculate the value of A, if the Range value obtained by learners is 36. (3)

3.1.4. Write down the modal percentage. (2)

3.1.5. Determine the value of B, if the mean value obtained by learners is 68. (6)

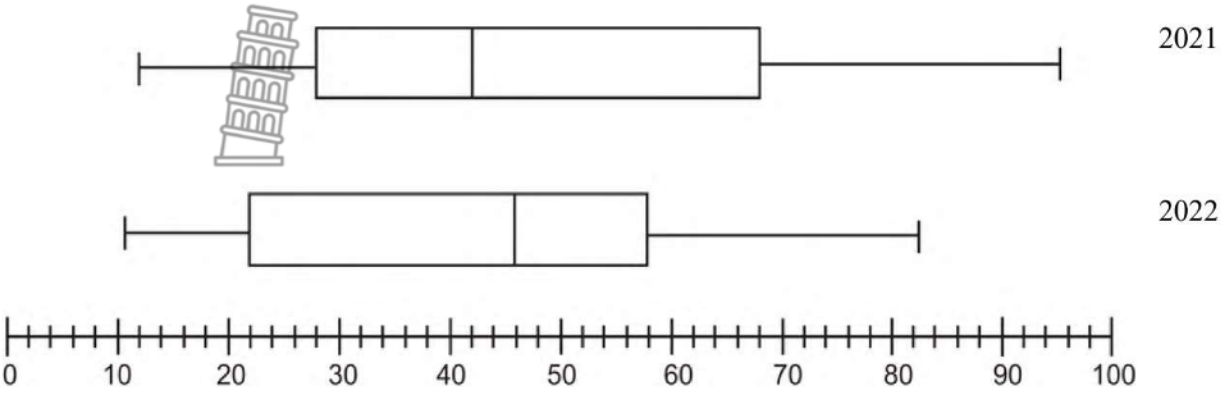
3.1.6. Determine the median of the data. (3)

3.1.7. Determine the probability as a fraction of randomly selecting a learner who obtained more than 80%. (2)

3.1.8. Determine the inter-quartile range of the data. (4)
[24]

QUESTION 4

4.1 The box-and-whisker plots below show the March Test Mathematical Literacy results for the 2022 and 2021 Mokone High School Mathematical Literacy classes.



Use the diagram above to answer the questions that follow.

4.1.1 Write down the minimum and maximum marks for the 2021 class. (2)

4.1.2 The class of 2021 had 120 Mathematical Literacy learners. Calculate the number of learners who got a mark that was less than the Lower Quartile (Q1) as well as the value of Q1. (4)

4.1.3 Calculate the interquartile range (IQR) for the 2022 class marks.

You may use the formula:

$$\mathbf{IQR = Q3 - Q1}$$ (4)

4.1.4 Compare the two box-and-whisker-plots and decide on the class whose learners performed better in the March test. Justify your answer. (4)

4.2

MR Maake lives in Tzaneen Aqua Park, in the Greater Tzaneen Municipality and uses prepaid electricity that is sold to customers at a VAT inclusive rate.
TABLE 10 below shows the cost of prepaid units of electricity.

TABLE 3: COST OF PREPAID UNITS OF ELECTRICITY BLOCK UNITS (kWh) RATE c/kWh (INCLUDING VAT)

BLOCK	UNIT (KWH)	RATE c/KWH (INCLUDING VAT)
1	0-50	144.72
2	51-350	186.02
3	351-600	261.87
4	ABOVE 600	308.37

[Source: https:/www.enochmgijima.org.za/electricity tariffs2021/2022]

* Prepaid electricity: Paying for electricity before using it.
* VAT (Value Added Tax) = 15%
* The municipality buys electricity from Eskom at an average VAT inclusive price of R1,33 per kWh.

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

4.3.1 State any TWO reasons why it is an advantage for the municipality to sell prepaid electricity. (2)

4.3.2 Determine the number of units MR MAAKE received when he bought prepaid electricity for R68,02. (3)

4.3.3 MR MAAKE stated that the percentage profit the municipality makes when a customer buys 290 kWh of electricity is more than 34%.

Verify, by showing ALL calculations, if his claim is VALID.

You may use the formula:

$$\% \text{ Profit } = \frac{selling\ prie\ for\ units - cost\ price\ for\ the\ units}{ost\ price\ for\ the\ units} \times 100\%$$

(6)
[25]

TOTAL: 100