



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

SEKHUKHUNE EAST DISTRICT – DISTRICT ON THE RISE

MATHEMATICAL LITERACY

2023 TERM 1 TEST

GRADE 12

DATE: 07 MARCH 2023

MARKS: 100

DURATION: 2 HOURS

This paper consists of TEN pages including Annexures and Answer Sheet

INSTRUCTIONS AND INFORMATION

1. The paper consists of FOUR questions. Answer ALL questions.
2. Number your answers according to the numbering system in the paper.
3. There are THREE Annexures as follows
 - 3.1. Use ANNEXURE A for QUESTION 1.
 - 3.2. Use ANNEXURE B for QUESTION 2.
 - 3.3. Use ANNEXURE C for QUESTION 4
4. Use the ANSWER SHEET for QUESTION 4.2.7
5. You may use an approved calculator, non-programmable and non-graphical.
6. Show all calculations clearly.
7. Indicate units of measurements, where applicable.
8. Round all answers according to the contexts, unless specified otherwise.
9. Maps and diagrams are not necessarily drawn to scale.

Question 1

Ms Abraham is 35 years old and earns a monthly salary of R27 500. She contributes 7.5% of her annual gross income towards her pension fund.

ANNEXURE A shows the tax rates for 1 March 2019 to 29 February 2020

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

- 1.1 Explain the word gross income as it was used in this context. (2)
- 1.2 Show how the value of R35 253 was calculated. (4)
- 1.3 Determine Ms Abraham's annual taxable income for the year 2020. (5)
- 1.4 Ms Abraham indicated that she should not pay more than R 50 000 towards tax during 2020. Calculate her annual tax to verify whether she is correct. (6)
- 1.5 Due to COVID-19, her monthly salary was reduced from R27 500 to R24 800 in 2021. Calculate the percentage decrease (convert the answer to one decimal place). (4)

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Question 2

ANNEXURE B shows an adapted version of an electricity account statement for Meso High School received from Eskom. Some of the information has been omitted.

Interest is charged on accounts in arrears (unpaid on the date payable) at rate of 12.5% per annum, compounded monthly. All amounts exclude 15% of VAT.

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

- 2.1 Show that the missing value A is 2678 Kwh. (2)
- 2.2 Calculate the value of B. (2)
- 2.3 Determine the value of C, the VAT amount charged. (2)
- 2.4 Calculate the total amount due (D), including interest. Show all calculations. (5)

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Question 3

3.1

Mrs Lediga from Meso High School decided to sell sandwiches during lunch breaks as a fundraising project. The cost price of making one sandwich is R8.50 and the daily fixed cost is R70.00. The intended profit margin is 35%.

A sandwich is a food item consisting of two slices of bread with a filling between them, eaten as a light meal.

TABLE 1: INCOME RECEIVED FROM THE SALE OF SANDWICHES

| | | | | | | |
|--------------------------|---|-----|-----|-----|-----|------|
| Number of sandwiches (n) | 0 | 10 | 20 | 30 | 70 | 100 |
| Income in rand(R) | 0 | 115 | 230 | 345 | 805 | 1150 |

TABLE 2: COST PRICE OF SANDWICHES

| | | | | | | |
|-------------------------|----|-----|-----|-----|-----|-----|
| Number of sandwiches(n) | 0 | 10 | 20 | 30 | n | 100 |
| Cost price in rand(R) | 70 | 155 | 240 | 325 | 750 | 920 |

Mrs Lediga used the following formula to calculate the cost price of the Sandwiches:

$$\text{Cost} = \mathbf{R70} + \mathbf{R8.50} \times n \quad \text{where } n \text{ is the number of sandwiches}$$

Use the information above to answer the questions that follow.

- 3.1.1 Determine the selling price of ONE sandwich (to the nearest 10 cents), if Mrs Lediga's intended profit margin is 35%. (4)
- 3.1.2 TABLE 1 shows the income received from the sale of sandwiches
Write down an equation that can be used to calculate the income. (2)
- 3.1.3 Calculate the value of n in Table 2, where n is the number of sandwiches (3)

3.2

Maranatha Metal Polishing Company is based in Durban. Given below is the company's income and expenditure statement for December 2020.

| INCOME (R) | | EXPENDITURE (R) | |
|----------------------------------|------------------|---------------------|------------------|
| National Products (Local) | 1 984 609 | Salaries | 1 362 912 |
| International Products (Exports) | 3 055 713 | Overtime | 187 427 |
| | | Fuel | 191 102 |
| | | Repairs & Services | 115 346 |
| | | Office Supplies | 1 891 |
| | | Cleaning Materials | 5 007 |
| | | Water & Electricity | 18 238 |
| | | Rent | 47 311 |
| | | | |
| TOTAL: | 5 040 322 | TOTAL: | 1 929 234 |

Use the information above to answer the questions that follow.

3.2.1 What percentage of total income is total expenditure? (3)

3.2.2 Due to Covid-19, the export earnings for the company fell by 75% in January 2021 and local earnings decreased by 47%.

Calculate the profit/ loss for the company in January 2021. (7)

3.3

Mrs Lediga has planned a family (her husband and two daughters aged 7 and 10) 7 night stay holiday in Tokyo, Japan. At the end of November 2020 the average price of dinner per adult was \$13.50 and half of the price per child. She estimated that the inflation rate (percentage price increase) should not be more than 10% by June 2021.

The exchange rate as at 2 march 2021 was

¥ 1= R0.1404

¥ = Japanese Yen

\$ 1= ¥ 106.86

\$= US Dollar

[Sources: www.transferwise.com and MP 2019]

Use the information above to answer the questions that follow.

3.3.1 Mrs Lediga said that the total cost for their dinner would not exceed R3 000.00 for the duration of their stay.

Verify whether she is correct. (9)

3.3.2 Which is the weaker currency between the South African and the Japanese Yen? (2)

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Question 4

4.1

A statistician wants to check the trends of the number of tourists who visited South Africa from SADC countries and overseas in 2015. The information is displayed in ANNEXURE C.

Use ANNEXURE C and the information above to answer the questions that follow:

- 4.1.1 Determine the total number of tourists from overseas countries who visited South Africa in 2015. Write your answer in words (4)
- 4.1.2 Calculate the mean number of tourists from SADC countries. (3)
- 4.1.3 Determine the probability (as a percentage) of randomly selecting a SADC country with the number of tourists not more than 1 million (2)
- 4.1.4 Write down the ratio of the number of tourists from Canada to the number of tourists from Mozambique in form 1: (3)
- 4.1.5 Calculate the inter-quartile range of tourists from overseas countries (2)

4.2

The data below represent the percentage marks achieved by Grade 12 learners in Life Sciences. The class consists 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 questions that follow:

- 4.2.1 Determine the percentage of data values that lies between the lower quartile and the upper quartile. (2)
- 4.2.2 Calculate the value of A, if the range of the marks obtained by the learners is 36. (3)
- 4.2.3 Write down the modal percentage. (2)
- 4.2.4 Determine the value of B, given that the mean mark obtained by the learners is 48. (3)
- 4.2.5 Calculate the median percentage mark. (3)
- 4.2.6 Determine the probability (as common fraction in simplified form) of randomly selecting a learner who achieved more than 80%. (3)
- 4.2.7 Complete the histogram of the number of learners obtaining the given mark intervals in ANSWER SHEET. (8)

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ANNEXURE A

Question 1

INCOME TAX RATES FOR INDIVIDUALS FOR THE FINANCIAL YEAR 1 MARCH 2019 TO 28 FEBRUARY 2020

| Tax bracket | Taxable income | Rates of Tax (R) |
|---|-----------------------|--|
| 1 | 0 – 195 850 | 18% of taxable income |
| 2 | 195 851 – 305 850 | 35 253 + 26% of taxable income above 195 850 |
| 3 | 305 851 – 423 300 | 63 853 + 31% of taxable income above 305 850 |
| 4 | 423 301 – 555 600 | 100 263 + 36% of taxable income above 423 300 |
| 5 | 555 601 – 708 310 | 147 891 + 39% of taxable income above 555 600 |
| 6 | 708 311 – 1 500 000 | 207 448 + 41% of taxable income above 708 310 |
| 7 | 1 500 001 and above | 532 041+ 45% of taxable income above 1 500 000 |
| TAX REBATES | | |
| Primary rebate (under 65) | | R14 220 |
| Secondary rebate (persons 65 and older) | | R22 014 |
| Tertiary (persons 75 and older) | | R24 615 |
| TAX THRESHOLD | | |
| Persons under 65 | | R79 000 |
| Persons 65 and under 75 | | R122 300 |
| Persons 75 and older | | R136 750 |

Adapted from: www.sars.gov.za

ANNEXURE B

QUESTION 2

ADAPTED ELECTRICITY ACCOUNT STATEMENT

| TAX INVOICE | | ESKOM | |
|--|---|---|--|
| VAT registration number: Not supplied | | Tel : 0860037566 Fax : 0862437566 PO Box 8610 JHB 200 | |
| Account month : February 2020 | Billing date : 2020-02-26 Tax invoice number : 599945472565 Account number : 5999481065 | | |
| Name : Meso High School | Street address : 34 President Street Rethusitswe | | |
| Account Summary | | Amount in rand | |
| Balance brought forward | | R 2 914.78 | |
| Electricity | | | |
| Kwh: Previous reading :112124 New reading : 114802 kwh used : A | | | |
| Energy charge(< 600 kwh) 600kwh @ R1.0566/kwh Energy charge(> 600 kwh) 2078kwh @ R1.7961 | | R 633.96 B | |
| Adjustment interest on overdue account VAT (15%) | | C | |
| TOTAL AMOUNT DUE | | D | |
| DUE DATE : 2020-03-23 | | | |
| BANKING DETAILS : BANK : ABSA BRANCH CODE :745648 BANK ACCOUNT NUMBER : 73000000128 | | | |





















Source: www.eskom.co.za

NOTE:

- Accounts unpaid on the date payable are subject to interest at a rate of 12.5% Per annum, compounded monthly and services will be suspended.
- Kwh (kilowatt hour) is the unit of three-phase

ANNEXURE C

QUESTION 4.1

| Tourist arrivals of Top 10 SADC countries ^[10] | | | | Tourist arrivals of Top 10 overseas countries ^[10] | | | |
|---|--|-----------------------|------------------|---|--|-----------------------|------------------|
| Ranking | Country of origin | Visitor arrivals 2015 | % Total arrivals | Ranking | Country of origin | Visitor arrivals 2015 | % Total arrivals |
| 1 |  Zimbabwe | 1 900 791 | 28.9 | 1 |  United Kingdom | 407 486 | 19.0 |
| 2 |  Lesotho | 1 394 913 | 21.2 | 2 |  United States | 297 226 | 13.9 |
| 3 |  Mozambique | 1 200 335 | 18.3 | 3 |  Germany | 256 646 | 12.0 |
| 4 |  Eswatini | 838 006 | 12.7 | 4 |  France | 128 438 | 6.0 |
| 5 |  Botswana | 593 514 | 9.0 | 5 |  Netherlands | 121 883 | 5.7 |
| 6 |  Namibia | 212 514 | 3.2 | 6 |  Australia | 99 205 | 4.6 |
| 7 |  Zambia | 161 259 | 2.5 | 7 |  China | 84 691 | 3.9 |
| 8 |  Malawi | 135 260 | 2.1 | 8 |  India | 78 385 | 3.7 |
| 9 |  Angola | 48 416 | 0.7 | 9 |  Canada | 56 224 | 2.6 |
| 10 |  Tanzania | 35 817 | 0.5 | 10 |  Italy | 52 377 | 2.4 |

ANSWER SHEET A

Name: _____

Question 4.2.7

| Intervals | Frequency |
|-----------|-----------|
| 50-59 | |
| 60-69 | 9 |
| 70-79 | |
| 80-89 | |
| 90-100 | |

