Education and Sport Development

Department of Education and Sport Development
Departement van Onderwys en Sport Ontwikkeling
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NORTH WEST PROVINCE

NATIONAL
SENIOR CERTIFICATE

GRADE 11

MATHEMATICAL LITERACY PAPER 1
JUNE EXAM 2019

MARKS: 75

TIME: 1h 30 minutes

This question paper consist of 8 pages, an annexure and an answer sheet

INSTRUCTIONS AND INFORMATION

1.   This question paper consists of FOUR questions. Answer ALL the questions.

2.   Use ANNEXURE to answer QUESTION 4.2 and the ANSWER SHEET to answer
      QUESTION 2.1.3

3.   Number the answers correctly according to the numbering system used in the
      question paper.

4.   ALL the calculations must be clearly shown.

5.   An approved calculator (non- programmable and non- graphical) may be used,
      unless stated otherwise.

6.   Round off ALL final answers appropriately according to the given context, unless

      stated otherwise.

7.   Indicate units of measurement, where applicable.

8.   Maps and diagrams are NOT necessarily drawn to scale, unless stated otherwise.

9.   Write neatly and legibly.

QUESTION 1

1.1

Mapule works in a local restaurant in her home town. She earns R250,00 per week plus tips from generous customers. Below is her income and expenditure statement for the month of February.

INCOME	EXPENDITURE
R 250.00 Per week Tips for one month: R 600. 00	Transport :　R 150. 00 Groceries :　R 500. 00 Rent　　:　R 300. 00 Airtime　:　 R 120.00 **Total　Expenses ……….**

1.1.1　Write down her fixed expenses　　　　　　　　　　　　　　　　(2)

1.1.2　Calculate her total income for the month if February has 4 weeks.　　(3)

1.1.3　Calculate the total expenses for this month.　　　　　　　　　　(2)

1.1.4　Express the total expenses as a percentage of the total income. Round
　　　　your answer to the nearest percentage　　　　　　　　　　　　(3)

1.2　Mapule plans to visit her cousin who stays in Johannesburg using a bus. The bus
　　　will leave her home town at 09: 00 and will arrive at 14: 30.

1.2.1　Calculate the total time that the bus takes to arrive in Johannesburg.　(2)

1.2.2　Convert the answer in 1.2.1 to minutes.　　　　　　　　　　　　(3)

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QUESTION 2

2.1

A local confectionary is spending R450,00 on electricity and water weekly. The cost of baking one loaf of bread is R4,00 which includes labour and ingredients. A loaf of bread is sold at R6,50.

The **TABLE** below shows the weekly cost of baking loaves of bread.

TABLE A: Weekly COST of BAKING LOAVES OF BREAD

Number of loaves	0	60	120	180	240	300
Total cost (in Rand)	R450.00	R690.00	R930.00	R1170.00	R1410.00	**A**

TABLE B: Weekly INCOME from SELLINGLOAVES OF BREAD

Number of loaves	0	60	120	180	240	300
Total Income (in Rand)	0	R390.00	R780.00	**B**	R1560.00	R1950.00

2.1.1 Write the formula to calculate the cost of baking loaves.   (2)

2.1.2   Determine the value of **A** and **B.**   (4)

2.1.3 Use the formula in QUESTION 2.1.1 to calculate the cost for baking 50 loaves.   (2)

2.1.4 On the same set of axes, use the values from TABLE A and B, and the ANSWER SHEET provided, to draw the graphs illustrating both INCOME and COST of baking loaves of bread.   (7)

2.1.5 Write the coordinates of the break-even point and in the context of the scenario explain what it means.   (4)

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QUESTION 3

3.1

Below is a till slip that Thato got from a boutique after buying some clothes for herself.

28/11/18 14:22:04	Store No : 362
Transaction. No 108 0005	Employee No : 2913457
Tax invoice no: 1122346	
<u>Customer name : Thato Martins</u>	
	Rands
19441209 Stipe Self belted dress	550.00
46458553 Stripe Twofer Top	499.00
Stripe Top Discount @ 33%	**A**
Subtotal excl. VAT	768.00
TOTAL PAID	………

3.1.1 How many items did Thato buy ? (2)

3.1.2 Calculate the total discount paid on the items that she bought (2)

3.1.3 Calculate the total including VAT paid on this transaction (3)

3.2   Thato is a resident in the Phakisa municipality and below is a tariff on a

     sliding scale that the municipality uses to charge her for water usage.

❖ **Fixed charge if > 6 kl = R80,70**
❖ **Free for infrastructure if > = R7,15**

3.2.1. Calculate the cost if Thato uses 35 kl of water charge (7)

3.2.2   Calculate the new fixed charge if it is increased by 15% (3)

Water Usage	Rate per kilolitre (VAT of 15%) inclusive
Up to 6 kl	0
7 kl – 30 kl	R6,48
30.1 kl – 60 kl	R16,20
More than 60 kl	R21,60

3.3   Mrs Tsheko is fixing the roof of her house and has decided to take a personal
       loan of R120 000 from the bank. The bank will charge her 7.5% simple interest
       per annum. Calculate the total that she will repay the bank after 3 years.   (4)

                                                                                          [21]

QUESTION 4

A couple has decided to give tokens of appreciation to all the people who will attend
their wedding. They will use cylindrical containers and square containers as shown
below to package the tokens. The diameter of the cylindrical container is 14 cm.
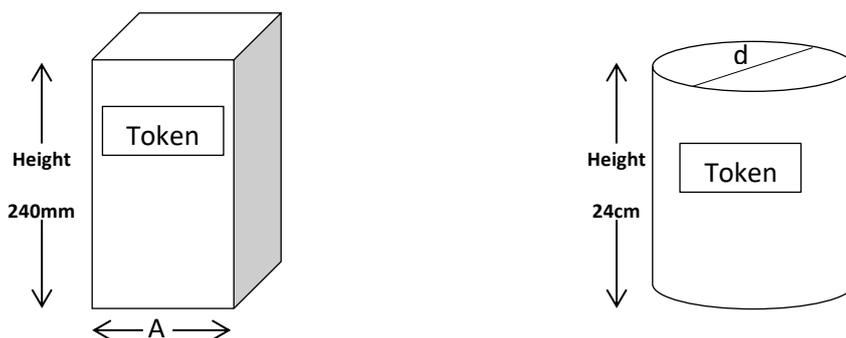
Volume = 3456 cm³

4.1.1   Write down the radius of the cylindrical container.   (2)

4.1.2   Show with calculations that the volume of the cylindrical container is
        238,99cm more than the volume of the container with the square base.

        You may use the formula: **Volume = $\pi r^2 \times$ h where π = 3,142**   (4)

4.1.3   Determine A the length in cm of ONE side of the square base. You may
        use the   Formula: Volume of the box = (side) × height   (4)

4.2 Use the map on annexure A to answer the questions which follow.

4.2.1 What is the name of a game reserve situated in Taung   (2)

4.2.2 Write the names of the national roads found on this map   (3)

4.2.3 Modise stays in Zeerust and wants to visit his mother in Sannieshof.
      Give the shortest route that Modise could use to travel from Zeerust to
      Sannieshof.   (5)

                                                                                          [21]

QUESTION 4.2

ANNEXTURE

Madikwe Game Reserve
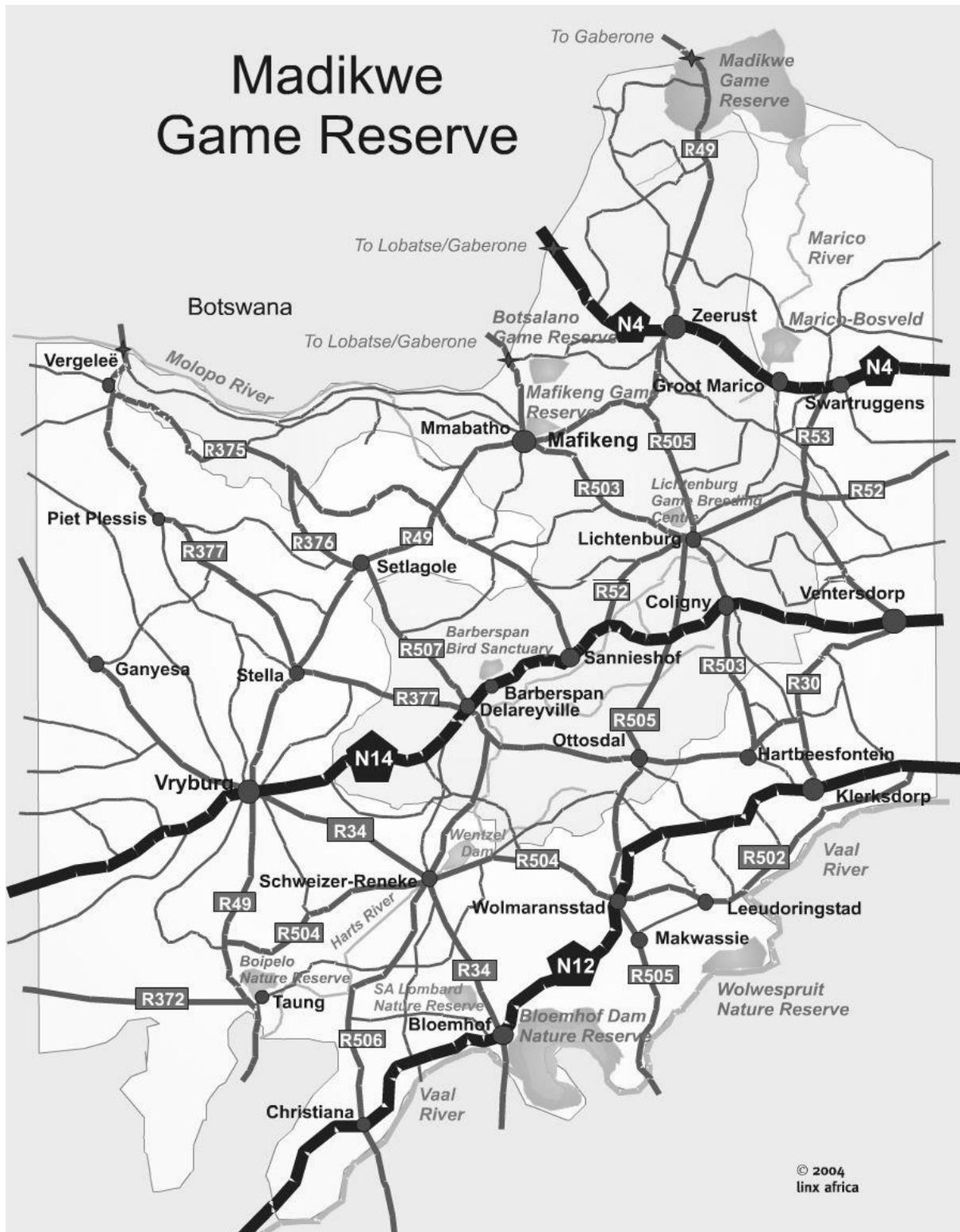
ANSWER SHEET

QUESTION 2.1.4.

Name:..

1800	
1600	
1400	
1200	
1000	
800	
600	
400	
200	
0	

0   60   120   180   240   300

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