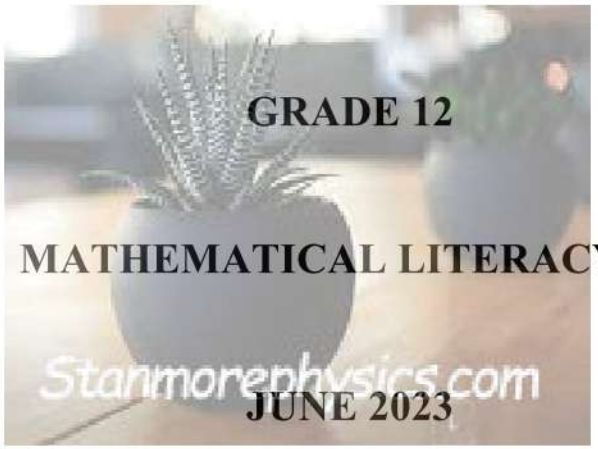
education

Department of Education
FREE STATE PROVINCE

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MID-YEAR EXAMINATION



GRADE 12

MATHEMATICAL LITERACY P1

JUNE 2023

MARKS: 100

TIME: 2 HOURS

This question paper consists of 9 pages.

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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.

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QUESTION 1

1.1 Mokete received a catalogue from Mega Grocery Store specials for 6-12 April 2023.

TABLE 1: Catalogue showing prices of bulk items on specials at Mega Grocery Store.

 Black cat Peanut butter R69,50 each	 Tastic Long Grain rice Any 3 for R55
 Imana Instant Cheddar sauce Any 5 for R47	 Bakers Eet-Sum-Mor Any 4 for R100
 Bonaqua Pump water Any 6 for R60	 Robertsons Rajah spices Any 10 for R25

[Adapted from www.guzzle.co.za]

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Use TABLE 1 above to answer the questions that follow.

1.1.1 Write down the item which costs in total R60. (2)

1.1.2 Calculate the cost of one bag of Tastic long grain rice. (2)

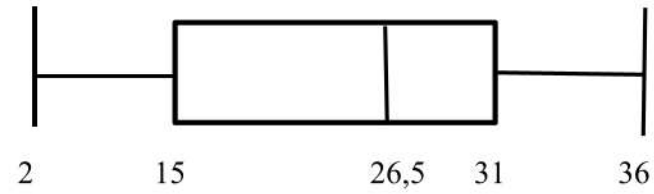
1.1.3 Write down the ratio of the total price of Imana Instant Cheddar sauce to the total for Bonaqua pump water. (2)

1.1.4 Calculate the price difference between 4 packets of Bakers Eet-Sum-Mor cookies and 10 packets of Robertsons Rajah spices. (2)

1.1.5 Determine the number of peanut butter bottles that Mokete can buy if he has R300,00. (2)

1.1.6 Show that the total cost for buying all the bulk items on the catalogue is R356,50. (2)

1.2 The diagram below represents the marks achieved in a Mathematical Literacy test for Class A at Winburg Combined School.



Use the diagram above to answer the questions that follow.

1.2.1 Identify the type of diagram drawn above. (2)

1.2.2 Write down the median for class A. (2)

1.2.3 Write out *IQR* in full. (2)

1.2.4 Calculate the difference between the maximum and minimum marks for class A. (2)

[20]

QUESTION 2

2.1 Katiso is a resident of Ficksburg and used 460 kWh of electricity during the month of June 2022.

Table 2 below shows the electricity tariffs for Ficksburg (excluding VAT) in 2022.

TABLE 2: Eletricity tariffs for Ficksburg in 2022 - Domestic (VAT excl.)

Block	Electricity usage	Tariff (Rands)
Block 1	0 - 50 kWh	1,5188
Block 2	51 - 350 kWh	2,0251
Block 3	351 – 600 kWh	2,6386
Block 4	> 600 kWh	2,9456

[Source:setsoto.gov.za]

Use Table 2 and the information above to answer the questions that follow.

2.1.1 Write down the acronym VAT in full (2)

2.1.2 Determine the total number of kWh of electricity that can be charged in block 3. (2)

2.1.3 Calculate the total amount, including VAT, that Katiso will pay for the amount of electricity that she used in June 2022. (7)

2.2 Due to the challenge of load shedding in South Africa, Katiso intends on buying a generator for her household.



CASH PURCHASE
Discount: R1 200
Now: R12 999

HIRE PURCHASE
- Deposit of R1 299,90
- Instalments R625,25 × 24 months
- Interest rate: 12%

[Adapted from www.bing.com]

Use the information above to answer the questions that follow.

2.2.1 Define the term *hire purchase* in the given context. (2)

2.2.2 Calculate the original price of the generator before the discount. (2)

2.2.3 Write down the deposit to be paid as a percentage of the discounted cash price. (3)

2.2.4 Calculate the total cost of the generator if the hire purchase option is chosen. (4)

2.2.5 Write down one disadvantage of buying an item on hire purchase. (2)

2.3 Katiso decided to pay cash for the generator. She plans to borrow money from FBN Bank.

The bank agreed to lend her R13 000 at an interest rate of 10,5%, compounded annually, for 2 years and 6 months.

Katiso stated that the total amount to be paid to the bank will be less than the total cost for hire purchase.

Verify, showing ALL calculations, whether Katiso's statement is valid. (9)

[33]

QUESTION 3

Queen, a student in Bloemfontein, was given a task to do a research about the number of fatal crashes that occurred in all 9 provinces in South Africa for the period 2020 to 2022.

Table 3 below shows number of fatal crashes that occurred in South Africa for the period of 2020 – 2022.

Table 3: FATAL CRASHES IN SOUTH AFRICA FOR THE PERIOD OF 2020 TO 2022

Year	EC	FS	GP	KZN	LIM	MP	NC	NW	WC	RSA
2020-2021	188	75	222	255	142	112	31	78	106	…
2021-2022	184	**F**	261	255	152	139	49	99	172	1395
Change	-4	9	39	0	10	27	18	21	66	186
% Change	-2	12	18	0	7	24	58	27	62	15

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

3.1 Arrange in descending order, the number of fatal crashes that occurred in 2020-2021 for the nine provinces. (2)

3.2 Identify a province where the number of fatal crashes remained the same for both time periods. (2)

3.3 Determine, showing all calculations, the value of **F**. (3)

3.4 Calculate the mean number of fatal crashes for 2021-2022. (3)

3.5 Show how the percentage change for NC was calculated. (3)

3.6 Determine the IQR for 2020-2021. (5)

3.7 Determine, as a decimal fraction, the probability of being involved in a fatal crash in GP during 2021 – 2022 period. (2)

3.8 Give ONE possible reason for fatal crashes in South Africa. (2)

[22]

QUESTION 4

4.1 Since 2022 there has been a decrease in the number of smartphones shipped globally.

Table 3 below shows the changes in the number of smartphones shipped by three largest manufacturing companies for 2021 and 2022.

Table 3: Global Smartphones Shipment in 2021 and 2022

Smartphones Shipments Global (in millions)		
Brand	**2021**	**2022**
Samsung	76,6	58,3
Xiaomi	48,5	33,2
OPPO	38	29,6

[Adapted from www.countrepointresearch.com]

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

4.1.1 Identify a brand with the highest shipment in 2021. (2)

4.1.2 Write down the actual number of Xiaomi smartphones shipped in 2022. (2)

4.1.3 A newspaper publication stated that during this period, Samsung showed a greater percentage decrease in the number of smartphones shipped, as compared to OPPO.

Verify showing all calculations if the statement is correct. (6)

4.1.4 Determine the probability, as a percentage, of randomly selecting a brand with a shipment of more than 30 000 000 smartphones in 2022. (3)

4.2 A 45-year-old Alfred who is employed at one of the manufacturing companies earns a taxable income of R388 450 per annum.
He contributes monthly to a medical aid scheme for himself and his two dependents.

TABLE 4: Tax rates for 2022/2023 Tax Year

Taxable income (R)	Rates of tax (R)
1 – 226 000	18% of taxable income
226 001 – 353 100	40 680 + 26% of taxable income above 226 000
353 101 – 488 700	73 726 + 31% of taxable income above 353 100
488 701 – 641 400	115 762 + 36% of taxable income above 488 700
641 401 – 817 600	170 734 + 39% of taxable income above 641 400
817 601 – 1 731 600	239 452 + 41% of taxable income above 817 600
1 731 601 and above	614 192 + 45% of taxable income above 1 731 600

TABLE 5: Tax rebates and medical tax credits for 2022/2023 Tax Year

Tax rebates	
Primary	R16 425
Secondary (Persons of 65 and older)	R9 000
Tertiary (Persons of 75 and older)	R2 997
Monthly medical tax credits	
Main Member	R347
First additional dependant	R347
Each additional dependant	R234

[Adapted from www.sars.gov.za]

Use Table 4 and 5 above to answer the questions that follow.

4.2.1 Write down the tax rebate that Alfred qualifies for. (2)

4.2.2 Show with calculations that Alfred will receive R11 136 in medical tax credits for the 2022/2023 tax year. (4)

4.2.3 Calculate the amount of tax Alfred must pay for the 2022/23 tax year. (6)

[25]

TOTAL: 100