

Hillcrest High School

Grade 10

MATHEMATICAL LITERACY P1 **NOVEMBER 2024**

MARKS: 75

TIME: 1½ Hours

EXAMINER: Mrs J. Leuschke

MODERATOR: Ms G. Stow

Instructions:

Read the following instructions carefully before answering the questions.

1. This question paper consists of 4 questions and 7 pages.
2. Clearly show ALL calculations, diagrams, graphs, etc which you have used to determine your answers.
3. Answers only will NOT necessarily be awarded full marks.
4. An approved scientific calculator (non-programmable) may be used, unless otherwise stated.
5. If necessary, answers should be rounded off to TWO decimal places, unless otherwise stated, or appropriately within the given context.
6. Number the answers EXACTLY as the questions are numbered.
7. Diagrams are not necessarily drawn to scale.
8. It is in your own interest to write legibly and to present your work neatly.

QUESTION 1

Mrs Jugmohan is a Grade 10 teacher. She decided to have one big party to celebrate the learners in her register class’s birthdays. Given below is the till slip she received after doing some of the shopping for the party. Study the till slip and answer the questions that follow.

Pick n Pay		
Cashier: Olwethu		
HAMBURGER BUNS (6 each)		
8 @ 10.99		(1.2)
FRUIT JELLYBEANS		
5 @ 25.00		125.00
MAYNARDS WINE GUM ROLL		
20 @ 7.99		159.80
TOMATOES 1KG		17.99 #
SIMBA CHIPS		
10 @ 15.00		150.00
CRISP LETTUCE		
4 @ 12.99		51.96 #
LARGE CARRIER BAG		
3 @ 0.50		1.50
DAIRY MILK OREO SLAB 120 g		
10 @ 25.99		259.90
COKE LIGHT 2L		
10 @ 16.49		164.90
	DUE VAT INCL	1 018.97
----- TENDER -----		
	MASTERCARD	1 018.97
	6423222	
	TOTAL ITEMS:	71
----- TAX INVOICE -----		
	TAXABLE VAL	VAT VAL
VAT INCL	1 018.97	123.79
# ZERO-RATED	69.95	
-----VAT REG NO. 4090105588-----		
*16364 3305 103923 7 24.02.2020 18:54		

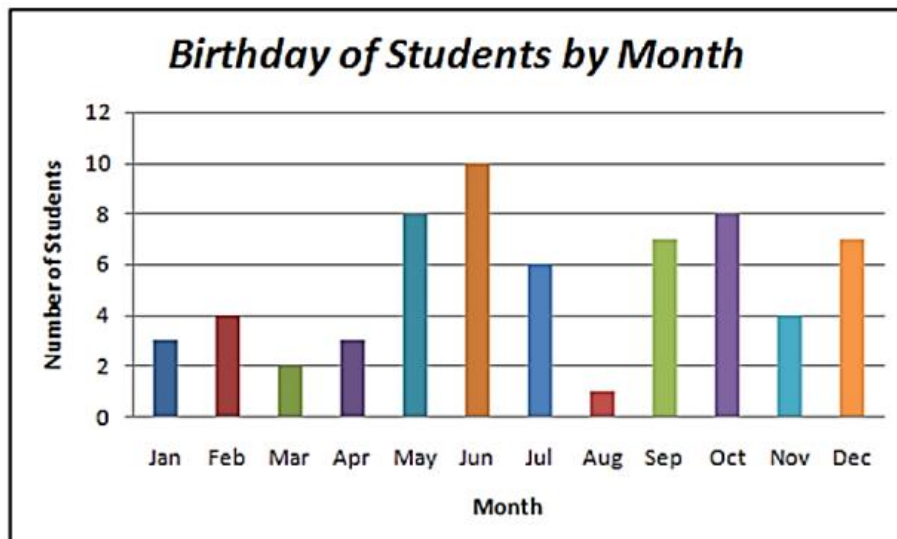
1.1.1 What is the meaning of the hashtag symbol (#) that is found next to certain prices. (2)

1.1.2 Calculate the total cost of the hamburger buns. (2)

1.1.3 Write the cost of one bag of jellybeans as a ratio to the cost of one bag of chips. Give your answer as a simplified ratio. (2)

1.1.4 Calculate the average cost if there are 20 learners in the class. (2)

1.2 Mrs Jugmohan decided to display the birthdays of every child that she teaches in a graph. Study the graph given below and answer the questions that follow.



1.2.1 Name the type of graph that Mrs Jugmohan used. (2)

1.2.2 How many learners does Mrs Jugmohan teach in total? (2)

1.2.3 Write down the month(s) in which the second-most birthdays are celebrated. (2)

[14]

QUESTION 2

2.1 The table below shows a rough statement of Jessica’s income and expenditure for a month. Study the table and answer the questions that follow.

INCOME	AMOUNT	EXPENDITURE	AMOUNT
Salary	R11 750	Groceries	R2 100
		Rent	-----
		Petrol	R1 000
		Car payment	R1 800
		Electricity	-----
		Clothing	R450
		Insurance	R320
		Entertainment	R600

2.1.1 Name ONE variable and ONE fixed income. (2)

2.1.2 Jessica spends a total of R3700 on electricity and rent combined. If the ratio of electricity to rent is 1 : 4, determine the amount she pays for electricity. (3)

2.1.3 Calculate what percentage Jessica’s groceries are of her salary. Round off your answer to the nearest percentage. (3)

2.1.4 Calculate the VAT amount included in the R600 for entertainment. (3)

2.2 Jessica decides that she needs to sell her car and buy a motorbike in order to save money.

2.2.1 She bought her car for R98 000 and sells it for R55 000. Calculate Jessica’s percentage loss. Give your answer rounded to two decimal places. (4)

2.2.2 Jessica buys a second-hand motorbike for R32 500 and decides to invest the remainder of the money to be able to go on a cruise in 1,5 years time. The investment earns 9,75% simple interest per year and she invests it for 1,5 years. Jessica says that she will have enough money in 1,5 years time. Verify, showing calculations, whether she will have enough money if the cruise costs R28 500. (5)

2.2.3 Jessica needed to buy a helmet to ride her bike. There were two options.

Option 1 – R4 686

Option 2 – R2 759

Calculate the percentage difference in the price. Write your answer to the nearest whole number. (4)

[24]

QUESTION 3

3.1 A group of Grade 10 learners were asked what amount of airtime they use in a month. The results are given in the table below. Refer to the information and answer the questions that follow.

R12	R29	R5	R5	R12	R29	R29	R110
R5	R5	R12	R29	R29	R55	R5	R12

3.1.1 Define the term ‘median’. (2)

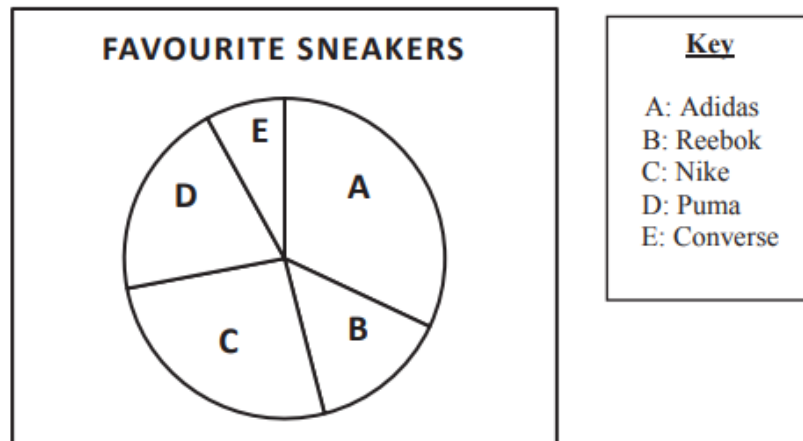
3.1.2 Determine the mode for the above data. (2)

3.1.3 Calculate the mean value of airtime used by the learners in a month. (3)

3.1.4 Verify, by means of calculation, that the range is R105. (2)

3.1.5 What is the probability that a learner used R29 airtime in a month? Give your answer as a decimal, rounded off to three decimal places. (3)

3.2 A survey was conducted where learners were asked what their favourite brand of sneakers is. The results are shown below.

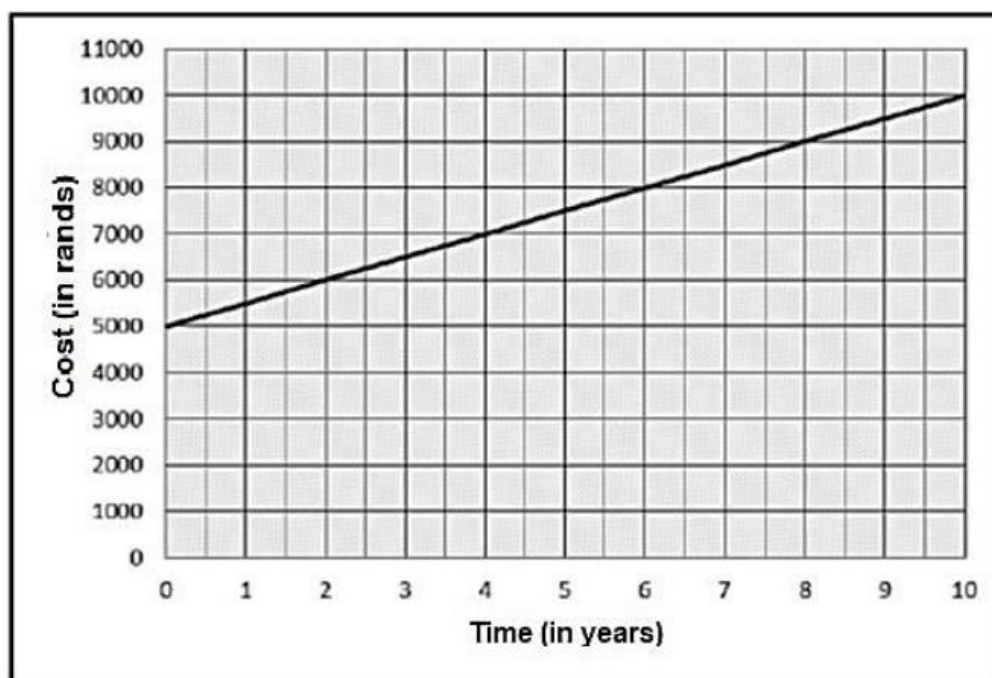


3.2.1 If 300 learners were involved in the survey, and 32% preferred Adidas sneakers, calculate the number of learners who preferred Adidas sneakers. (3)

[15]

QUESTION 4

4.1 The graph below shows the amount of money accumulated when a certain amount is invested over a period of time.



4.1.1 Name the independent variable. (2)

4.1.2 Explain why the graph is a straight line. (2)

4.1.3 After how many years is the investment worth double the original value? (2)

4.1.4 Use the graph to calculate the interest per annum. (3)

4.1.5 Mr Chan has R5 000 to invest. He needs to earn R3 200 in interest. By firstly showing the value of the investment, show after how many years he can withdraw his money. Round your answer off to the nearest year (taking the context into account).

(4)

4.2 The tariff structure below is taken from the eThekweni municipality.

Description	Proposed Tariff
	2022/2023
0 – 6 kl	Nil
Greater than 6kl up to 25kl	R25,60
25kl – 30kl	R34,90
30kl – 45kl	R77
Greater than 45kl	R84,70

4.2.1 If a household uses 22kl of water, how many kilolitres will they have to pay for? (2)

4.2.2 A family budgets R600 for water usage. Verify, showing all calculations, that they have budgeted enough if they use 28kl of water in a month. (4)

4.2.3 The municipality proposed a tariff of R91,90 per kl if more than 45kl of water are consumed for the 2023/2024 year. Calculate the percentage change. (3)

[22]