Hoërskool Johan Jurgens

Mathematical Literacy – Grade 11

Examination – Paper 1

November 2025

Examiner: M. Myburgh

Moderator: M. Botha

Time: 2 hours

Marks: 100

INSTRUCTIONS AND INFORMATION

1. This 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 OR draw a line at the end of EACH question.
4. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
5. Show ALL the calculations clearly.
6. Round ALL the final answers accordingly, unless stated otherwise OR where the REAL-LIFE context requires rounding UP or DOWN.
7. Write neatly and legibly.
8. Formulae which may be required to answer the question, will be supplied below the question number. You should choose the applicable formula where required.

This question paper consists of 7 pages

QUESTION 1

1.1 A cellphone costs R2 500. If a 10% discount is offered, calculate the discounted price. (2)

1.2 A school has 360 learners, of whom 198 are girls. Calculate the percentage of learners who are girls. (2)

1.3 How many eggs are there in one and a half dozen? (2)

1.4 What does the acronym UIF stand for? (2)

1.5 A person works 5 days a week and earns R450 per day. Calculate their weekly income. (2)

1.6 The ratio of boys to girls in a soccer club is 5 : 3. If there are 24 girls, how many boys are there? (2)

1.7 The interest on a loan is R480 for one year at a rate of 8% per annum. Calculate the principal (amount borrowed). (2)

1.8 A T-shirt's price increases from R120 to R138. Calculate the percentage increase. (2)

$$\textbf{Percentage increase} = \frac{new\ value - old\ value}{old\ value} \times 100\%$$

1.9. A car uses 8 litres of petrol to travel 100km. How many litres will it use for 350km. (2)

1.10 Refer to the table below showing a taxi's earning for a week.

Day	Mon	Tue	Wed	Thu	Fri
Earnings (R)	850	920	870	960	1050

Calculate the **average daily earning.** (2)

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QUESTION 2

2.1 The Mbatha family receives the following municipal electricity tariff:

Usage Range (kWh)	Cost per kWh
0-50	R1.35
51-350	R1.90
351 and above	R2.50

2.1.1 If the household uses 420 kWh for the month, calculate their total electricity cost. (6)

2.1.2 The household qualifies for a 5% prompt-payment rebate on the total electricity bill if they pay by debit order.

2.1.2.1 Calculate the rebate amount (to two decimals). (2)

2.1.2.2 Calculate the amount payable after applying the rebate (to two decimals). (2)

2.2 Sipho's monthly budget is shown below:

Item	**Income (R)**	**Expenses (R)**
Salary	12 500	
Transport		2 200
Rent		4 800
Food		3 100
Cellphone		350
Clothing		800
Other		**A**
TOTAL	**12 500**	**12 500**

2.2.1 Calculate the amount for "Other" (**A**). (3)

2.2.2 What **percentage** of Sipho's income goes to rent? (2)

2.3 A laptop costs R8 000. A customer can either pay cash or take a **hire purchase plan** that requires a 10% deposit and 12 monthly payments of R720.

Now only R8 000
10 Deposit plus R720p/m for 12 months on HP

2.3.1 Calculate the total amount paid under the hire purchase plan. (2)

2.3.2 How much more does the customer pay compared to the cash price? (2)

2.4 Calculate the **simple interest** earned on R6 000 invested for 3 years at 7,5% p.a. (3)

2.5 Calculate the **compound interest** earned on R6 000 for 3 years at 7,5% p.a., compounded annually. (Show the final amount and the interest earned.) (4)

2.6 A store sells a microwave for R2 000 excluding VAT. VAT is 15%.

2.6.1 Calculate the amount of VAT. (2)

2.6.2 Calculate the total price including VAT. (2)

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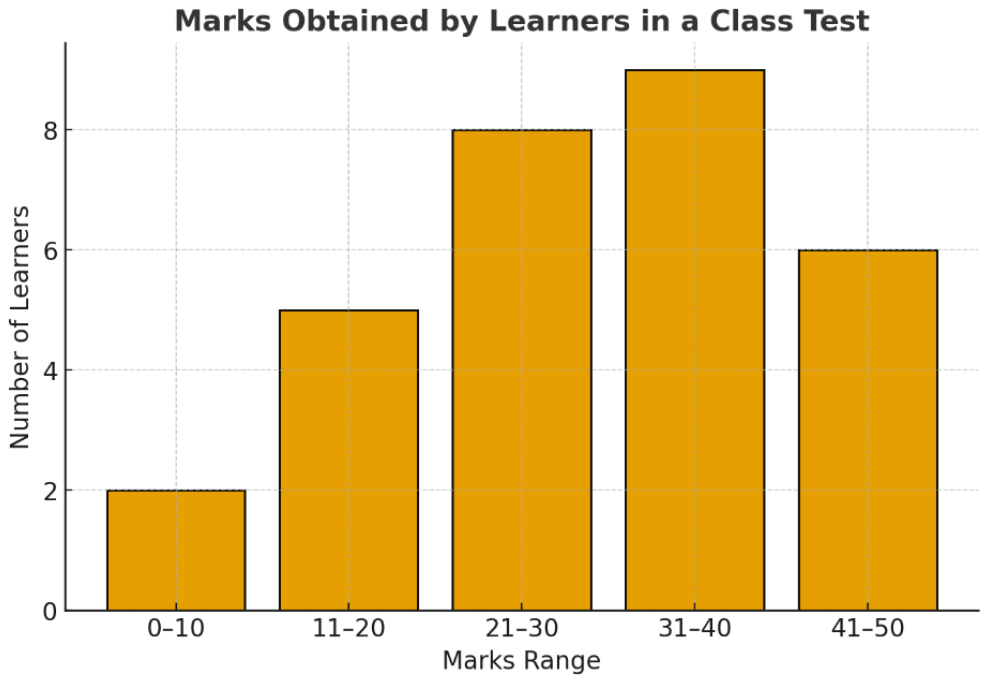
QUESTION 3

3.1 The bar graph shows marks (out of 50) obtained by learners in a class test:



3.1.1 How many learners wrote the test? (2)

3.1.2 What **percentage** of learners scored above 30 marks? (3)

3.1.3 Determine the **modal class**. (2)

3.1.4 Estimate the **mean mark** using midpoints. (Show working.) (4)

3.2 The table below shows the results for School A and School B for Mathematical Literacy for the years 2021 to 2023:

	SCHOOL A	**SCHOOL B**
Year	**Average %**	**Average %**
2021	64	60
2022	68	65
2023	70	69

3.2.1 Identify the trend for each school over the 3 years. (2)

3.2.2 Which school showed the **greater overall improvement**? Show calculation. (2)

3.2.3 Suggest **one possible reason** for the improvement. (2)

3.2.4 If School A expects a further 5% increase next year, predict its 2024 average. (2)

3.2.5 Write down the cumulative frequency for each class (table). (Read from the graph) (2)

3.2.6 Estimate the median mark using grouped-data interpolation (use continuous class boundaries). Show working — include the formula. (4)

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QUESTION 4

4.1 A bus company runs two routes daily:

Route	Departure	Arrival	Distance (km)
A	07:00	08:45	120
B	07:30	09:10	110

4.1.1 Calculate the travel time for each route (2)

4.1.2 Which route has the **higher average speed**? Show working. (3)

4.1.3 If a return ticket for Route A costs R210 and a one-way costs R115, what percentage discount does the return ticket offer compared to two one-way tickets? (3)

4.2 The probability of rain on a certain day is 0,25.

4.2.1 What is the probability that it will not rain? (2)

4.2.2 If the probability of raining is over 12 days, how many days would you expect it to rain? (2)

4.3 MTN offers the following contract options:

OPTION	MONTHLY COST	DATA	MINUTES	CONTRACT LENGTH
A	R299	2GB	100	12 months
B	R349	4GB	150	12 months
C	R449	6GB	200	12 months

4.3.1 Calculate the total annual cost of each contract. (3)

4.3.2 If a user needs at least 3 GB of data per month and wants to spend **as little as possible**, which option should they choose? Explain briefly. (2)

4.3.3 Give one **advantage** of choosing the more expensive option. (2)

4.3.4 Discuss **one factor** (other than cost) that could influence the choice of a cellphone plan. (2)

4.3.5 Calculate the percentage increase in annual cost from Option B to Option C. Show your workings and give answer to two decimals. (4)

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TOTAL: 100