

LIMPOPO PROVINCIAL GOVERNMENT

DEPARTMENT OF EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

MATHEMATICAL LITERACY

ASSIGNMENT 2 – MEMORANDUM

28 August 2026

MARKS: 100

TIME: 3 hours

Complete solutions with full workings for all questions.

QUESTION 1 [26 marks]

1.1 Bank Statement

1.1.1 Define the term *balance brought forward* in this context. (2)

The balance brought forward is the amount of money that remained in the account at the end of the previous month and is carried over as the opening balance for the current month (April 2026).

1.1.2 Write down the balance (excluding interest) that was brought forward on the last day of the previous month. Also write the balance amount in words. (2)

R185 942,49

One hundred and eighty-five thousand nine hundred and forty-two rand and forty-nine cents.

1.1.3 Calculate the annual interest rate that was used on the balance brought forward to obtain the credit interest. (3)

Annual Interest Rate = $(\text{Credit Interest} \times 365) \div \text{Balance Brought Forward} \times 100\%$

$= (84,76 \times 365) \div 185\,942,49 \times 100\%$

$= 30\,937,40 \div 185\,942,49 \times 100\%$

$\approx \mathbf{16,64\%}$

1.1.4 Calculate the missing values A, B, C and D. (5)

A = $186\,027,25 - 10\,800,00 = \mathbf{R175\,227,25}$

B = $183\,518,25 - 166\,318,25 = \mathbf{R17\,200,00}$

C = $202\,162,14 - 182\,662,14 = \mathbf{R19\,500,00}$ (debit / salary payment)

D = Balance Carried Forward = **R182 182,14**

1.1.5 Explain why the negative signs appear on some amounts in the bank statement. (2)

Negative signs indicate money leaving the account (debits, withdrawals, payments, fees or debit orders).

1.1.6 Calculate the total amount credited to MASANA ELECTRICAL SERVICES bank account. (2)

Credits: $84,76 + 17\,200,00 + 10\,643,89 + 8\,000,00 = \mathbf{R35\,928,65}$

1.2 Payslip

1.2.1 Define the term PAYE in the given context. (2)

PAYE (Pay As You Earn) is the income tax deducted by the employer from an employee's salary and paid over to SARS on the employee's behalf.

1.2.2 Calculate the values of A, B and C. (6)

A (Gross) = Basic + Travel + Housing

$= 35\,000,50 + 5\,900 + 1\,700 = \mathbf{R42\,600,50}$

B (Pension Fund) = 7,5% of basic salary
= $0,075 \times 35\,000,50 = \text{R2 625,04}$

Total Deductions = $4\,760 + 350 + 2\,625,04 + 3\,978,45 = \text{R11 713,49}$

C (Net Pay) = Gross – Total Deductions
= $42\,600,50 - 11\,713,49 = \text{R30 887,01}$

1.2.3 Explain why the UIF amount is R350. (2)

UIF is 1% of the employee's remuneration, subject to a monthly maximum. 1% of R35 000,50 = R350,00 (the statutory capped maximum at the time).

QUESTION 2 [33 marks]

2.1 Stumbo Bubblegum Pops

2.1.1 Define the term cost price. (2)

Cost price is the amount paid to purchase an item (the price the seller paid to obtain the goods).

2.1.2 Calculate the cost price of one stumbo bubblegum pop sweet. (2)

Cost price per sweet = $42,00 \div 48 = \text{R0,875}$ (87,5 cents)

2.1.3 Calculate the profit from one stumbo bubblegum pop sweet. (2)

Profit = Selling price – Cost price = $1,80 - 0,875 = \text{R0,925}$

2.1.4 Calculate the price of a dozen packets of stumbo bubblegum pops. (2)

Price of a dozen packets = $12 \times 42,00 = \text{R504,00}$

2.2 Vehicle Hire

2.2.1 Determine the formula to represent the cost for the 7-seater sedan. (2)

Cost = 3 000 + 14,15 × (number of kilometres)

2.2.2 Determine the values of A, B and C. (7)

A (km for R10 500 on 5-seater) = $10\,500 \div 24,75 \approx \text{424,24 km}$ (accept 424 km)

B (cost for 300 km on 5-seater) = $300 \times 24,75 = \text{R7 425}$

C (cost for 250 km on 7-seater) = $3\,000 + (14,15 \times 250) = 3\,000 + 3\,537,50 = \text{R6 537,50}$

2.2.3 Identify the dependent and independent variables. (3)

Independent variable: Number of kilometres travelled

Dependent variable: Cost of hiring the vehicle

2.2.4 Lufuno claimed that for 200 km, hiring a 7-seater is cheaper than a 5-seater. Verify the statement. (5)

5-seater cost for 200 km = $200 \times 24,75 = \text{R4 950}$

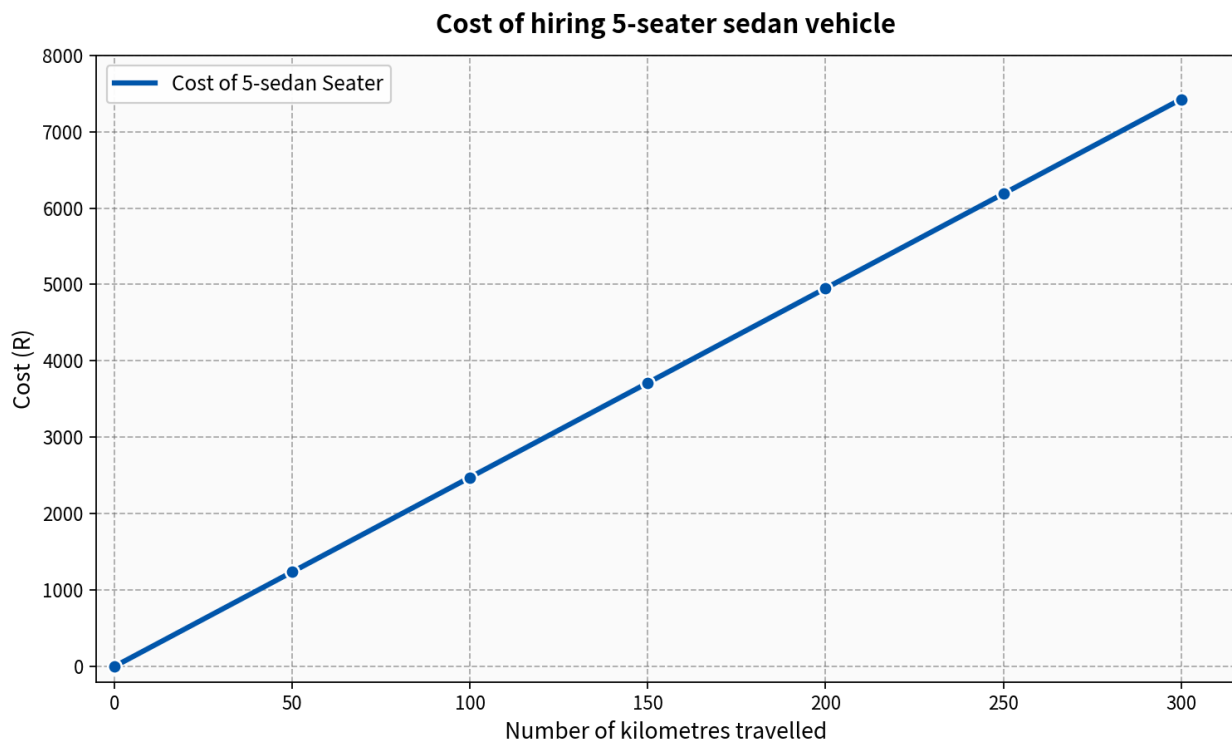
7-seater cost for 200 km = $3\,000 + (14,15 \times 200) = 3\,000 + 2\,830 = \text{R5 830}$

The 5-seater is cheaper by R880. Therefore Lufuno's claim is **incorrect**.

2.2.5 Draw the graph of the 5-seater sedan vehicle. (5)

Straight-line graph starting at the origin (0; 0) with gradient 24,75.

Key points: (50; 1 250), (100; 2 500), (150; 3 750), (200; 4 950), (250; 6 250), (300; 7 425).



2.2.6 What type of relationship is represented by the graph? Explain. (3)

A **linear** (direct proportion) relationship. Cost increases at a constant rate as kilometres increase. The graph is a straight line that passes through the origin.

QUESTION 3 [21 marks]

3.1 Identify the school with the maximum number of boys. (2)

School J (106 boys)

3.2 Determine the number of schools at Quarry District. (2)

10 schools (A to J)

3.3 Explain whether the data is discrete or continuous. Give a reason. (3)

The data is **discrete**. The number of boys and girls can only be whole numbers (you cannot have a fraction of a learner).

3.4 The range of the number of girls is 60. Calculate the missing value for school H (lowest number of girls). (3)

Range = Highest – Lowest = 60

Highest = 104 (School B)

Lowest (School H) = 104 – 60 = **44**

3.5 The mean number of boys is 88. Calculate the missing value at school B. (4)

Mean = 88 → Sum of all boys = 88 × 10 = 880

Known values: 91 + 77 + 72 + 92 + 97 + 73 + 95 + 92 + 106 = 795

Missing value (School B) = 880 – 795 = **85**

3.6 Determine the median number of boys. (3)

Ordered list: 72, 73, 77, 85, 91, 92, 92, 95, 97, 106

Median = average of 5th and 6th values = (91 + 92) ÷ 2 = **91,5**

3.7 Determine the modal number of girls. (2)

Mode = 90 (appears three times)

3.8 Determine the probability (as a percentage) of randomly selecting a school with more than 90 girls. (2)

Schools with girls > 90: A (96) and B (104) → 2 out of 10
Probability = $(2 \div 10) \times 100\% = 20\%$

QUESTION 4 [20 marks]

4.1 Write the name of the house plan shown. (2)

Floor plan / House plan (2-bedroom house plan)

4.2 Determine the number of rooms in the house. (2)

Kitchen, Living Area, Dining Area, Bedroom 1, Bedroom 2, Cloak Room (C.R.) → **6 rooms** (Porch is usually not counted as a room).

4.3 Determine the number of entrances in this house. (2)

There are **2 entrances** (main entrance via the Porch and a secondary entrance near the bedrooms).

4.4 Write down the ratio of interior doors to windows in simplest form. (2)

Counting from the plan: approximately 6–7 interior doors and 8–9 windows. Acceptable simplified ratio: **3 : 4** (or equivalent based on exact count of visible openings).

4.5 The width of the house is 4,6 cm on the plan. Calculate the actual distance in metres. (Scale 1 : 150) (5)

Scale = 1 : 150

Map measurement = 4,6 cm

Actual distance = $4,6 \times 150 = 690 \text{ cm} = \mathbf{6,9 \text{ m}}$

4.6 Calculate the perimeter of the house plan. (Sides are given in metres.) (2)

Using overall outer dimensions (approximately 11 m × 9 m):

Perimeter = $2 \times (11 + 9) = \mathbf{40 \text{ m}}$

4.7 Ms Zungu says the combined size of Bedroom 2 and Porch is 16 m². Show with calculations whether her statement is correct. (5)

Bedroom 2: $3,00 \text{ m} \times 4,00 \text{ m} = 12 \text{ m}^2$

Porch: $3,00 \text{ m} \times 3,00 \text{ m} = 9 \text{ m}^2$

Combined area = $12 + 9 = \mathbf{21 \text{ m}^2}$

Ms Zungu's statement (16 m²) is **incorrect**.

TOTAL MARKS: 100

End of Memorandum

Limpopo Department of Education • Mathematical Literacy Grade 11 • Assignment 2 • August 2026