

SMARTWIZ

GRADE11 MATHEMATICS LITERACY EXAM

MARKS: 100

MARKS	

TIME: 2 HOURS

SCHOOL _____

CLASS (eg. 4A) _____

SURNAME _____

NAME _____

Instructions for Learners:

- Read all instructions carefully before you begin the exam.
- Write your full name and student number clearly on the answer sheet/book.
- Answer all questions unless otherwise instructed.
- Show all your work/calculations where necessary.
- Write neatly and clearly.
- Use only a blue or black pen. Do not use correction fluid or tape.
- Electronic devices (calculators, cell phones, etc.) are not allowed unless explicitly permitted.
- Raise your hand if you have any questions.
- Do not talk to other learners during the exam.
- Any form of cheating will result in immediate disqualification from the exam.

This exam consists of six pages, including the cover page.

QUESTION 1: EXCHANGE RATES AND CURRENCY (15 marks)

The exchange rate on a specific day is:

1 USD = R18.50

1.1 A South African tourist visits the USA with **R27,750**. How many dollars will they receive?

1.2 While in the USA, they spend **\$890**. How much is this in rands?

QUESTION 2: TIME AND WORK SCHEDULES (15 marks)

A retail worker's weekly schedule is shown below:

Day	Hours Worked
Monday	6
Tuesday	5
Wednesday	6
Thursday	4
Friday	5
Saturday	3

2.1 Calculate the total number of hours worked in the week.

2.2 If the hourly wage is **R58.00**, how much does the worker earn for the week?

2.3 How many hours would the worker need to work to earn **R870**?

QUESTION 3: TAXATION AND SALARY SLIPS (20 marks)

Below is a simplified monthly payslip for a worker:

Gross Salary: R12,500

Deductions:

- PAYE: R1,300
- UIF: R150
- Pension: R800

3.1 Calculate the **total deductions**.

3.2 Calculate the **net salary**.

3.3 What percentage of the gross salary is deducted as PAYE?

QUESTION 4: DISTANCE, SPEED, AND TIME (20 marks)

A delivery driver travels from Johannesburg to Durban, a distance of **600 km**.

4.1 If the average speed was **100 km/h**, how long did the trip take?

4.2 If the driver left Johannesburg at 06:30 and took a **30-minute break**, what time did they arrive in Durban?

4.3 The driver uses **8.5 litres** of fuel per 100 km. How many litres are used for the entire trip?

QUESTION 5: INTERPRETING GRAPHS AND TABLES (15 marks)

A cellphone data plan offers the following:

Data (GB)	Monthly Cost (R)
1	80
3	150
5	210

10	380
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5.1 How much more does 10 GB cost compared to 5 GB?

5.2 What is the average cost per GB for the 3 GB plan?

5.3 Which plan gives the **best value per GB**? Show calculations.

QUESTION 6: GEOMETRY & CONSTRUCTION COSTING (15 marks)

A circular fountain is to be built in a park. The radius of the fountain is **3 meters**.

6.1 Calculate the **area** of the fountain. Use $\pi = 3.14$.

6.2 If paving costs R280 per square meter, calculate the total cost to pave around the fountain (area = 28.26 m²).

6.3 The perimeter (circumference) of the fountain is to be fenced at **R95 per meter**. Calculate the cost.

$$C = 2\pi r$$

END OF EXAM

TOTAL : 100

MEMO

QUESTION 1: EXCHANGE RATES AND CURRENCY (15 marks)

Given:

1 USD = R18.50

1.1

Amount in Rands: R27,750

Amount in USD = $27,750 \div 18.50 = \$1,500$ ✓

[3 marks]

1.2

Amount in USD: \$890

Amount in Rands = $890 \times 18.50 = \text{R}16,465$ ✓

[3 marks]

QUESTION 2: TIME AND WORK SCHEDULES (15 marks)

2.1

Total hours = $6 + 5 + 6 + 4 + 5 + 3 = 29$ hours ✓

[3 marks]

2.2

Earnings = $29 \times \text{R}58 = \text{R}1,682$ ✓

[3 marks]

2.3

To earn R870:

$\text{R}870 \div \text{R}58 = 15$ hours ✓

[3 marks]

QUESTION 3: TAXATION AND SALARY SLIPS (20 marks)

3.1

Total deductions = $1,300 + 150 + 800 = \text{R}2,250$ ✓

[3 marks]

3.2

Net salary = $\text{R}12,500 - \text{R}2,250 = \text{R}10,250$ ✓

[3 marks]

3.3

Percentage PAYE = $(1,300 \div 12,500) \times 100 = 10.4\%$ ✓

[4 marks]

QUESTION 4: DISTANCE, SPEED, AND TIME (20 marks)

4.1

Time = Distance \div Speed = $600 \div 100 = 6$ hours ✓

[3 marks]

4.2

Departure: 06:30

Travel time: 6 hours + 30 min = 6.5 hours

Arrival time = 06:30 + 6h30 = **13:00 (1:00 PM)** ✓

[4 marks]

4.3

Fuel usage = $(8.5 \div 100) \times 600 = 51$ litres ✓

[3 marks]

QUESTION 5: INTERPRETING GRAPHS AND TABLES (15 marks)

5.1

Cost difference = $380 - 210 = \text{R}170$ ✓

[3 marks]

5.2

Average cost per GB = $150 \div 3 = \text{R}50/\text{GB}$ ✓

[3 marks]

5.3

Calculate per GB cost:

- 1 GB: $80 \div 1 = \text{R}80$
- 3 GB: $150 \div 3 = \text{R}50$
- 5 GB: $210 \div 5 = \text{R}42$
- 10 GB: $380 \div 10 = \text{R}38$ ✓

Best value = 10 GB plan (**R38/GB**) ✓

[4 marks]

QUESTION 6: GEOMETRY & CONSTRUCTION COSTING (15 marks)**6.1**

$$\text{Area} = \pi r^2 = 3.14 \times 3^2 = 3.14 \times 9 = \mathbf{28.26 \text{ m}^2} \quad \checkmark$$

[3 marks]**6.2**


$$\text{Paving cost} = 28.26 \times 280 = \mathbf{R7,912.80} \quad \checkmark$$

[3 marks]**6.3**

$$\text{Circumference} = 2\pi r = 2 \times 3.14 \times 3 = \mathbf{18.84 \text{ m}}$$

$$\text{Fencing cost} = 18.84 \times 95 = \mathbf{R1,789.80} \quad \checkmark$$

[4 marks]

 **TOTAL: 100 MARKS**

MYST PATHWORKS