



Province of the
EASTERN CAPE
EDUCATION



**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

NOVEMBER 2022

**MATHEMATICAL LITERACY P2
(DEAF)**

MARKS: 100

TIME: 2 hours

This question paper has 11 pages.

INSTRUCTIONS

1. This question paper has **FOUR questions**. Answer **ALL** the questions.
2. Number the answers correctly.
3. An approved calculator (non-programmable and non-graphical) may be used.
4. **Show ALL calculations clearly**.
5. Maps and diagrams are **NOT** drawn to scale, unless otherwise stated.
6. **Indicate** units of measurement, where **applicable**_(needed).
7. **Round off ALL final answers** appropriately accordingly to the given context, unless stated otherwise.
8. **Start EACH question** on a **NEW page**.
9. Write neatly.

QUESTION 1

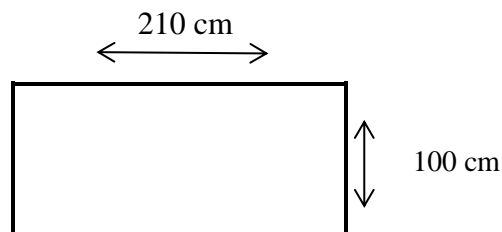
- 1.1 The table below shows the relationship between hours and the rate of charged per hour or part thereof. Tariffs include value added tax (VAT). Refer to the table and answer the questions.

TABLE 1: PARKING FEES FOR THIS AREA

HOURS	RATE CHARGED PER HOUR OR PART THEREOF:
0–2	R5,00
2–3	R7,00
3–4	R10,00
4–5	R12,00
5–6	R15,00
6–8	R20,00
More than 8 hours	R40,00

NOTE: Lost ticket penalty is R50,00 plus additional charges.

- 1.1.1 What is the **rate charged** if Mr Sokutu **parked** his **car** for **8 hours 15 minutes**? (2)
- 1.1.2 Write 8 hours and 15 minutes in **hours**. (2)
- 1.2 Mr Titi lost his ticket. When looking at the security cameras, they could see that he arrived at the mall at 11:30 am and that it was now 14:20 pm.
- 1.2.1 Determine (find out) how much **time lapsed**. (2)
- 1.2.2 Calculate how much **Mr Titi** was **charged**. (2)
- 1.3 Refer to the **rectangular diagram** below and answer the **questions**.



Scale 1 : 100

- 1.3.1 Define the term *perimeter*. (2)
- 1.3.2 Determine (find out) the **perimeter** of the **rectangular diagram** in **centimetres**. (2)
- 1.3.3 Give the **name** of the **scale found** on the **diagram**. (2)
- 1.3.4 Explain what scale 1 : 100 means. (2)

1.4 1.4.1 **Identify**_(choose) **from the list below a provincial road in South Africa.**

They are as follows:

N10

R44

M75

(2)

1.4.2 **Define** the term *provincial road* in the **above context.**

(2)

[20]

QUESTION 2

2.1

The *tylosaurus proriger* was an ancient (old) sea animal that is thought to have lived 85 million years ago. The top speed of the tylosaurus is about 64 km/h. This animal weighed 20 tons.

[Source: https://kids.national_geographic.com]

Refer to the **diagram** below. Use the **scale** to **calculate** the **length** of the **animal** below.



2.1.1 Write the **name** of the **scale used** above. (2)

2.1.2 Use the **scale** to **calculate** the **actual length** of the **animal** in **metres**. (5)

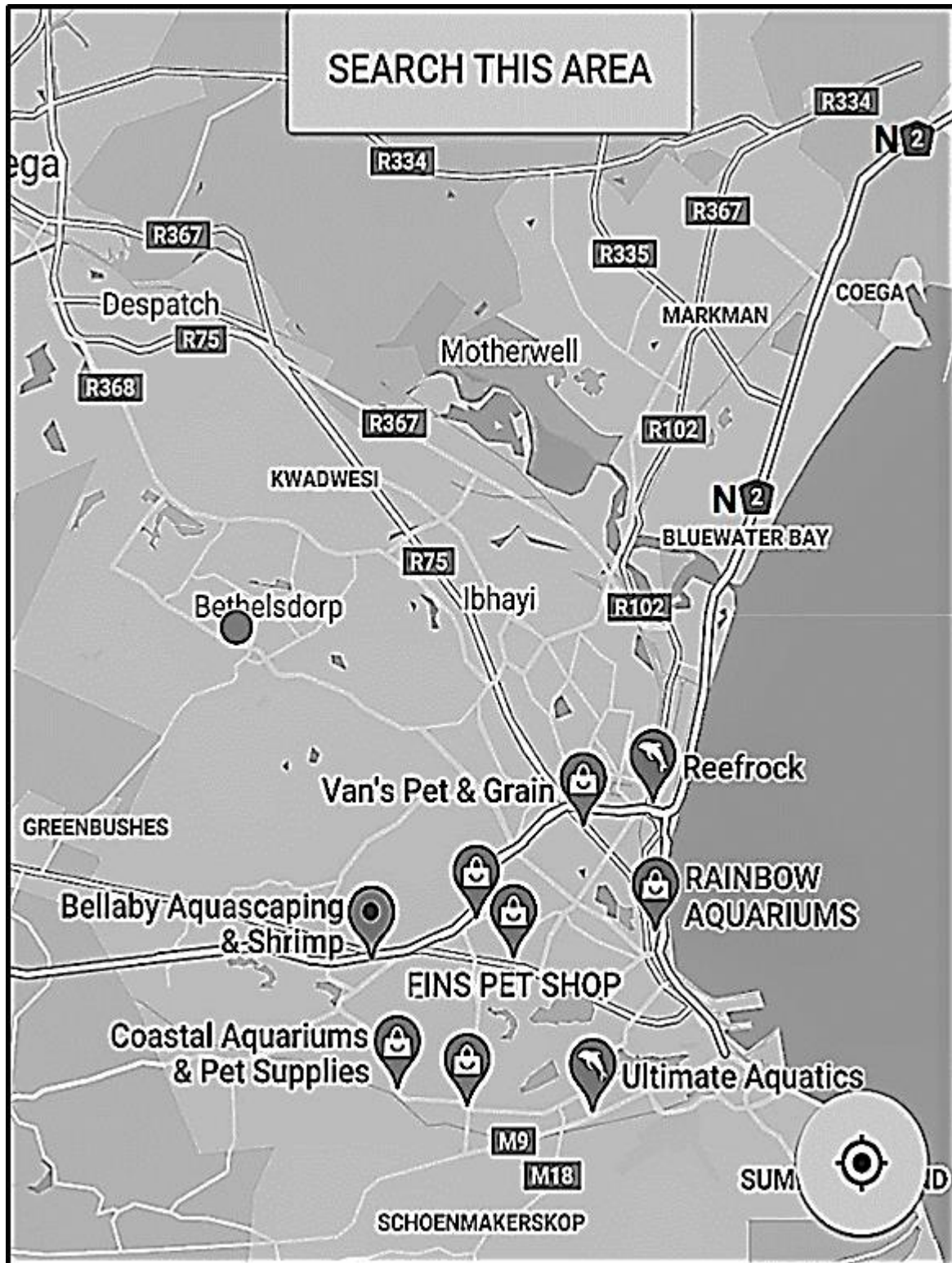
2.1.3 **Convert 20 tons** to **kilograms**. (2)

2.2

Due to the global fish crisis only 30 000 tons of tuna may be caught annually. The true quantity of tuna that is caught, is closer to 48 000 tons per year.

2.2.1 Calculate the **percentage** of **illegal fishing** in one year. (3)

2.3 Refer to the map below and answer the questions that follow.



- 2.3.1 Name the metropolitan_(city) roads found on the map. (2)
- 2.3.2 List the major national road that links Bluewater Bay to Coega. (2)
- 2.3.2 Identify_(name) the provincial road between Ibhayi and Despatch. (2)
- 2.3.4 How many provincial_(local) roads are indicated_(shown) on the map? (2)

- 2.3.5 Mr Thulani stated that the measured distance on the map from Motherwell to Bluewater Bay is 5 cm, and the actual distance is 13 km. He further said that the scale of the map is 1 : 260 000.

Verify_(prove), with the necessary **calculations**, if his statements are valid_(true). (6)

- 2.3.6 **Determine**_(find out) the **time** (in minutes and seconds) **taken** by the **Thulani family** to **travel** from **Motherwell** to **Bluewater Bay**, if they travelled **by car** at an average **speed** of **80 km/h** for a total **distance** of **13 km**.

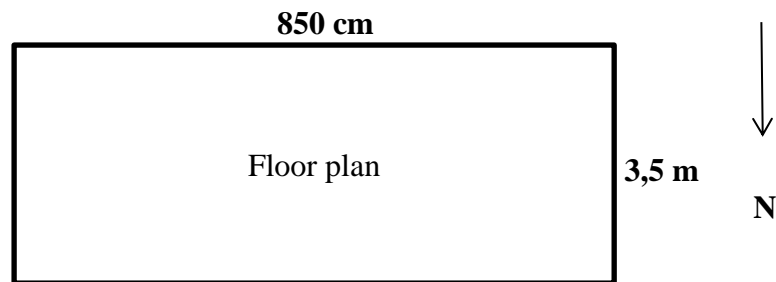
Use the formula:

$$\text{Time} = \frac{\text{Distance}}{\text{Average Speed}} \quad (4)$$

[30]

QUESTION 3

- 3.1 The diagram below shows the floor plan of the living room of the Sokutu family's house.



Study the information and answer the questions.

Living room dimensions	
Length	= 850 cm
Breadth	= 3,5 m
Height	= 10 cm

- 3.1.1 Calculate the **perimeter** of the **living room** in mm. Use the formula below:

$$\text{Perimeter of rectangle} = 2 \times (\text{length} + \text{breadth}) \quad (3)$$

- 3.1.2 Calculate the **area** of the **floor** in m^2 . Use the formula below:

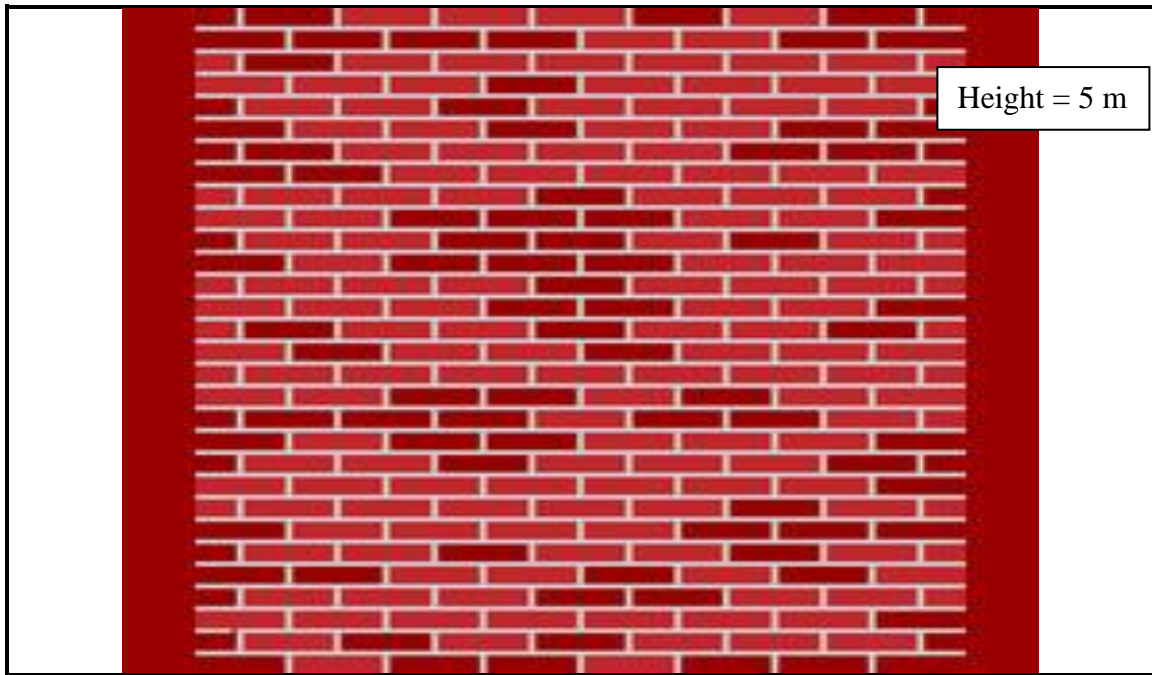
$$\text{Area of rectangle} = \text{Length} \times \text{Breadth} \quad (3)$$

- 3.1.3 If a **concrete floor** which is **10 cm thick**, is to be laid, **how many cubic metres of concrete will be needed?** You may use the formula:

$$\text{Volume} = \text{Length} \times \text{Breadth} \times \text{Height} \quad (2)$$

- 3.1.4 In **which directions** does the **width** of the **living room walls face?** (2)

- 3.2 This diagram below represents a picture of the southern wall of the Sokutu family's living room. They carefully selected red bricks for the wall. This diagram is not drawn to scale. The following information indicated (shown) on the diagram below is useful for calculation.



[Adapted from [vectorstock.com/red-brick wall/](https://www.vectorstock.com/red-brick-wall/)]

Southern wall dimensions:

Length = 850 cm

Height = 5 m

Dimensions of ONE brick: height = 73 mm length = 222 mm width = 106 mm

Area of ONE Brick = length \times height

NOTE: Mortar is a workable paste which hardens to bind building blocks such as bricks.

- 3.2.1 **Determine** (find out) the **number of bricks needed** for the **southern wall** shown in diagram above.

NOTE: The dimensions of **ONE** brick exclude the mortar which is **10 mm**.

You may use the **following formula:**

$$\text{No. of bricks} = \frac{\text{Area of the wall in m}^2}{\text{Area of ONE brick in m}^2} \quad (9)$$

- 3.2.2 The builder suggested that an additional 10% bricks should be ordered to cover for the wastage. **Calculate** the **total number of bricks needed for the boundary wall**. (2)

- 3.2.3 The **price of one brick** is **R4,75**, VAT included. **Calculate** the **total amount to be spend on bricks**. (Use your answer in QUESTION 3.2.2.) (2)

[23]

QUESTION 4

- 4.1 Jonah Mouwer buys a small fish tank from Bay Aquariums for the price of R472,00 (VAT inclusive). He wants to present the dimensions of his fish tank on a piece of paper. His father, an architect by profession, told him to use a scale of 1 : 30.

This table below shows the dimensions of a small fish tank. Study the table and answer the questions.

TABLE 2: MEASUREMENTS OF THE FISH TANK

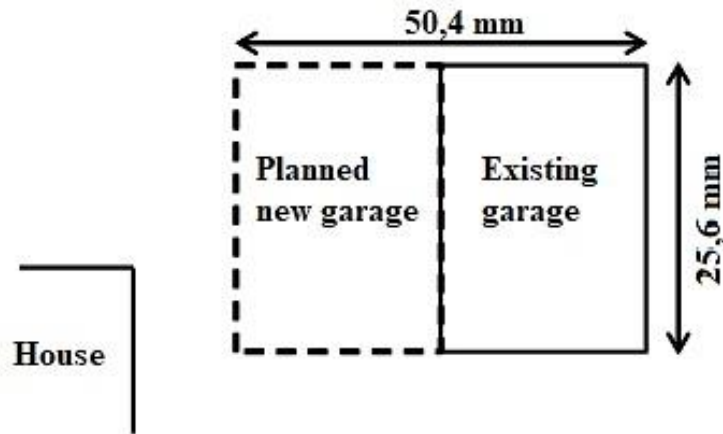
DIMENSIONS OF THE SMALL FISH TANK IN METRES	DIMENSIONS ON A PIECE OF PAPER IN CM
Height = 0,45 m	A
Length = 1,05 m	B
Width = 0,3 m	Width = 1 cm

NOTE: Volume = length \times width \times height

- 4.1.1 Refer to the table above. Use the **scale** to **calculate** the **missing** value **A** and **B**. (5)
- 4.1.2 **Determine**(find out) the **volume** of the **small fish tank** in cm^3 . (3)
- 4.1.3 **How many litres** of **water** will the **tank hold** when it is **90% full**? (3)
- You may use: $1 \text{ cm}^3 = 1 \text{ ml}$

4.2

The winner was selected randomly. Mr Sokutu won the grand prize of R150 000. He submitted 1 000 entries out of a total of 10 000 entries for the competition. He further decided to use R90 000 from the R150 000 to extend his single garage into a double garage. He had a **draughtsman**(designer) draw up the plan. The plan is drawn below.



Scale 1 : 150

NOTE: Refer to the diagram above and use the scale.

4.2.1 Calculate the **actual length** and **breadth** of the **existing** and **planned** new garage in **metres** using the **given** scale. (6)

Given: Measure length = 50,4 mm
Measure width = 25,6 mm

4.2.2 Calculate the **floor space** he will now have available in **his new double garage**. Give your answer to the nearest square metres. You may use the formula:

Area of Rectangle = Length × Breadth (3)

4.3 **Determine**(find out) the **probability** of **Mr Sokutu not winning** the **competition**, taking into account the number of entries he submitted. Give your **answer in percentage** format. (3)

4.3.1 What is the **probability** of **Mr Sokutu winning** the **competition**? Choose from the **table** below.

Impossible	Unlikely	Even Chance	Likely	Certain
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(2)

4.3.2 Write 10% to 90% in simplified ratio format. (2)
[27]

TOTAL: 100