Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2023

MATHEMATICAL LITERACY P2 (DEAF)

MARKS: **100**

TIME: **2 hours**

This question paper has 11 pages, with an addendum with 2 annexures.

INSTRUCTIONS AND INFORMATION

1. This question paper has **FOUR questions**.

2. Use the **ANNEXURES** in the A**DDENDUM** for:

   - ANNEXURE A for QUESTION 2.1
   - ANNEXURE B for QUESTION 4.1

3. **Answer ALL** the **questions**.

4. **Number** the **answers** the **same** as the numbers on the **question paper**.

5. **Diagrams** are **NOT** drawn to **scale**.
   Some questions will **tell** you to **use the scale**.

6. **Round off** ALL **final answers** to **fit** with the **content** of the question.

7. **Write units** where needed.

8. Start **EACH question** on a **NEW page**.

9. **Show ALL calculations**.

10. Write **neatly**.
    Your **work** should be **easy** to **read**.

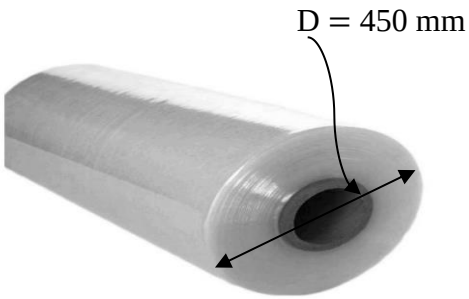
QUESTION 1

1.1 A young **entrepreneur stocks sheet rolls** for **securing products** on **pallets**.
These **rolls** are **suitable** for **wrapping goods**.
They are **sold** in **200 m** and **300 m rolls**.

Option A:
300 m sheet roll cost R390,00

Option B:
200 m sheet roll cost R290,00

Diameter of roll (D) = 450 mm



[Source: www.supplywise.co.za]

Use the **information**. **Answer** the **questions**.

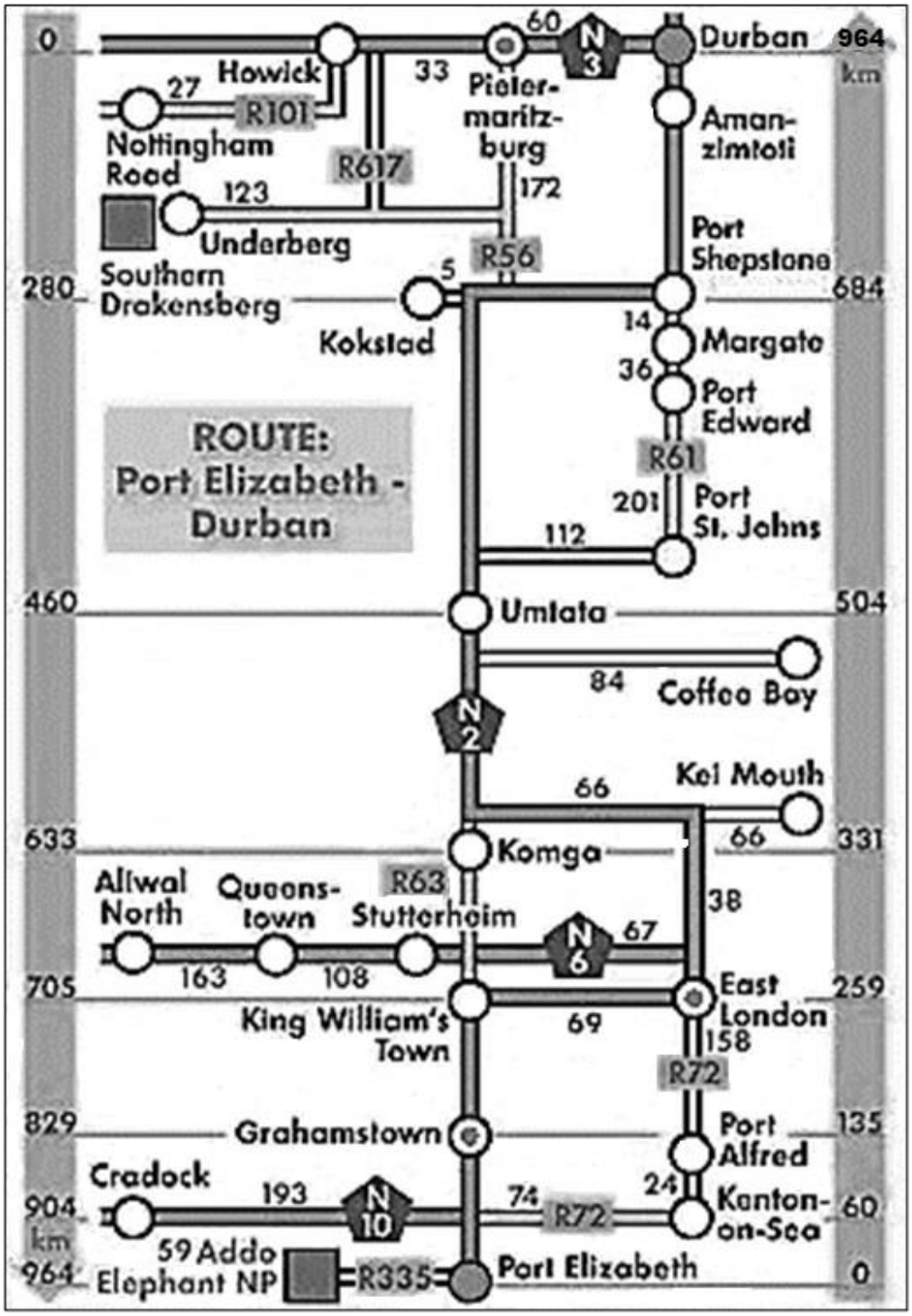
1.1.1 The **circumference** is **3,142 times more** than the **diameter**.
Calculate the **circumference** of the **roll** in **millimetre (mm)**. (2)

1.1.2 **Calculate** the **cost** of the **pallet sheet roll** per **meter** for Option **B**. (2)

1.1.3 **Write** the **cost** for Option **B** to Option **A** in **simplified ratio format**. (2)

1.1.4 **Determin**e the **radius** in **centimetre (cm)**. (3)

1.2 **David** and his **family travelled** from **Port-Elizabeth** (now Gqeberha) to **Durban** for the school holidays.
The **map** below **shows** the **journey** the **family undertook**.



Use the **information**. **Answer** the **questions**.

1.2.1 **Name TWO national roads indicated(shown)** on the **map**. (2)

1.2.2 **Identify** the **type** of **map** shown. (2)

1.2.3 **Determine** the **actual(real) distance** between **Port-Elizabeth** and **Durban** in **metres (m)**. (3)

1.2.4 **David** quickly **visited** his **cousin** in **Margate.**
Just **after Umtata(Mthatha)** he **entered(took)** the **R61** to **Margate**.

(a) **Write** the **name** of **ONE town** he **passed** between **Umtata(Mthatha)** and **Margate**. (2)

(b) **Calculate** the **total distance**, in **kilometres (km)** that he **travelled** from **Port St. Johns** to **Margate**. (3)

1.2.5 Name **TWO provincial roads** on the **map**. (2)
[23]

QUESTION 2

2.1 A **group** of **four university friends plan** to **watch** the **rugby game** between the **Springboks** and **All Blacks** in **Durban**.
They **plan** to **travel** by **car** and **share** the **cost** of the **trip**.

On **ANNEXURE A** is a **map** of **South Africa**.

Use ANNEXURE A of the **addendum**. **Answer** the **questions**.

2.1.1 **Identify** the **type** of **scale** on the **map**. (2)

2.1.2 **What** is the **general direction** from **Umtata(Mthatha)** to **Cape Town**? (2)

2.1.3 **Durban** and **Upington** are **9,6 cm apart** on the **map**.
Mr Antonie **claims** that the **distance** between **Durban** and **Upington** is **972 km**.

Say if **Mr Antonie** is **correct**. **Use** the **bar scale method**. (4)

2.2 **Amos** and his **friends** took exactly **17,25 hours** to **drive 1 635 km** from **Cape Town** to **Durban** for the rugby game between the Springboks and the All Blacks.

2.2.1 **Determine** Amos's **average speed** for the trip in **km/h**.

Use the formula: **Speed = Distance ÷ Time** (3)

2.2.2 The **petrol consumption(use)** of the **car** is **1 litre per 12,5 km**.

(a) **Amos claimed** that if the **petrol consumption(use)** was 0,**80 litre per 10 km**, the **car** would **use less petrol**.

Say if **Amos** is **correct**. **Show** ALL **calculations.** (5)

(b) The **petrol price** is **R24,75 per litre**.
Calculate the **cost** of **petrol** to **drive** from **Cape Town** to **Durban**. (2)

[18]

QUESTION 3

3.1 Uyathanda Home Industry **specialises** in **baking** and **selling cakes** of **all types**.
The **recipe** of a **cake** is **shown** below.
Study the **recipe.**
Answer the **questions**.

INGREDIENTS	SOUR CREAM CHOCOLATE CAKE
• $\frac{3}{4}$ cups (250 g) flour • $1\frac{3}{4}$ cups (360 g) sugar • $\frac{3}{4}$ cup (90 g) unsweetened cocoa powder • 2 teaspoons baking powder • 1 teaspoon kosher salt • 2 large eggs • 1 cup sour cream • $\frac{3}{4}$ cup canola oil • 2 teaspoons vanilla extract • 1 cup strong piping$_{(very)}$ hot coffee • 1 mixture ($1\frac{1}{2}$ cups) chocolate or cream cheese frosting	• Preparation time: 20 minutes • Baking time: 55 minutes • Total time: 75 minutes

Other information:
- Preheat the oven to 320 °F

NOTE:
- An **order** was received for **90 people** who will be **attending** an **event**.
- **Each person** must get **one slice** of **cake**.
- **12 slices** can be **cut** from **one cake**.
- **One cake weighs 900 g**.
- The **amount** of **energy** in **100 g** of **cake** is **400 calories**.

3.1.1 **Write** down the **mass** of one **cake** in **kilograms**. (2)

3.1.2 **Determine** the **mass** of **one slice** of **cake** in **grams**. (2)

3.1.3 **Calculate** the **number** of **calories** in **one slice** of **cake**. (3)

3.1.4 **Convert$_{(Change)}$ total time** in **minutes** to **hours**. (2)

3.1.5 **Determine** the **number** of **cakes** that **should** be **baked** for the **number** of **guests** at the event. (4)

3.2 3.2.1 How **many cups** of **flour** is **required(needed)** if **eight (8) cakes** must be **baked**? (2)

3.2.2 The **cost** of **240 g** of **unsweetened cocoa powder** is **R62,75**.
Determine how **much money** will be **needed** for **unsweetened cocoa powder** for **eight (8) cakes**. (4)

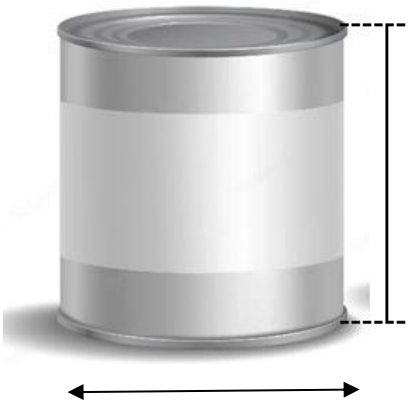
3.2.3 **Calculate** the **temperature** of **320 °F** in **degrees Celsius**.

Use the formula: $\mathbf{°C = (°F - 32) \div 1,8}$ (3)

3.2.4 If a **sour cream chocolate cake** is **placed** in the **oven** at **09h03**, at what **time** will the **cake be ready**? (2)

3.3 Mr Sihle **owns** a **company** which **focus primarily(mainly)** on **producing cylindrical metal cans** for the **unsweetened cocoa powder**.
The **volume** of the **can** is **546,10 cm^3**.
The **height** of the **can's label** is **80%** of the **height** of the **can**.

Use the **diagram**. **Answer** the **questions**.



NOTE:
You may use the formula below.
Volume = 3,142 × r^2 × height

3.3.1 **Determine** the **height** of the **can** in **centimetre (cm)**. (4)

3.3.2 Mr Sihle **stated** that the **height** of the **can** is **1,5 cm more** than the **height** of the **label**.
Say if Mr Sihle is **correct**. **Show** ALL **calculations.** (4)
[32]

QUESTION 4

4.1 Mrs Aretha Smith has a **floor plan** for the **new house** she **wants** to **build**.
Use ANNEXURE B. It **shows** an **image** of the **floor plan** of this **house**.

Use ANNEXURE B. **Answer** the **questions**.

4.1.1 **Explain** the term ***'floor plan'***. (2)

4.1.2 How **many windows** are there on the **east wall** of the **house**? (2)

4.1.3 **Use** the **number scale given**.
Determine the **actual total length** of all the **outside walls** of the **house** on the **Northern** and **Eastern sides**.
Give your **final answer** in **metres**. (7)

4.1.4 The **area** of the **porch** is **19,38 m²**, and the **length** is **10,2 m**.
Mrs Smith says that the **width** is **six times less** than the **length**.
Say if **Mrs Smith** is **correct**. **Show** ALL **calculations.** (4)

Use the formula: **Area = length × breadth**

4.2 Mr Smith **surprises** his **wife** and **gives** her a **rare**(not easy to find) **lucky coin** on **her birthday**.
The **coin** has a **square cut out** of the **middle** as **shown**.

NOTE:
Length of one side of the square = 0,9 cm
Diameter of circle = 3,3 cm
Volume of the coin = 1,47 cm^3

FORMULAE:
Area of circle $= \pi \times r^2$; where $\pi = 3{,}142$
Area of square = side × side

Density $= \frac{Mass}{Volume}$

[Source: www.walmart.com]

Use the **information**. **Answer** the **questions**.

4.2.1 **Calculate** the **area** of the **coin** in **cm^2**.
Round your **answer off** to **ONE decimal place**. (5)

4.2.2 The **density** of **gold** is **19,30 g / cm^3**.
Calculate the **mass** of the **coin** in **grams**. (2)
Round your **answer off** to **ONE decimal place**.

4.3 A **box contains(holds) 12 gold coins**, **2 silver coins** and **2 bronze coins**.

4.3.1 **Determine** the **probability** of **selecting** a **gold coin** in **decimal format**. (3)

4.3.2 **Use** your **answer** in QUESTION 4.3.1.
Explain the **probability** of the **event** in **words**. (2)
[27]

TOTAL: 100

ANNEXURE A

QUESTION 2.1

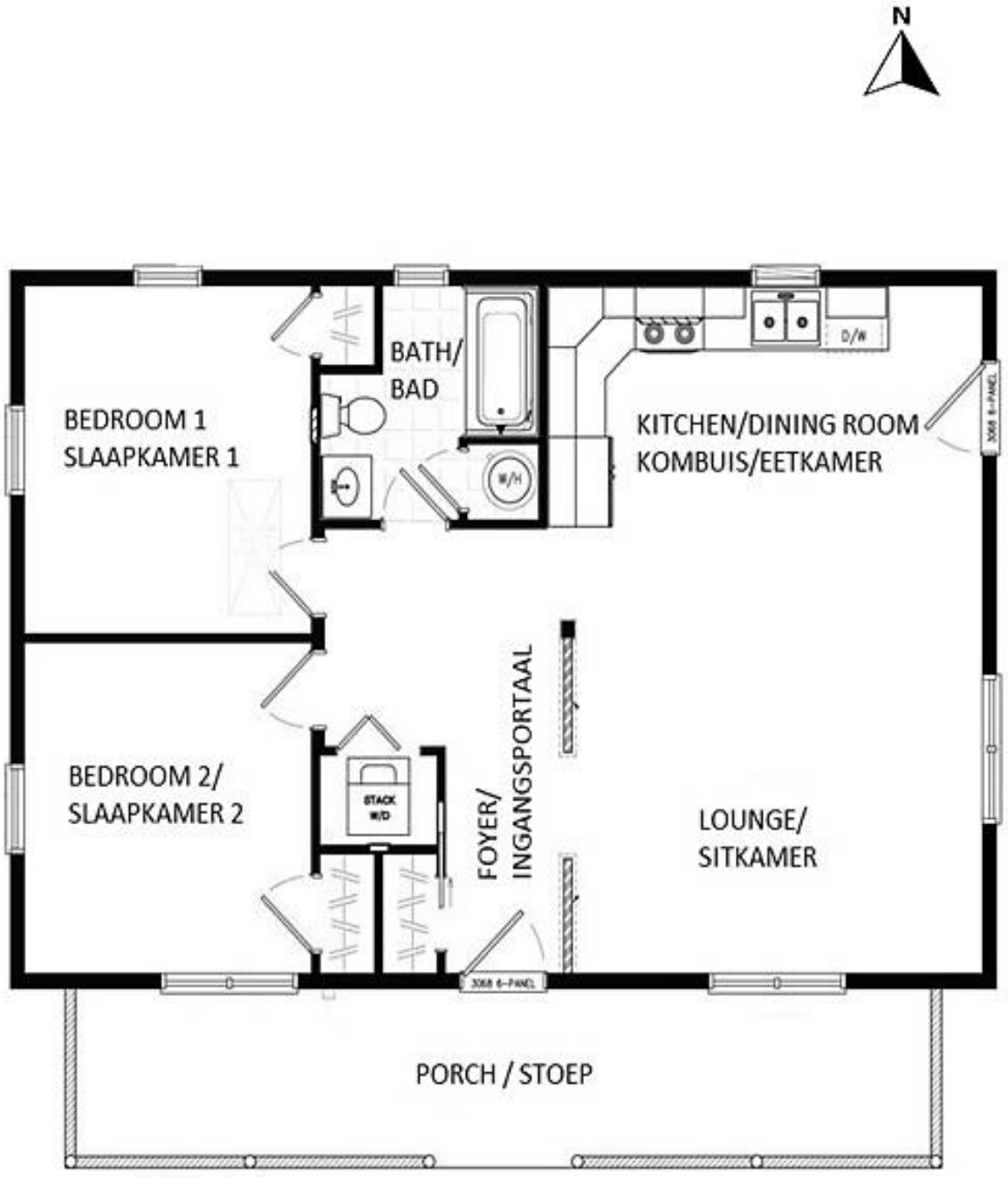
Below is a **map** of **South Africa.**

[Source: http://www.lonelyplanet.com/maps/Africa/south-africa/map of south-africa.jpg]

ANNEXURE B

QUESTION 4.1

Floor plan of **Mrs Smith's house**:



Scale 1 : 100