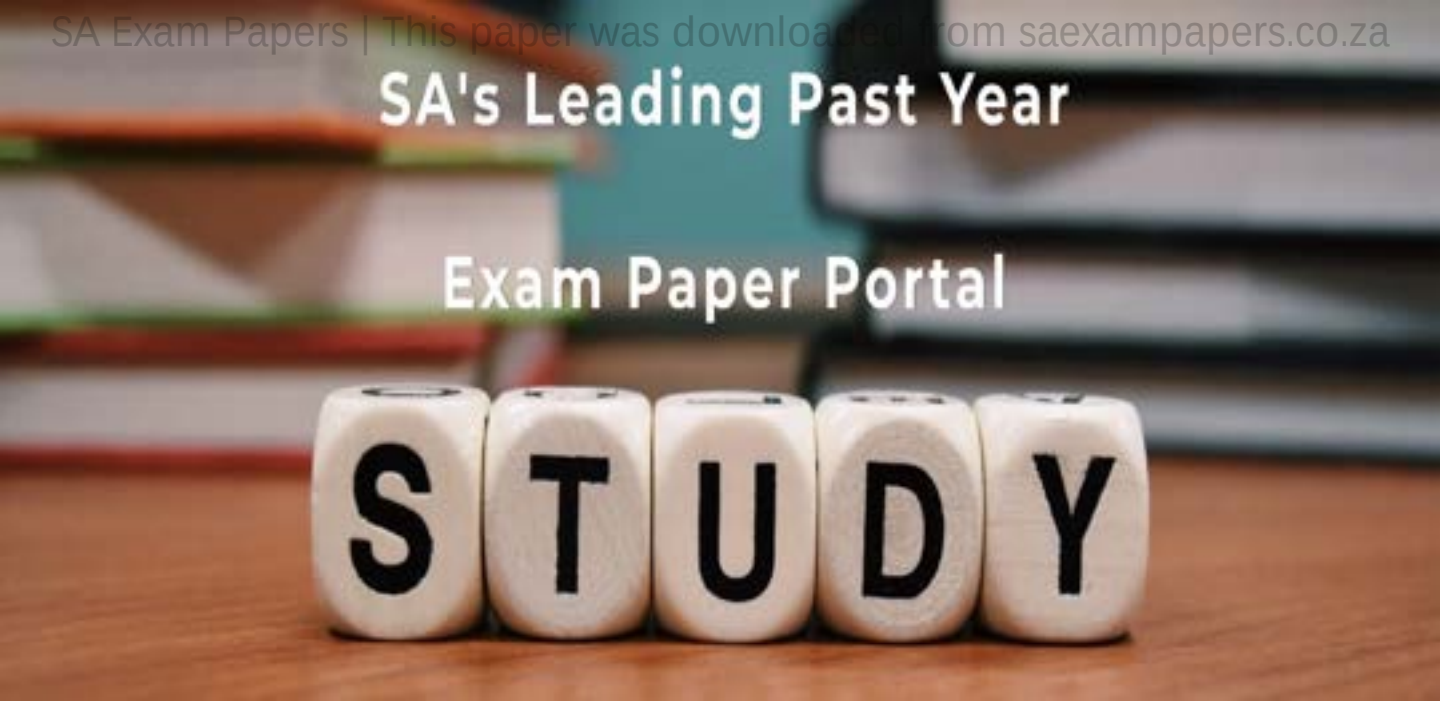


GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

PREPARATORY EXAMINATION

2023

10602

MATHEMATICAL LITERACY

(PAPER 2)

TIME: 3 hours

MARKS: 150

9 pages + an addendum of 6 pages

MATHEMATICAL LITERACY: Paper 2

10602E

X05

This question paper consists of 9 pages.
A 6-page addendum is included as an insert in this question paper.

P.T.O.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FIVE questions. Answer ALL the questions.

2. Use the ANNEXURES in the ADDENDUM to answer the following questions:

   ANNEXURE A for QUESTION 1.3
   ANNEXURE B for QUESTION 2.1
   ANNEXURE C for QUESTION 4.1
   ANNEXURE D for QUESTION 5.1
   ANNEXURE E for QUESTION 5.2

3. Number your answers correctly according to the numbering system used in this question paper.

4. Start EACH question on a NEW page.

5. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.

6. Show ALL calculations clearly.

7. Round-off ALL final answers appropriately according to the given context, unless stated otherwise.

8. Indicate units of measurement, where applicable.

9. Maps and diagrams are NOT necessarily drawn to scale, unless stated otherwise.

10. Write neatly and legibly.

QUESTION 1

1.1 The images below represent measuring instruments used to measure mass and volume. Study the images below and answer the questions that follow.

A	B
	
C	**D**
	

Match the descriptions below with the images above. Write down only the correct letter (A – D).

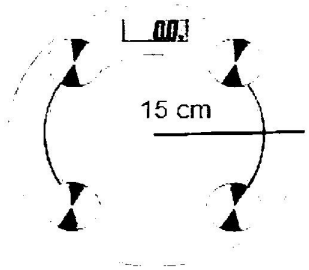
1.1.1 An instrument used to measure the mass of meat in a butchery. (2)

1.1.2 An instrument used to measure the mass of different food types in the kitchen. (2)

1.1.3 An instrument used to measure liquids. (2)

1.1.4 An instrument used to measure the mass/weight of a person. (2)

1.2 Bathroom scales may be used to monitor one's BMI. Lesley bought a bathroom scale with a radius of 15 cm.



1.2.1 Define the term *radius*. (2)

1.2.2 Determine the diameter of the bathroom scale. (2)

1.2.3 Convert 15 cm to metres. (2)

1.2.4 Lesley measured his height and the reading is 66,929 inches.

Determine his height in metres.

Use: **1 m = 39,37 inches** (2)

1.2.5 Choose the letter of the answer that will complete the following statement correctly.

The unit used to measure BMI is …

A kg^2/m
B kg/m^2
C $(kg/m)^2$ (2)

1.3 Lesley downloaded a seating plan of an airplane to check the seat that he reserved for a trip. Use the information in ANNEXURE A to answer the following questions.

1.3.1 Lesley's ticket indicates that he was allocated the 6^{th} seat in the east. Identify the seat. (2)

1.3.2 Use cardinal points to determine where the toilet is situated from Lesley's seat. (2)

1.3.3 How many seats are there on the plane? (2)

1.3.4 Determine the number of single seats from this plan. (2)

1.3.5 What is the general direction of seat 12A from seat 6F? (2)

1.3.6 Express as a ratio, the number of double seats to the total number of seats. (2)

[30]

QUESTION 2

Thandi lives in George, and she travels to Port Elizabeth. She uses the map in ANNEXURE B to plan her local trips. Study the map and answer the questions that follow.

2.1 What type of map does Thandi use in ANNEXURE B? (2)

2.2 Which is the last city that she will pass before she reaches Port Elizabeth when travelling on the N2? (2)

2.3 Name TWO regional roads that she will pass between George and Port Elizabeth, when travelling on the N2. (2)

2.4 What is the distance between George and Port Elizabeth? (2)

2.5 Thandi left George at 05:30 and reached Port Elizabeth at 08:25. Determine the time, in hours, taken to reach Port Elizabeth. (3)

2.6 Hence, determine the average speed at which she travelled in km/h. Round-off your answer to the nearest whole number.

You may use the formula: **Distance = Average speed × Time** (4)

2.7 Thandi claims that the shortest route from Worcester to Mossel Bay is by the national roads instead of the regional roads. Verify, with calculations, whether or not her claim is valid. (10)

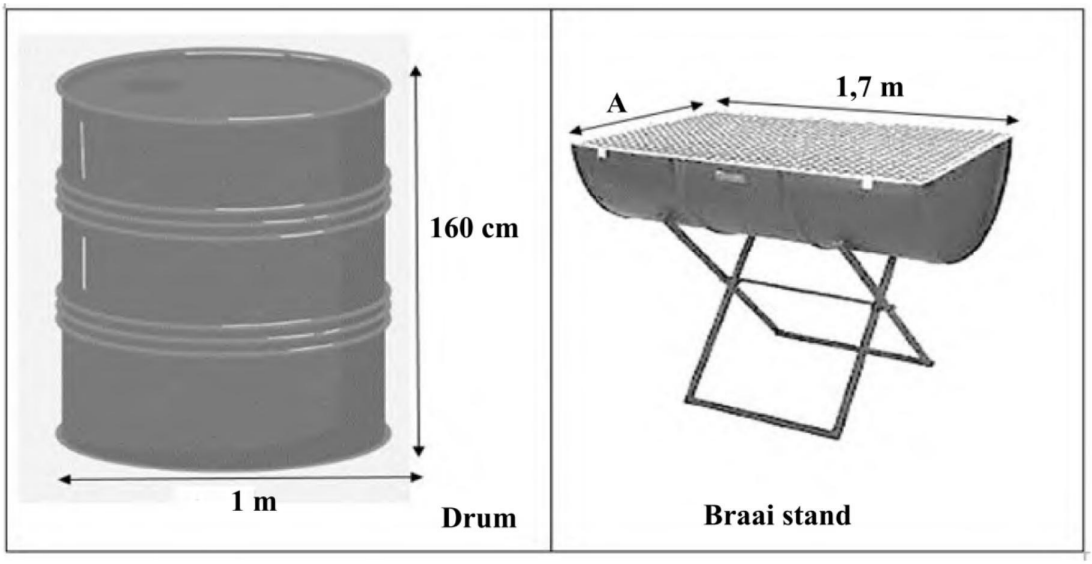
2.8 Give ONE advantage of using this type of map. (2)
[27]

QUESTION 3

Thato is preparing for a picnic. He cut a drum into two pieces to design a braai stand as shown below.

- The diameter of the drum is 1 m, and the height of the drum is 160 cm.
- The top of the braai stand will be a rectangular grille with the dimensions **A** and 1,7 m.
- The width of the braai stand top is similar to the diameter.
- The braai stand will be half-filled with concrete mix.

Study the diagrams below together with the information above, and answer the questions that follow.



3.1 What is the value of **A**? (2)

3.2 Calculate the area of the top of the braai stand and round-off your answer to the nearest whole number.

You may use the formula: **Area = Length × Breadth** (3)

3.3 Use calculations to show that the length of the top extends by 0,05 m on each side. (7)

3.4 Hence, determine the capacity of the drum.

You may use the formula: **Capacity = $\pi r^2 h$; where $\pi = 3{,}142$** (5)

3.5 Determine the volume of the braai stand that will be half-filled with the concrete mix. (6)