



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

CAPRICORN SOUTH DISTRICT

MATHEMATICAL LITERACY

GRADE 11

CONTROLLED TEST NO 1

2025

DATE: 18 March 2025

DURATION: 2 Hours

MARKS: 100

This question paper consists of 11 pages including the cover page.

INSTRUCTIONS AND INFORMATION:

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Number the questions correctly according to the numbering system used in this question paper.
3. Start EACH question on a NEW page.
4. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
5. Show ALL calculations clearly.
6. Round ALL the final answers appropriately according to the context, unless stated otherwise.
7. Indicate units of measurement, where applicable.
8. Maps and diagrams are NOT necessary drawn to scale, unless stated otherwise.
9. Write neatly and legibly.

QUESTION 1

1.1

TABLE 1: EXPLANATIONS AND DEFINITIONS OF CONCEPTS

A	A straight line that passes through the centre of a circle whose endpoints lie on the circle.
B	The total area of all faces of a 3d- shaped object.
C	The inside of a building from the top view.
D	The amount of space available to hold something.
E	Total distance around the boundary or edge that outlines a specific shape.
F	The rate of covering a certain distance over time.
G	Distance from the centre of a circle to the outer part of the circle.
H	A closed curve that is everywhere at the same distance from the fixed point
I	The value obtained by dividing the circumference of the circle by its diameter.

Use the information above to answer the questions that follow.

1.1.1 Speed (2)

1.1.2 Perimeter (2)

1.1.3 Diameter (2)

1.1.4 Surface Area (2)

1.1.5 Radius (2)

1.2

The picture below shows a pack of 4 tins of baked beans.



[Source: <https://www.koo.co.za>]

Use the information above to answer the questions that follow.

- 1.2.1 Convert the mass of a tin to kilograms. (2)
- 1.2.2 Determine the number of packs of KOO beans to make a dozen. (2)
- 1.2.3 Calculate the total weight in grams, of one dozen tins of KOO beans. (2)

1.3

1.3.1	The analogue clock that shows the same time as the digital clock below, is 	A  B 
(2)		
1.3.2	Given the following ODOMETER 	C. 55 km/h D. 60 km/h E. 680 003 km/h
(2)		

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QUESTION 2

2.1

Ms. Nella in Mankweng sells peanut butter cookies to learners outside the school yard in the morning as well as during breaks.

Table 2 below shows the ingredients and conversions for baking peanut butter cookies. The recipe will make 3 dozen cookies.

TABLE 2: INGREDIENTS AND CONVERSION TABLE

INGREDIENTS	CONVERSION TABLE
$\frac{1}{2}$ cup butter $\frac{1}{2}$ cup (100g) white granulated sugar $\frac{1}{2}$ cup (110g) packed brown sugar $\frac{1}{2}$ cup (130g) peanut butter 1,25 cups (160g) all-purpose flour $\frac{3}{4}$ teaspoon of baking soda $\frac{1}{2}$ teaspoon of baking powder $\frac{1}{4}$ teaspoon salt	1 ounce = 28,35 grams 1 tsp = 5 ml

Use the information above to answer the questions that follow.

2.1.1 Determine the number of cookies the ingredients will make. (2)

2.1.2 Convert 130g peanut butter to ounce. (2)

2.1.3 Convert $\frac{3}{4}$ teaspoon baking soda to millilitres. (2)

2.1.4 Ms. Nella doubles the number of ingredients in her baking. Determine the number of cookies she will make on that day. (2)

2.1.5 Express, in simplest form, the ratio of brown sugar to all-purpose flour. (2)

2.1.6 The cookies were placed in the oven at 23:52 and taken out at 00:35. Determine the time at which the cookies were cooked in the oven. (2)

2.1.7 Convert the answer in question 2.1.6 above to hours (2)

2.1.8 Express the oven temperature of 170°C to °F.

You may use the formula: $^{\circ}\text{C} = (^{\circ}\text{F} - 32^{\circ}) \times \frac{5}{9}$ (4)

2.2

Ms. Nella uses the money to support her family and to run her business. She is buying her ingredients from the local shopping mall. It costs her R2,00 to prepare and make one scone and R18 for transport. She sells the scones at R3,00 each.

TABLE 3: COST AND SELLING PRICES OF MAKING SCONES

Number of scones	0	5	15	30	60	90	120	200	250
Cost Price (in Rands)	18	28	48	78	A	198	258	418	518
Selling Price (in Rands)	0	15	45	90	180	B	360	600	750

Use TABLE 3 and the information above to answer the questions that follow.

- 2.2.1 Determine the values of A and B. (4)
- 2.2.2 Determine the point where the selling price is the same as cost price. (3)
- 2.2.3 Draw the two graphs on the same set of axes provided. (6)
- 2.2.4 If Ms. Nella increases the selling price to R3,50, what will happen to the point in Question 2.2.2 (Show all your calculations). (4)
- 2.2.5 The selling price is given by the formula Selling Price = R3,00 × K, where K is number of scones. Determine the equation for the cost price. (3)

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QUESTION 3

3.1

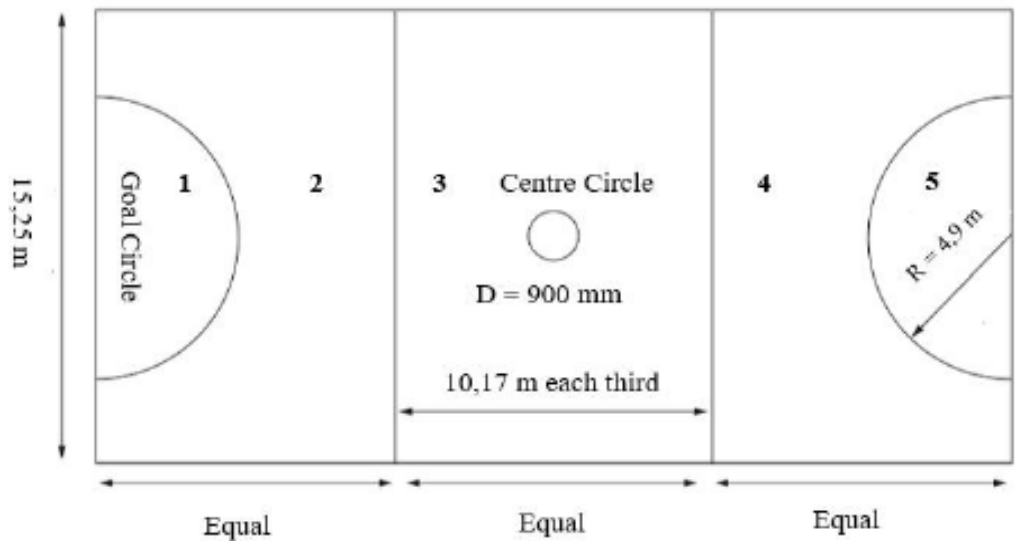
In Netball, every player has a specific playing area during the game. In Table 4 the playing areas per playing position are shown.

TABLE 5: PLAYING POSITIONS AND PLAYING AREAS

Player	Position	Playing Areas				
1	Goal Shooter	1	2			
2	Goal Attack	1	2	3		
3	Wing Attack		2	3		
4	Centre		2	3	4	
5	Wing Defence			3	4	
6	Goal Defence			3	4	5
7	Goalkeeper				4	5

Playing area: An area in which a player is allowed to play.

NETBALL COURT WITH SPECIFICATIONS



WHERE D = Diameter
R = Radius
1 to 5 are playing areas

Use the information above to answer the questions that follow.

3.1.1 Write down which players may not play in playing areas 4 and 5. (3)

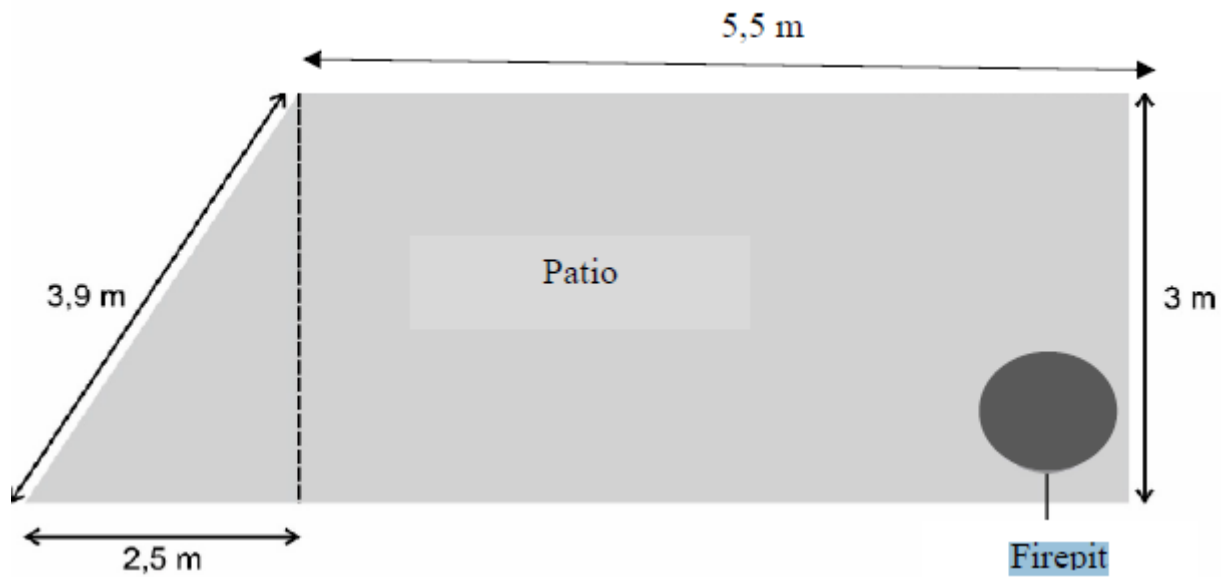
3.1.2 Show, through calculations, that the difference between the radius of the goal circle and the radius of the centre circle is 4,45 m. (4)

3.1.3 Calculate (in m^2) the area of the netball court. (3)

You may use the following formula: **Area of a rectangle = length $\times$ width**

3.2

Mrs. Tladi wants to build a backyard patio using bricks. The patio will be fenced and paved. Mrs. Tladi will also add a round fire pit, built with bricks in one of the corners of the patio. The diameter of the fire pit is $91,44\text{ cm}$.



Use the information above to answer the questions that follow.

3.2.1 Mrs. Tladi wants to fence the patio. Calculate the total length of the fence required for the patio. (3)

3.2.2 She wants to pave the patio. Mr. Fraser, a brick layer, says that the surface area of the patio is approximately 20 m^2 excluding the firepit. (8)

[21]

QUESTION 4

4.1

Due to the increase in the size of his family, Mr. Johnson decided to purchase a bigger geyser. The family purchased a 200-litre geyser, twice the size of their old geyser.

A table showing the dimensions of standard horizontal round geysers is shown below.

TABLE 4: STANDARD HORIZONTAL ROUND GEYSERS

CAPACITY	DIAMETER $\times$ LENGTH
50-litre	450 mm $\times$ 610 mm
100-litre	550 mm $\times$ 840 mm
150-litre	550 mm $\times$ 1 150 mm
200-litre	450 mm $\times$ 1 470 mm
250-litre	450 mm $\times$ 1 875 mm

Study the information given in Table 4 above and use it to answer the questions that follow.

4.1 Write down the dimensions of the old geyser. (2)

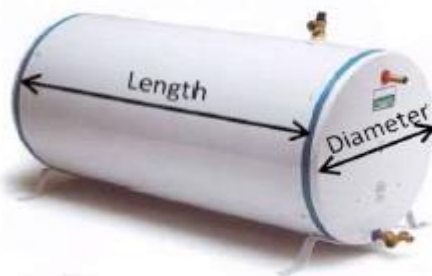
4.2 Calculate the circumference of the base of the new geyser.

You may use the following formula:

Circumference of a circle = $\pi \times \text{diameter}$, where $\pi = 3,142$ (2)

4.3 Mr. Johnson claims that because the new geyser has twice the volume of the old geyser, the surface area of the new geyser will also be twice that of the old geyser.

Verify whether his claim is correct.



You may use the following formula:

Surface area of a closed geyser = $(2 \times \pi \times \text{radius}^2) + (2 \times \pi \times \text{radius} \times \text{length})$
where $\pi = 3,142$ (8)

- 4.4 Mr. Johnson wanted to be sure that the capacity of the geyser is correct, so he made the following calculations:

$$\begin{aligned}\text{Volume} &= \pi \times \text{radius}^2 \times \text{length} \\ &= 3,142 \times (550 \text{ mm})^2 \times 840 \text{ mm} \\ &= 798\,278\,69,33 \text{ mm}^3 \\ &= 79\,827\,867,33 \text{ cm}^3 \\ &\approx 79\,828 \text{ l}\end{aligned}$$

Note $1000 \text{ cm}^3 = 1\text{litre}$

Identify TWO possible errors that were made in the calculation above. (4)

- 4.5 Calculate the capacity of the new 200 l geyser. Round-off your answer to the nearest litre.

You may use the following formula:

Volume = $\pi \times (\text{radius})^2 \times \text{length}$, where $\pi = 3,142$

NOTE: $1\,000 \text{ cm}^3 = 1 \text{ litre}$ (5)

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TOTAL MARKS: 100

ANSWER SHEET 1

GRADE 11

Question 2.2.3

NAME:

