GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

JUNE EXAMINATION
GRADE 12

2025

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MATHEMATICAL LITERACY

(PAPER 2)

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C2602E

TIME: 2 hours

MARKS: 100

13 pages

X05

INSTRUCTIONS AND INFORMATION

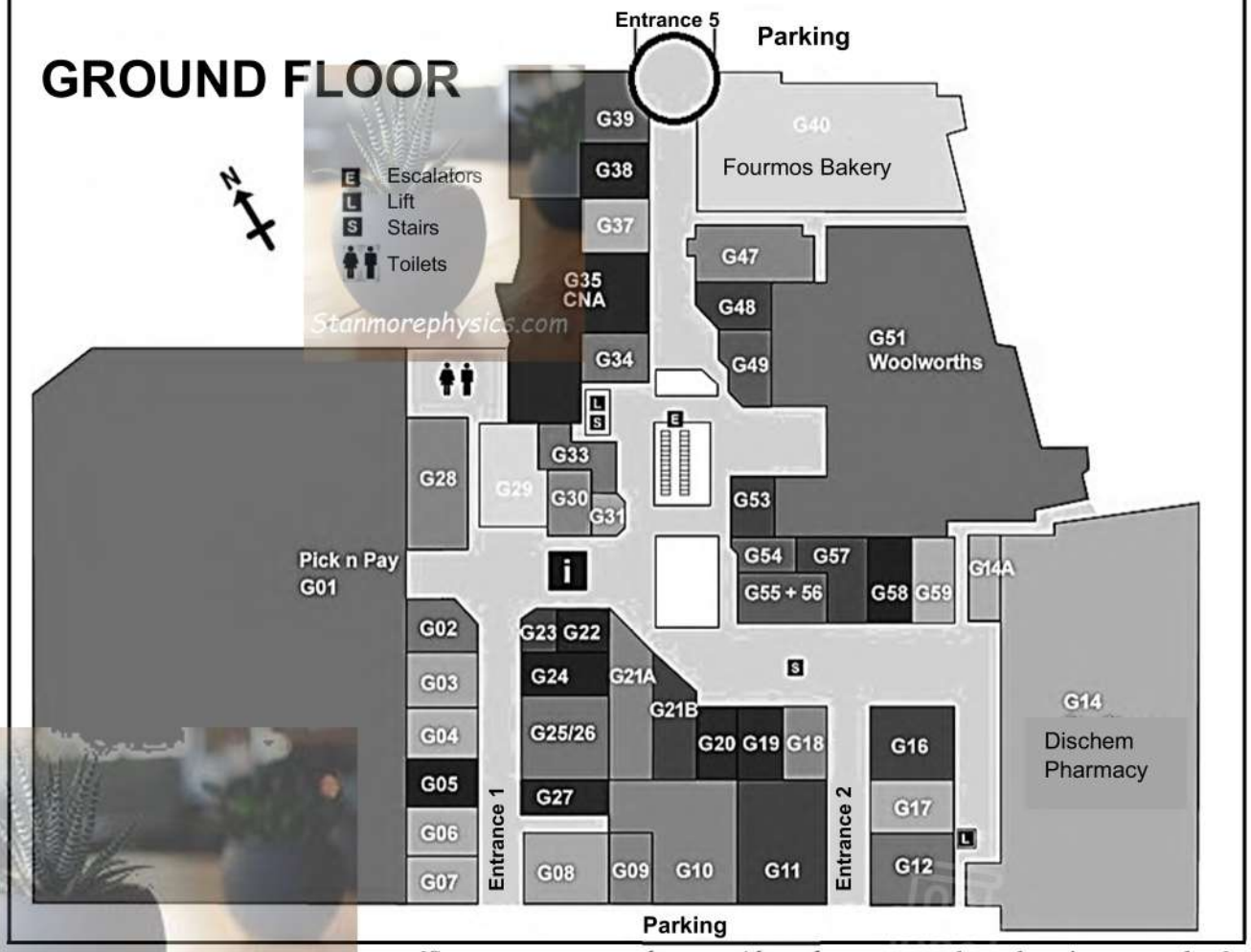
1. This question paper consists of FIVE questions. Answer ALL the questions.
2. Use the MAP on page 6 to answer QUESTION 2.
3. Number your answers correctly according to the numbering system used in this question paper.
4. Start EACH question on a NEW page.
5. You may use an approved calculator (non-programmable 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.

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QUESTION 1

1.1 Goitsemang visited her local shopping centre. Below is a layout plan of the shopping centre.

GROUND FLOOR LAYOUT PLAN OF BENMORE GARDENS SHOPPING CENTRE, SANDTON



[Source: ***www.megaplex.co.za/shops-benmore-gardens-shopping-centre.htm*****]**

Study the information above and use it to answer the questions that follow.

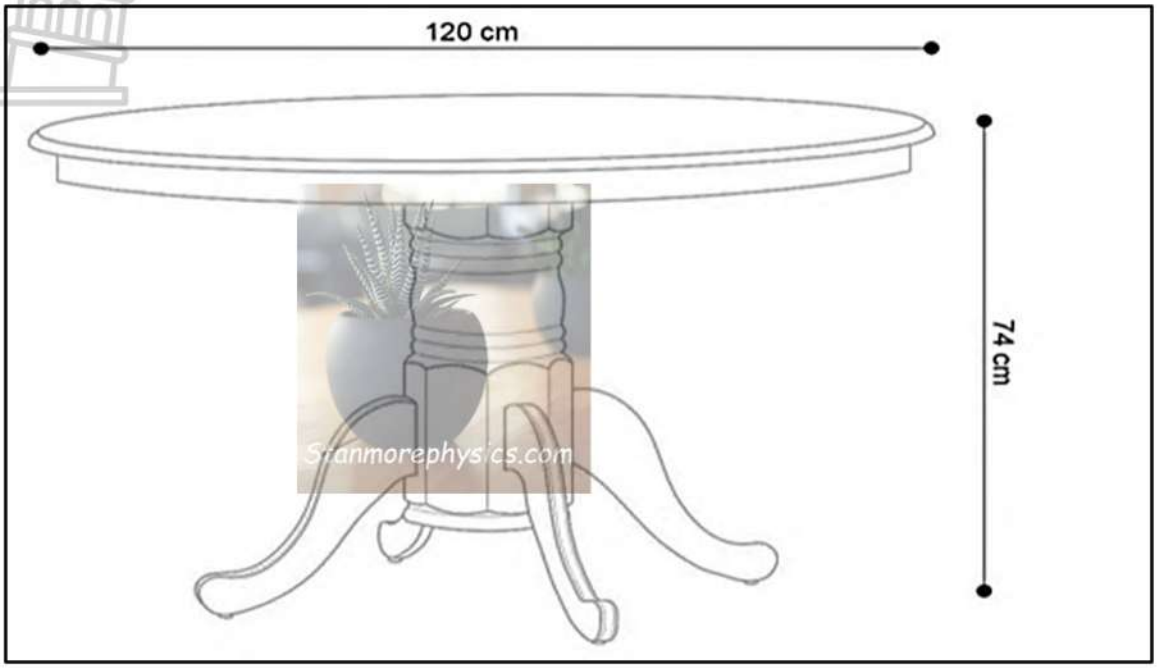
1.1.1 Explain the meaning of G01 below the Pick 'n Pay label. (2)

1.1.2 Give the general direction of Entrance 5 from G10. (2)

1.1.3 How many lifts are there on the ground floor? (2)

1.1.4 Write down the name of the store labelled G35. (2)

1.2 While at the shopping centre, Goitsemang purchased a small dining table. The dining table has a diameter of 120 cm and a height of 74 cm. Below is a picture of the dining table.



[Source: ***https://decofurnsa.co.za/products/oliver-120cm-round-dining-table***]

Use the information given above to answer the following questions.

1.2.1 Write down only the letter from the options given below, that would be used to calculate the area of the circular top part of the table.

A $2 \times \pi \times r^2 + 2 \times \pi \times \text{r} \times \text{h}$
B $\pi \times r^2 \times \text{h}$
C $\pi \times r^2$
D $2 \times \pi \times \text{r}$ (2)

1.2.2 Write down, in simplified form, the ratio of the diameter of the table top to that of the height of the table. (2)

1.2.3 Determine the radius of the table top in centimetres (cm). (2)

1.2.4 Write down the height of the table in millimetres (mm). (2)

1.2.5 TABLE 1 below contains a list of explanations and definitions of concepts used in Mathematical Literacy.

TABLE 1: EXPLANATIONS AND DEFINITIONS OF CONCEPTS

A	The amount of 2-Dimensional space occupied by a 2-D shape
B	The distance around a circle
C	A straight line passing through the centre of a circle and touching the circle at both ends
D	The distance from the centre of a circle to any point on the circumference of the circle

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Use TABLE 1 above and match an explanation or a definition with EACH of the concepts below. Write only the letter (A – D) next to (a) and (b) e.g. (c) E.

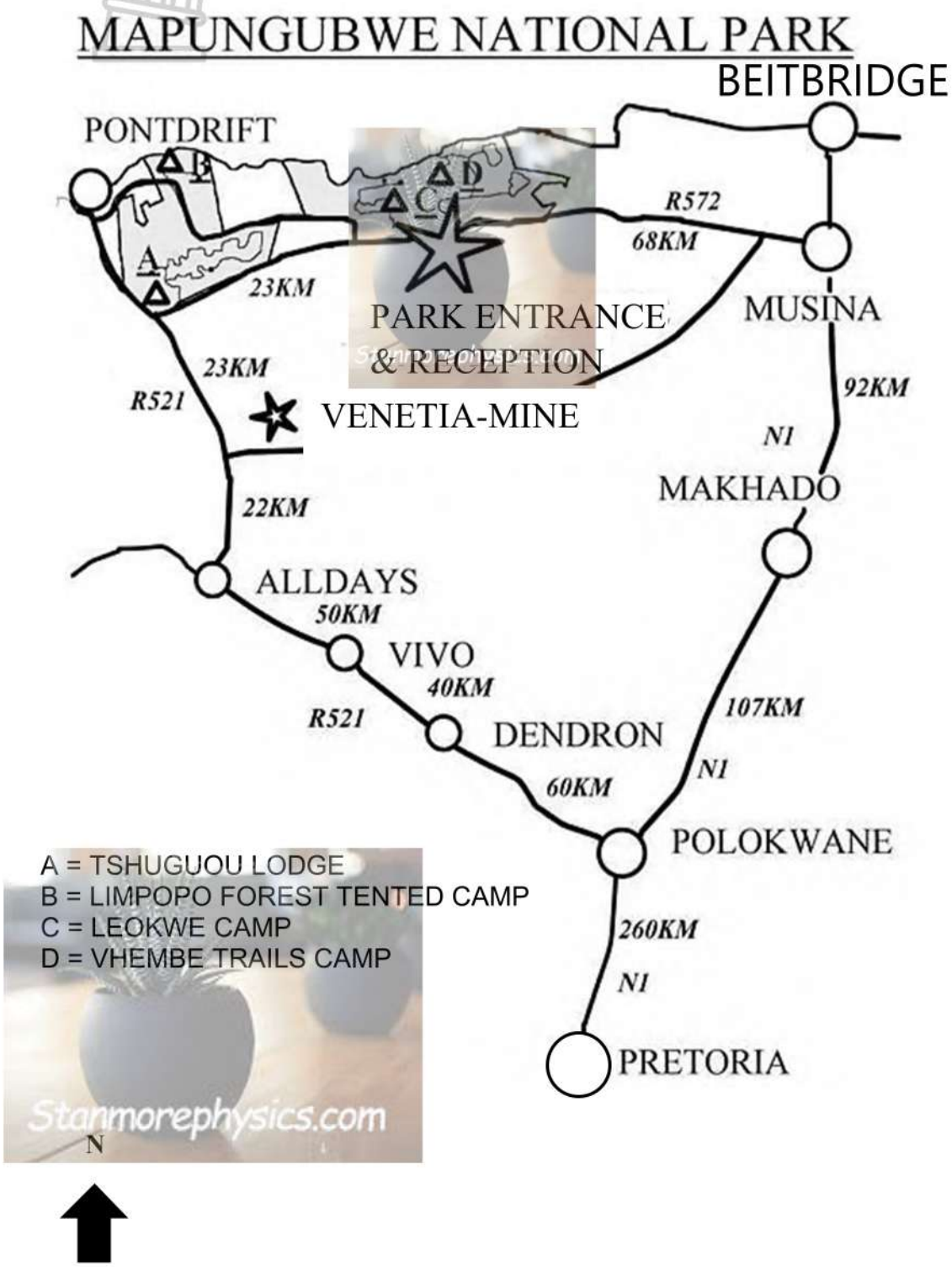
(a) Radius (2)

(b) Circumference (2)

[20]

QUESTION 2

The map below shows how to travel from Pretoria to Mapungubwe National Park by car.



Beria and his two sons, Jordan and Benjamin, drove from Pretoria to the Mapungubwe National Park to participate in an annual birdwatching contest and a marathon.

Use the MAP on page 6 and the information above to answer the following questions.

2.1 Determine, in kilometres, the total distance between Pretoria and Makhado. (2)

2.2 In which South African province is the Mapungubwe National Park found? (2)

2.3 Which town is located north-east of the park entrance and reception? (2)

2.4 It took them 0,8 hours to travel from Musina to the park entrance.
Calculate the average speed of their vehicle in kilometres per hour (km/h).

You may use the formula: $\boldsymbol{speed = \frac{distance}{time}}$ (3)

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2.5 Give a set of directions when driving from Venetia mine to the park entrance and reception. (4)

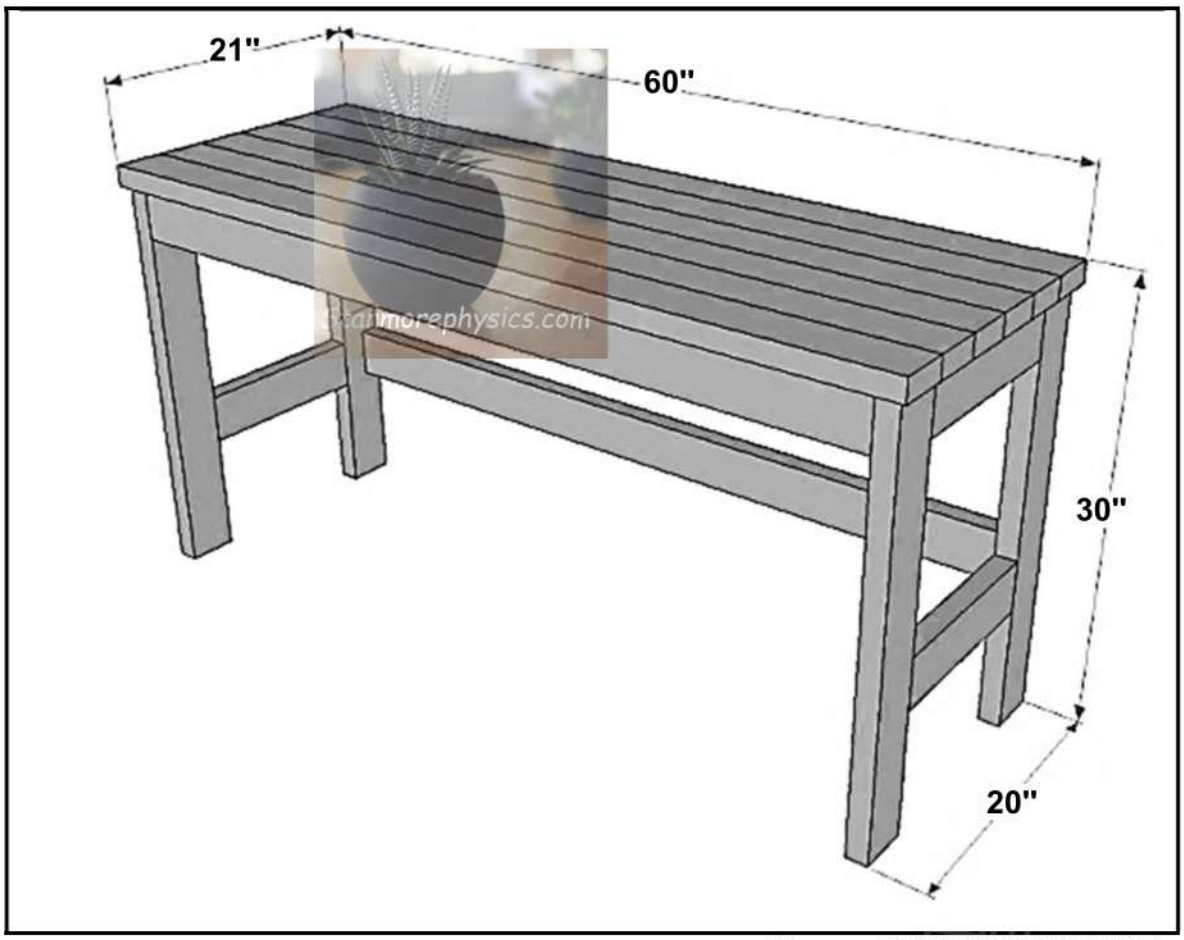
2.6 Determine the scale of the map by using the distance between Musina and Makhado as a reference. Round-off your answer to the nearest hundred thousand. (5)

2.7 Give ONE disadvantage of working with a number/ratio scale. (2)
[20]

QUESTION 3

3.1 Bonganjalo enjoys doing DIY (Do-It-Yourself) Projects. His latest project is to build a desk.

A picture of a desk, he is hoping to build, is shown below. All the dimensions of the desk are given in inches.



[Source: *MORELIKEHOME.NET*]

NOTE: 1" (1 inch) = 2,54 cm

Refer to the picture as well as the information given above to answer the questions that follow.

3.1.1 Convert the length of the desk to centimetres (cm). (2)

3.1.2 Bonganjalo does not want a desk that is higher than 0,77 m.

Use calculations to verify whether the desk meets his requirements. (4)

3.1.3 To build the top part of the desk, Bonganjalo will use planks that are 2 m in length and cut them to the correct size.

Calculate the total length of wood wasted from the six (6) planks used to build the top of the desk.

NOTE: A plank is a flat rectangular piece of wood that is longer and higher than it is wide. (6)

3.2 Below is the cutting list of wood needed to build a desk.

CUTTING LIST OF WOOD NEEDED TO BUILD A DESK	
Description	**Quantity to be purchased**
Legs	4 × 28,5”
Top supports	2 × 17”
Table top	6 × 60”

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3.2.1 According to Bonganjalo’s calculations, 13 m of wood would be enough for the completed desk (excluding the off-cuts).

(An off-cut is a piece of wood that is left over after a larger piece is cut off or processed.)

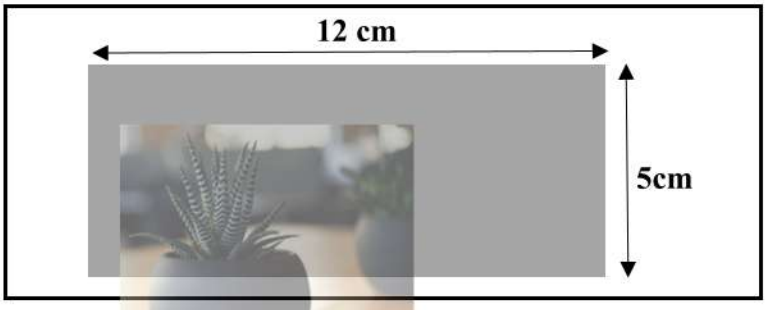
By making use of the information given above and the appropriate calculations, determine whether Bonganjalo is correct in his calculations. (9)

3.2.2 Write down ONE hand-held tool that can be used by Bonganjalo to build the desk. (2)

[23]

QUESTION 4

4.1 Tumisho is a warehouse manager for the Perfect Seat company that sells seat cover for passenger vehicles. The warehouse has a rectangular shape with the dimensions as indicated in the diagram below, with a scale of 1 : 90.



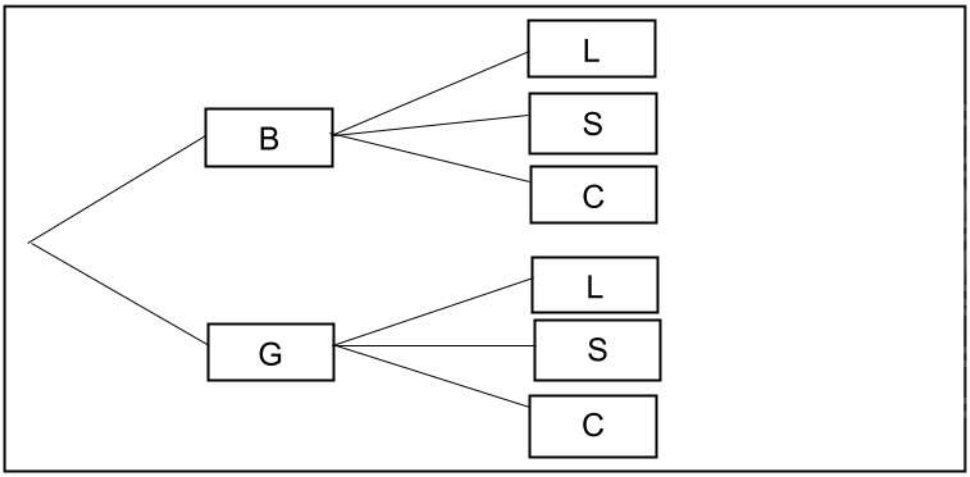
4.1.1 Calculate the total length of the warehouse.

You may use: **Total length = 2 × (length + width)** (2)

4.1.2 The scale used to draw the warehouse is 1 : 90. Explain the meaning of the scale 1 : 90. (2)

4.1.3 Use the scale provided to calculate, in metres, the actual length of the warehouse. (4)

4.2 The manager has the following seat cover options in stock: colour options of black (B) and grey (G), and seat texture options of leather (L), suede (S) and cloth (C). The possible outcomes are summarised in the tree diagram below.



4.2.1 What are the total number of possible outcomes? (2)

4.2.2 Determine, as a percentage, the probability of buying black seat covers. (3)

4.3 The manager created the following cake recipe to give to one of her staff members on her birthday.

Preperation time: 10 minutes

Cooking time: 30 minutes

Yield: 210 mm^2 cake

Servings: 12 people

1 cup = 250 ml

1 teaspoon = 5ml



Ingredients:

1 cup white sugar

2 large eggs

2 teaspoons vanilla essence ½

cup of unsalted butter ½ cup

milk

1½ cup ready cake mix

4.3.1 How many cups of ready cake mix will be required to bake a cake that will serve 48 people? (3)

4.3.2 Determine, in mm, the length of the cake.

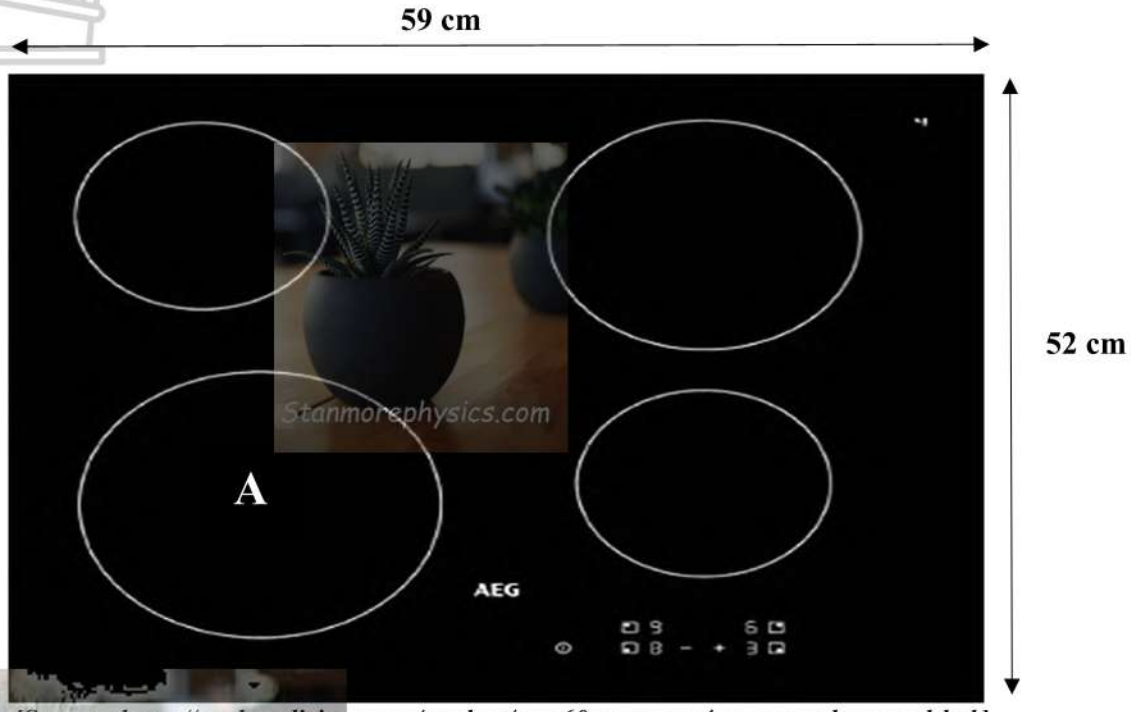
Use the formula: **Area = side × side** (3)

4.3.3 The manager arrived home at 14:24 and immediately started preparing and baking the cake. Will she have a finished product before the birthday party starts at 15:04? Show ALL your calculations to justify your answer. (4)

[23]

QUESTION 5

5.1 **Mikayla renovated her kitchen. She replaced her old stove with a modern stylish electric stove. The top part of the new stove is shown below.**



[Source: ***https://modern-living.co.za/product/aeg-60cm-ceran-4-zone-touch-control-hob*****]**

Use the information given above to answer the following questions.

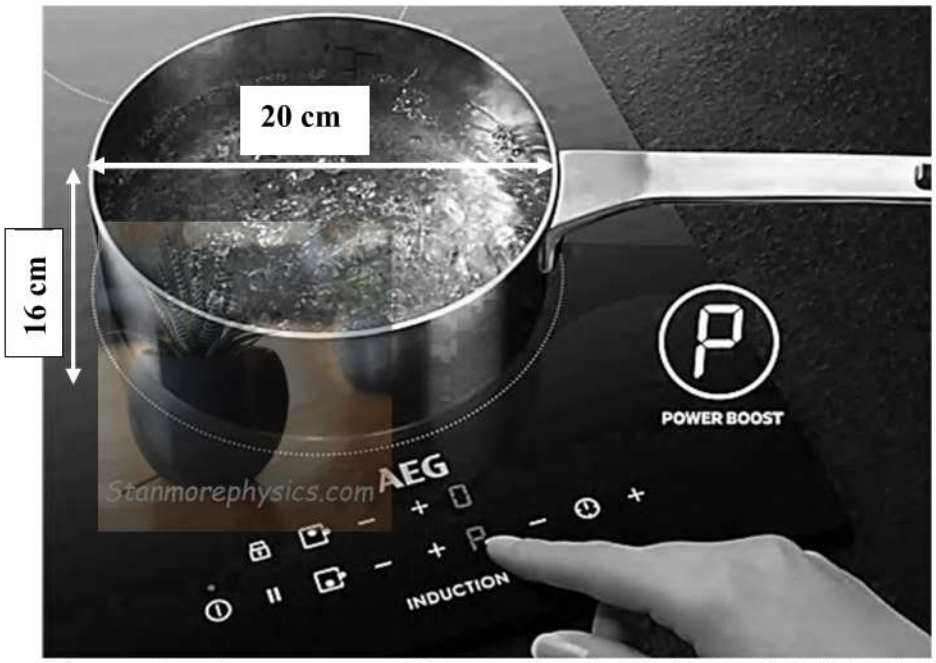
5.1.1 Calculate the area of the stove (in m^2).

You may use the following formula:

Area of a rectangle = $\boldsymbol{length \times width}$ (3)

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5.1.2 To test her new stove, Mikayla prepared her favourite meal in a pot, as shown below.



[Source: *https://www.aeg.co.uk/kitchen/cooking/hobs/induction-hob/ilb64334cb/*]

Calculate the amount of water, in litres, inside the pot if the pot is ¾ full.

You may use the following formula:

Volume of a cylinder = $\pi \times$ radius$^2 \times$ height, where $\pi = 3{,}142$

NOTE: 1 000 cm^3 = 1 litre (5)

5.2 Mikayla drove back to the store, in Boksburg, where she bought the new stove, to fetch the receipt she had forgotten. She travelled South on Mbeki Street from her home to reach Boksburg town.

5.2.1 What type of instrument would Mikayla use to determine direction? (2)

5.2.2 The population of Boksburg in 2015 was 260 321 and grew to 280 000 in 2022. Calculate the percentage increase in the population to the nearest whole number.

You may use the following formula:

$$\textbf{Percentage increase} = \frac{\textbf{New value} - \textbf{Old value}}{\textbf{Old value}} \times 100$$

(4)
[14]

TOTAL: 100