



**LIMPOPO**

PROVINCIAL GOVERNMENT  
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF  
**EDUCATION**

**VHEMBE WEST DISTRICT**

**GRADE 11**

**MATHEMATICAL LITERACY**

**JUNE EXAMINATION P2**

**2023**

[Stanmorephysics.com](http://Stanmorephysics.com)

**TOTAL: 75 MARKS**

**DURATION: 1½ HOURS**

**The paper consists of 8 pages, including the cover page and an annexure.**

**INSTRUCTIONS AND INFORMATION**

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



## QUESTION 1

Mrs Jones works at a steel company. Her lunch is at 1pm and she decides to drive from her work place to Murunwa's coffee and scones coffee shop. The distance from her work place to the coffee shop is  $25\text{km}$ . It took her 20 minutes to arrive to the coffee shop. On her arrival, she ordered 2 cups of coffee and 2 scones. Her order took 8 minutes.

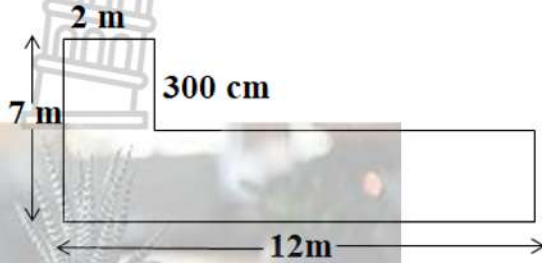


- 1.1 At what time did she arrive at the coffee shop? (2)
- 1.2 She placed her order at 13h30, determine the time she received her order. (2)  
Express the time in digital format.
- 1.3 She bought two cups of coffee, how many millilitres of coffee did she buy? (2)
- 1.4 Express the temperature of the coffee in Fahrenheit. You may use the (3)  
following formula:  $^\circ\text{F} = ^\circ\text{C} \times 1,8 + 32$
- 1.5 Determine how far did she travel to and from the coffee shop in metres ( $m$ ) (3)
- 1.6 Determine the volume of the flour used to bake 2 scones (in kg). (2)

[14]

**QUESTION 2**

Study the diagram below which represents a building for social events.



A tile of  $0,25\text{ m}^2$  has been used to tile the building



**NB:** There are nine (9) tiles in a box

$$\text{Perimeter} = L + B$$

$$\text{Area} = L \times W$$



- 2.1 Determine the perimeter of the building in metres. (5)
- 2.2 Calculate the area of the building in  $\text{m}^2$ . (5)
- 2.3 If you want to tile the building, how many tiles will you need? (3)
- 2.4 Hence determine the number of boxes needed to tile the building. (2)
- 2.5 A classroom has been tiled with 30 black and 40 white tiles, what is the probability of stepping on a black tile at the entrance? Leave your answer rounded to one decimal place. (3)

**[18]**

## QUESTION 3

Due to the shortage of water in his town, Clive bought a water tank. Study the dimensions of the tank below and then answer the questions that follow:



- 3.1 Determine the radius of the tank. (2)
- 3.2 Calculate the area of the bottom part (the floor) of the circular tank. You may use the formula: **Area of a circle =  $\pi r^2$** . (2)
- 3.3 Show all your calculations to prove the volume of the tank converted to the nearest cubic metre is  $5 \text{ m}^3$ . (3)  
You may use the formula: **Volume of a cylinder =  $\pi r^2 h$**
- 3.4 Convert the volume of the tank to litres. **NB.  $1 \text{ m}^3 = 1000 \text{ litre}$** . (2)
- 3.5 Clive want to buy another tank with double the volume of the one in the picture. It must have the same height. Calculate the radius of the new tank. (5)

[14]

**QUESTION 4**

4.1

Study the following maps on given ANNEXURE for flight distances and duration of flights from various cities to the Kruger National Park.

- 4.1.1 Name the type of maps given on the ANNEXURE. (2)
- 4.1.2 In which direction does the plane travel from Port Elizabeth to the Kruger National Park? (2)
- 4.1.3 A businessman needs to be at the Kruger National Park (Nelspruit) for a meeting at 13h30. He is first going to meet a business partner for two hours at OR Tambo Internal Airport (Johannesburg).  
Will the businessman be on time for both his meeting if his flights depart at 08h20 from Cape Town International Airport and then again at 12h55 from OR Tambo International Airport (Johannesburg)? (4)
- 4.1.4 Determine the speed that the airplane is travelling at from Cape Town to Nelspruit. Give your final answer to the nearest  $km/h$ . (5)  
You may use the following formula: **Distance = speed  $\times$  time**
- 4.1.5 Explain the meaning of a coastal city. (2)
- 4.1.6 Use the map for the flight distances and determine the probability that an airplane that is randomly selected, will travel from a coastal city. (2)

4.2

The floor plan of Crazy Daisy Coffee Shop is shown below:



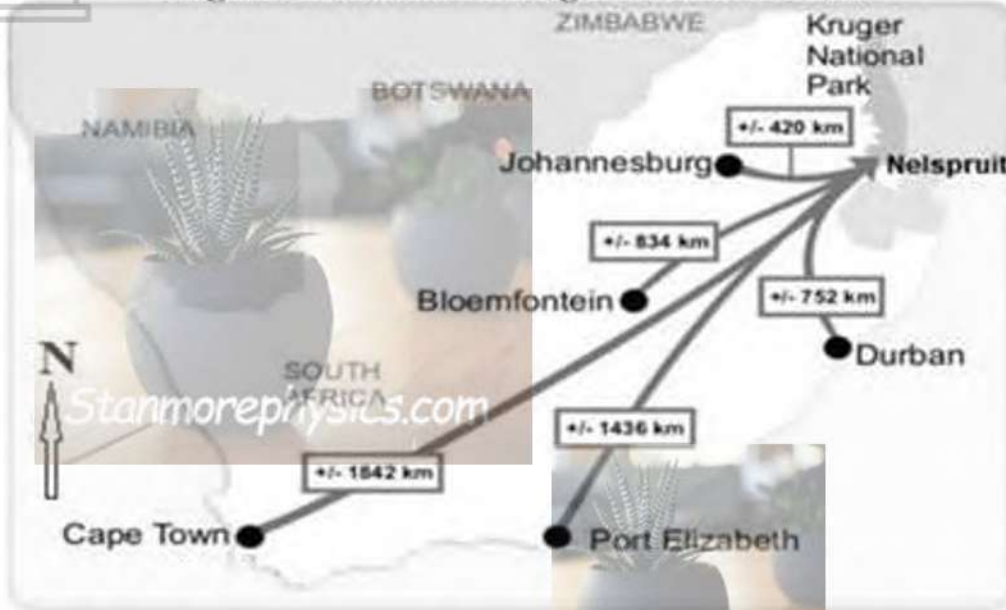
- 4.2.1 Determine the number of tables in the coffee shop. (2)
- 4.2.2 Identify the room labeled A. (2)
- 4.2.3 Give the general direction of the kitchen from the front door. (2)
- 4.2.4 If you enter through the front door, which direction are you facing? (2)
- 4.2.5 The measured length of the coffee shop is 12 cm. The scale is 1:50, calculate the actual length of the coffee shop. (3)

**[28]**

ANNEXURE  
QUESTION 4.1



### Flight Distances to Kruger National Park



### Duration of flights to Kruger National Park

