



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**SENIOR CERTIFICATE EXAMINATIONS/
NATIONAL SENIOR CERTIFICATE EXAMINATIONS**

MATHEMATICAL LITERACY P2

2023

Stanmorephysics

MARKS: 150

TIME: 3 hours

This question paper consists of 13 pages and an addendum with 3 annexures.

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 1.2
ANNEXURE B for QUESTION 2.1
ANNEXURE C for QUESTION 5
3. Number the 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 drawn to scale, unless stated otherwise.
10. Write neatly and legibly.



QUESTION 1

1.1

In TABLE 1 below is a list of explanations and definitions of concepts used in Mathematical Literacy.

TABLE 1: EXPLANATIONS AND DEFINITIONS OF CONCEPTS

A	The distance from the centre of a circle to the outer part of the circle
B	The use of cardinal directions (i.e. north, south, east and west) to describe the location of one point to the other
C	The path or boundary that surrounds a circular-shaped object or surface
D	A position which is not exact, but roughly shows the location of an object
E	A measure of body fat based on the height and weight of an adult person
F	The total area of all the faces of a 3D-shaped object
G	A special type of diagram used to determine the outcomes of an event in probability examples
H	The arrangement of something laid out, such as the structural features of a mall
I	The ratio of the distance in real life compared to the same distance on a map
J	The rate of covering a certain distance over time

Use the information above to write down the letter of the explanation or definition (A to J) of EACH of the following concepts:

- 1.1.1 BMI (body mass index) (2)
- 1.1.2 Circumference (2)
- 1.1.3 Map scale (2)
- 1.1.4 Compass direction (2)
- 1.1.5 Tree diagram (2)

1.2


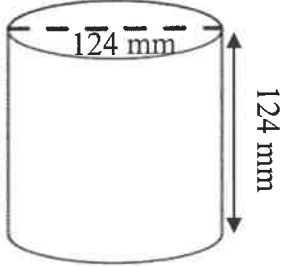
ANNEXURE A shows the layout of a vegetable garden with different plant beds, as well as TABLE 2 which shows plants with their partner plants.

Use ANNEXURE A to answer the questions that follow.

- 1.2.1 Identify THREE plants that have cabbage as a partner. (3)
- 1.2.2 Determine the number of partners of the plant found in bed 4 of the vegetable garden. (2)
- 1.2.3 Name the partner plant which appears four times in the partner column. (2)
- 1.2.4 Give the compass direction of sage from the onions in the vegetable garden. (2)
- 1.2.5 Some of the plant beds in the vegetable garden contain more than one type of plant. Write down the plant bed numbers of these plant beds. (3)

1.3

The sketches below show a pedestal and a diagram of the pedestal with its dimensions. The pedestal can be used as a table, plant stand or as extra seating.

PICTURE OF PEDESTAL	DIAGRAM OF PEDESTAL WITH DIMENSIONS
	
<p>[Source: ladiff.com/project/unaconcrete-pedestals]</p>	

Use the information above to answer the questions that follow.

1.3.1 Choose a formula (A, B or C) below which can be used to calculate the total volume of the pedestal.

NOTE: In EACH formula, **r** = radius and **h** = height.

A Volume = $(2 \times \pi \times r \times h) + (2 \times \pi \times r^2)$

B Volume = $(2 \times \pi \times r^2) \times h$

C Volume = $\pi \times r^2 \times h$ (2)

1.3.2 Write down the unit of measurement for the volume of the pedestal using the given unit in the diagram. (2)

1.3.3 Convert the height of the pedestal to metres. (2)
[28]



QUESTION 2

2.1

Ring lights are the best lighting option for close-up photography and videography. Ring lights are used for projects like make-up sessions.

ANNEXURE B shows the item list and assembly instructions for a ring light. Some of the instructions have been omitted.

Use ANNEXURE B to answer the questions that follow.

- 2.1.1 Determine the total number of items needed to assemble the ring light. (2)
- 2.1.2 Identify, in the list, the item that will be used as the ring light stand. (2)
- 2.1.3 Is the direction of the arrow in diagram B clockwise or anticlockwise? (2)
- 2.1.4 Match the following instructions with the correct picture (F, G or H):
 - (a) Clamp the cellphone to the cellphone holder. (2)
 - (b) Install the tripod on the pan-tilt and rotate until tightened. (2)

2.2

The scale used on a wall map in a classroom is 1 : 250 000.

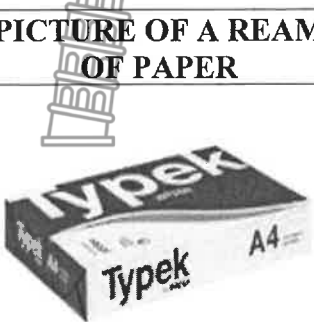
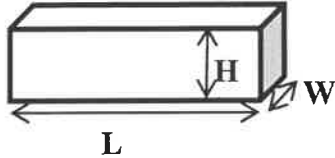
- 2.2.1 Use the given scale to determine the distance on the wall map if the real distance is 65 kilometres. (3)
- 2.2.2 Name ONE other type of scale used on maps. (2)



2.3

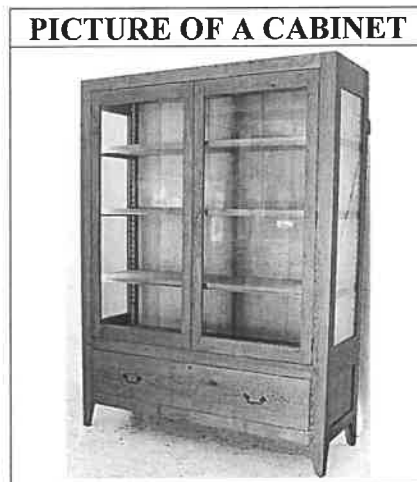
A Mathematical Literacy teacher collected 36 reams of paper from her learners.

Shown below is a picture and a diagram, with the dimensions, of a ream of paper.

PICTURE OF A REAM OF PAPER	DIAGRAM OF A REAM OF PAPER WITH DIMENSIONS
	 <p>Length (L) = 27,94 cm Width (W) = 21,59 cm Height (H) = 6,35 cm</p>

The teacher intends packing the reams of paper in a secure cabinet, as shown in the picture alongside.

The dimensions of the maximum space on one shelf are 102 cm long, 44 cm wide and 39 cm high.



Use the information above to answer the questions that follow.

2.3.1 Show, with calculations, that all the reams of paper collected can fit on ONE shelf of the cabinet. (7)

2.3.2 Give ONE reason why the teacher would like to pack the reams of paper in the cabinet. (2)

[24]

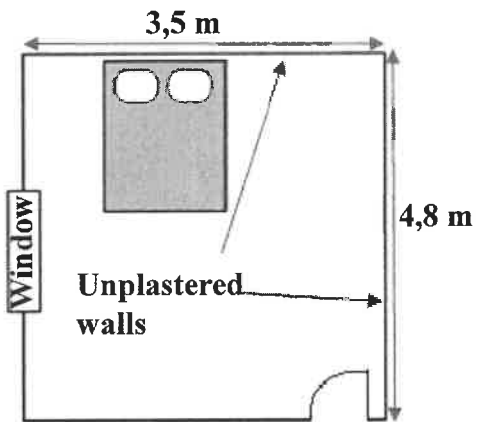
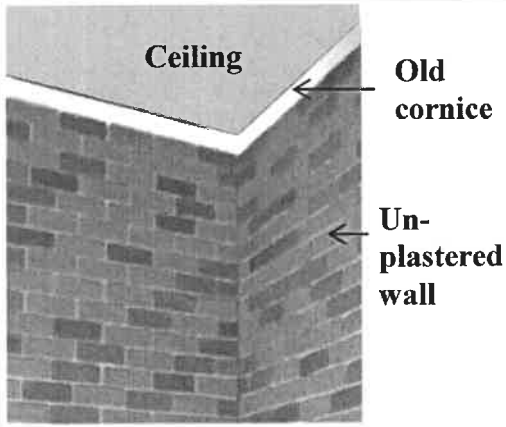


QUESTION 3

3.1

Unathi bought a house. Two of the walls in one of the bedrooms were not plastered. The dimensions of the floor of this bedroom are 4,8 m × 3,5 m, as shown in the diagram below, with a wall height of 2,75 m. Unathi intends having the walls plastered.

NOTE: 'Plastered' means the walls are coated with a sand and cement mixture to create a smooth wall surface.

DIAGRAM SHOWING BEDROOM WITH DIMENSIONS	PICTURE OF TWO UNPLASTERED WALLS, THE CEILING AND OLD CORNICES
	

Use the information above to answer the questions that follow.

3.1.1 Calculate, in m², the total surface area of the two walls that need to be plastered.

You may use the following formula:

Area of a rectangle = length × width (4)

3.1.2 The plaster on the walls has a uniform thickness of 12 mm.

Determine, in cm³, the volume of plaster required to plaster these two walls.

You may use the following formula:

Volume of plaster = area of walls × thickness of plaster (5)



3.1.3 The ready-mix plaster is available in bags. One bag is needed for every $15\,000\text{ cm}^3$.



Determine the minimum number of bags needed to plaster the two walls. (3)

3.1.4 Unathi would also like to have all the old cornices in the bedroom, where the four walls meet the ceiling, replaced.

Calculate, in metres, the total length of the new cornices.

You may use the following formula: **Perimeter** = $2 \times (\text{length} + \text{width})$ (3)

3.2

Unathi is advised to choose a specific brand of ready-mix plaster to prevent dampness in the walls.

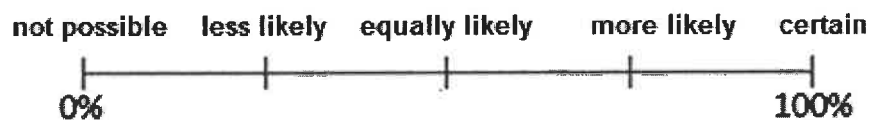
3.2.1 At the store, there are five available brands. Unfortunately, Unathi forgets the name of the specific brand.

If she randomly selects one of the available brands, determine the probability that she will select the specific brand. (2)

3.2.2 There is a 0,75 probability that the dampness will appear if the incorrect brand of ready-mix plaster is used.

Determine the probability that the dampness will NOT appear if the incorrect ready-mix plaster is used. (2)

3.2.3 The probability scale below shows the likelihoods for various probabilities.



Write down the likelihood that best describes your answer given to QUESTION 3.2.2. (2)



3.3

The instructions on the ready-mix plaster bag are as follows:

- Use 7 litres of water for a 40 kg bag of ready-mix plaster.
- Mix the water and plaster for 4 minutes to achieve a good consistency.
- Do not overmix.
- Allow the mixture to stand for 3 minutes for additives to dissolve.
- Mix again for about 2 minutes.
- Plaster is ready for use.



Use the above information to answer the questions that follow.

3.3.1 Determine the time that Unathi must start mixing the first bag of ready-mix plaster if she wants this bag to be ready for use at 08:05. (3)

3.3.2 Calculate (rounded to TWO decimal places) how many gallons of water she will use to mix five bags of plaster, if one gallon = 3,78541 ℓ. (3)

3.3.3 The plaster reaches its full strength 21 days after it has been applied, at an average room temperature of 73,4 °F.

Convert this temperature to °C.

You may use the following formula: $^{\circ}\text{F} - 32^{\circ} = (1,8 \times ^{\circ}\text{C})$ (4)
[31]



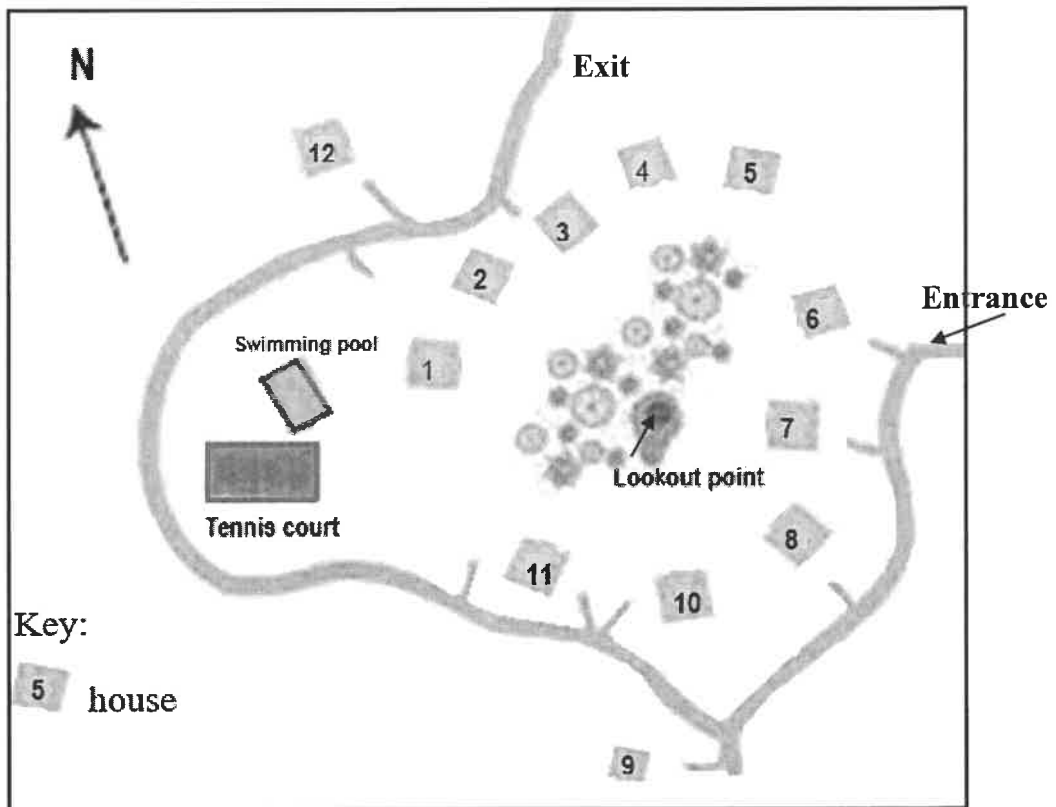
QUESTION 4

4.1 The layout plan of a holiday resort is given below.

The resort has a rectangular swimming pool and a tennis court. There is an overgrown area in the middle of the resort where local wildlife can be viewed from a lookout point. This area is surrounded by houses.



LAYOUT PLAN OF A HOLIDAY RESORT



[Adapted from dikholoresort.co.za]

Use the information above to answer the questions that follow.

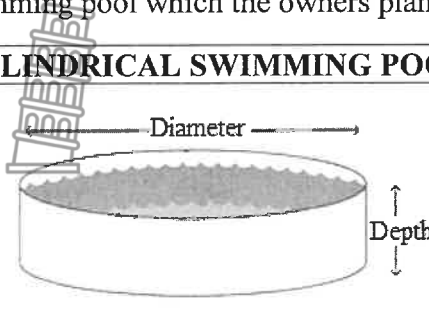
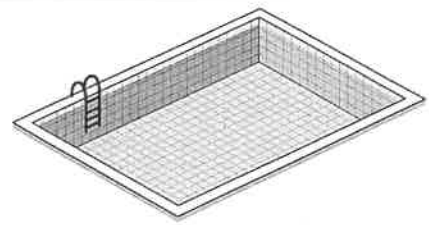
4.1.1 Determine the total number of houses in this holiday resort. (2)

4.1.2 A person standing at the lookout point, facing north, views houses that are in a north-westerly direction.

Give the numbers of TWO of the houses he viewed. (3)



4.2

<p>The owners of the holiday resort plan to build a cylindrical pool.</p> <p>The pictures below show the existing rectangular swimming pool and a cylindrical swimming pool which the owners plan to build at the holiday resort.</p>	
	
[Source: swimuniversity.com]	[Source: vexels.com]
<p>Inner dimensions of the pool:</p> <p>Diameter = 7 m Depth = 1 m Tiles = 20 cm × 20 cm (16 in a box)</p>	<p>Inner dimensions of the pool:</p> <p>Length = 6,2 m Width = 3,25 m Depth = 1,65 m</p>
<p>NOTE: 1 m³ = 1 000 litres</p>	

Use the information above to answer the questions that follow.

- 4.2.1 Give ONE reason why you think the cylindrical pool is designed for small children. (2)
- 4.2.2 Explain the meaning of *capacity of a swimming pool*. (2)
- 4.2.3 Calculate, rounded to the nearest litre, the difference in volume of the two swimming pools.

You may use the following formulae:

Volume of a cylinder = 3,142 × (radius)² × depth

Volume of a rectangular prism = length × width × depth (8)

- 4.2.4 The total inner surface of the cylindrical pool will be tiled. An additional 10% tiles were purchased.

You may use the following formula:

Surface area of an open cylinder = 3,142 × radius × (radius + 2 × depth)

- (a) Give ONE reason why additional tiles were purchased. (2)
- (b) The tiler states that he requires more than 100 boxes of tiles to complete the tiling.

Verify, showing ALL calculations, whether his statement is valid. (11)
[30]

QUESTION 5

5.1

Lanri, Neo and three friends plan to drive to the Sani Pass in KwaZulu-Natal. They will travel from Johannesburg and stay at Mkomazana.

ANNEXURE C shows the route map to Mkomazana.

Use the information above and ANNEXURE C to answer the questions that follow.

- 5.1.1 Write down the road number on which they will travel from exit 99 to Bulwer. (2)
- 5.1.2 Give the distance from Underberg to Himeville. (2)
- 5.1.3 After driving 2 km from Himeville, the road splits to the left and the right. State in which direction (left or right) they must drive. (2)
- 5.1.4 It is 16 km from Himeville to Mkomazana. The distance between Mkomazana and the hotel is 4,4 km. Calculate how many kilometres after the split in the road the hotel (indicated with *H on the map) is located. (3)

5.2

Mkomazana offers 2-sleeper and 6-sleeper accommodation options.

The rates given in TABLE 3 are per cottage per night.

TABLE 3: RATES PER COTTAGE PER NIGHT

ACCOMMODATION		RATES	
Options	Names	Midweek	Weekend (Friday and Saturday nights)
2-sleeper	Stone Cottage	R1 150	R1 250
	Rose Cottage		
6-sleeper	Valley Cottage	R2 640	R2 730
	Coot Cottage		

* The single-night surcharge is R200 for a 2-sleeper and R300 for a 6-sleeper.

NOTE: Surcharge is an extra amount that is payable.

Use the information above to answer the questions that follow.

- 5.2.1 Give a possible reason why there is a surcharge on a single-night stay. (2)
- 5.2.2 Name, with a reason, the cottage you would recommend for the group to book. (3)
- 5.2.3 Neo states that the total cost for the accommodation will be R8 100 if they stay in the cottage from Thursday to Saturday night. Verify, showing ALL calculations, whether his statement is VALID. (5)

5.3

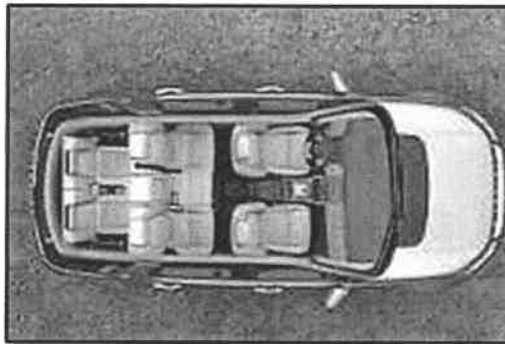
ANNEXURE C shows the route from Johannesburg to Durban.

The tollgate fees for the Johannesburg to Durban route are as follows:

- T₁ (De Hoek) – R56,00
- T₂ (Wilge) – R77,00
- T₃ (Tugela) – R82,00
- T₄ (Mooi) – R58,00
- T₅ (Marianhill) – R13,50

Lanri, Neo and friends will travel in a Land Rover. The vehicle has a fuel consumption of 6,42 l/100 km and a seating layout as shown below.

THE SEATING LAYOUT OF A LAND ROVER



Use ANNEXURE C and the information above to answer the questions that follow.

5.3.1 Indicate whether the following statements are TRUE or FALSE. If FALSE, give a reason.

- (a) The N3 is the only road on this map with tollgates. (2)
- (b) Howick is on the eastern side of Lesotho. (2)

5.3.2 State the view represented in the layout picture. (2)

5.3.3 The distance from Johannesburg to Mkomazana is 588 km. The Land Rover covers this distance in 7 hours.

Calculate the average speed of this vehicle.

You may use the following formula: **Distance = speed × time** (3)

5.3.4 The accommodation, petrol and tollgate fees for the round trip to Mkomazana will be shared equally amongst all group members.

Calculate the total cost per person.

You may use R21,40 as the fuel price per litre. (9)
[37]

TOTAL: 150



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MATHEMATICAL LITERACY P2

ADDENDUM

2023

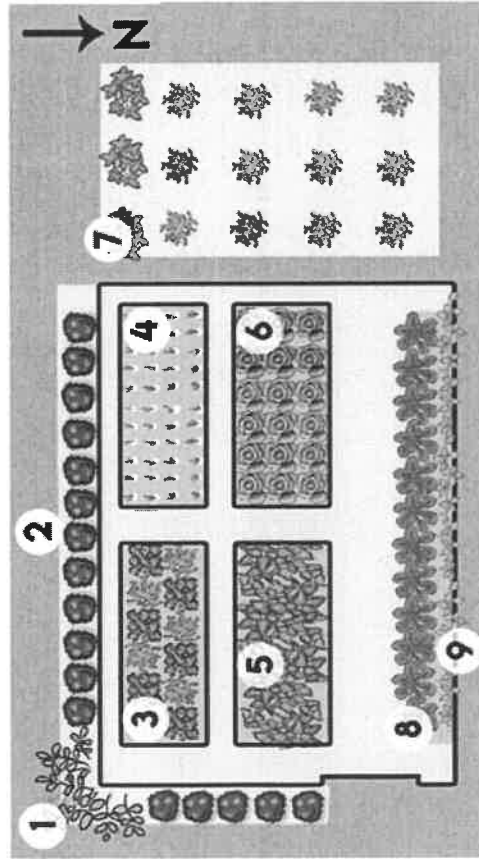
This addendum consists of 4 pages with 3 annexures.



ANNEXURE A

QUESTION 1.2

LAYOUT OF A VEGETABLE GARDEN WITH DIFFERENT PLANT BEDS



Plant bed number	Plant type
1	Sage
2	Marigold
3	Tomatoes/Rocket and other greens
4	Onions
5	Potatoes
6	Cabbages
7	Okra/Tomatoes
8	Kale
9	Peas

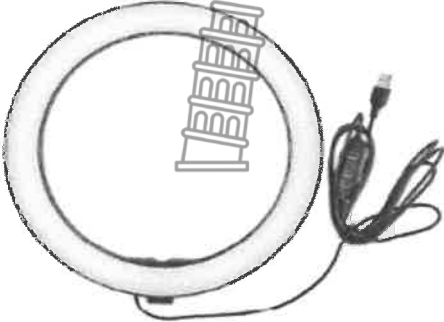


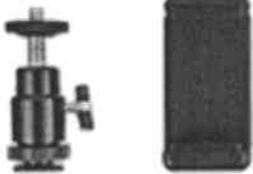


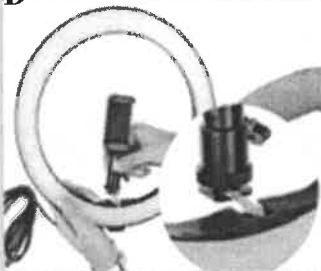

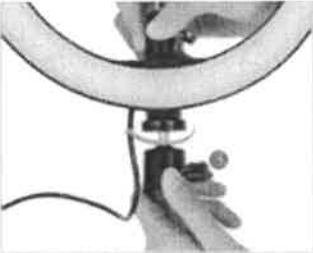
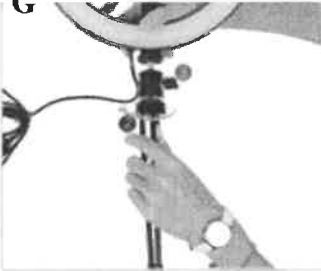
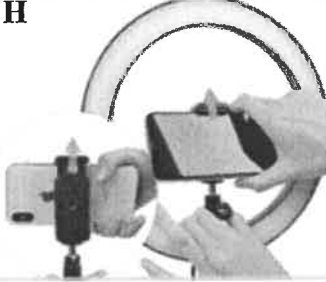

TABLE 2: PLANTS WITH THEIR PARTNER PLANTS¹

PLANT	PARTNER PLANTS														
	Mint	Chives	Dill	Beans	Beetroot	Onions	Corn	Cabbage	Parsnip	Peas	Lettuce	Radish	Beans	Beetroot	Tomatoes
Lettuce															
Potatoes															
Onions															
Squash															
Cucumber															

¹Partner plants are plants that grow well when planted next to each other.

ANNEXURE B

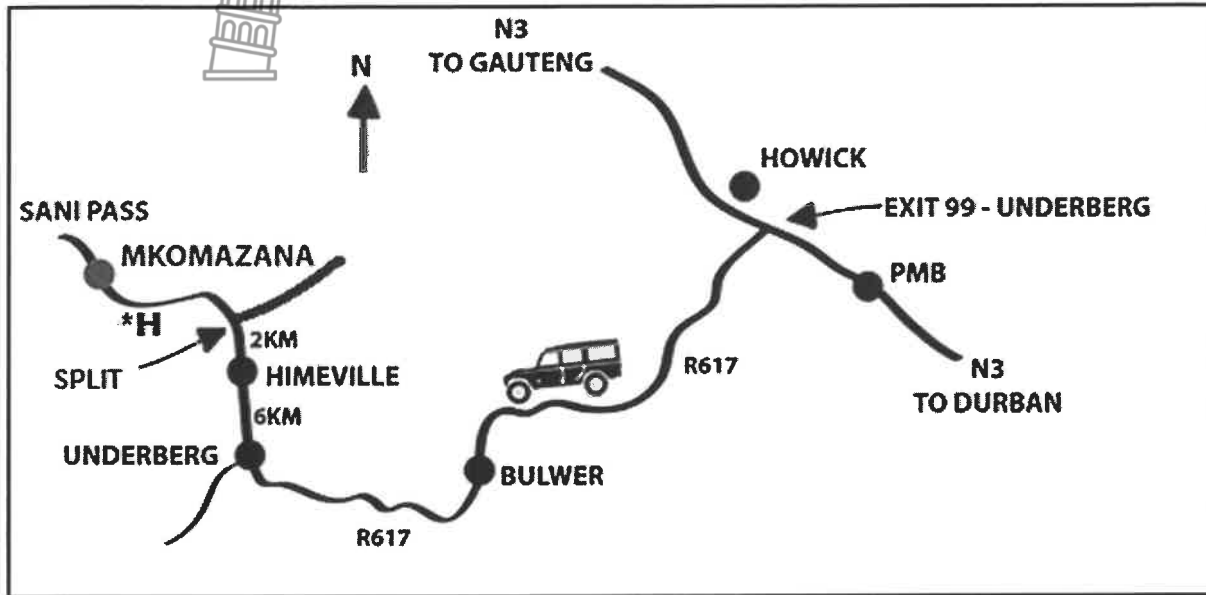
QUESTION 2.1

ITEM LIST		
 <p>Ring light</p>	 <p>Tripod</p>	 <p>Pan-tilt Pan-tilt</p> <p>Cellphone holder</p>
ASSEMBLY INSTRUCTIONS		
<p>A</p>  <p>Prepare the pan-tilt and the cellphone holder.</p>	<p>B</p>  <p>Install the cellphone holder on the pan-tilt. Tighten it, as shown, in the direction of the arrow.</p>	<p>C</p>  <p>Loosen the bottom screw and leave a gap for easy installation on the ring light.</p>
<p>D</p>  <p>Mount the assembled cellphone holder on the ring of the ring light.</p>	<p>E</p>  <p>Press the clamp with your finger and rotate until tightened, as shown above.</p>	<p>F</p>  <p style="text-align: center;">?</p>
<p>G</p>  <p style="text-align: center;">?</p>	<p>H</p>  <p style="text-align: center;">?</p>	<p>I</p>  <p>Completed assembly</p>

ANNEXURE C

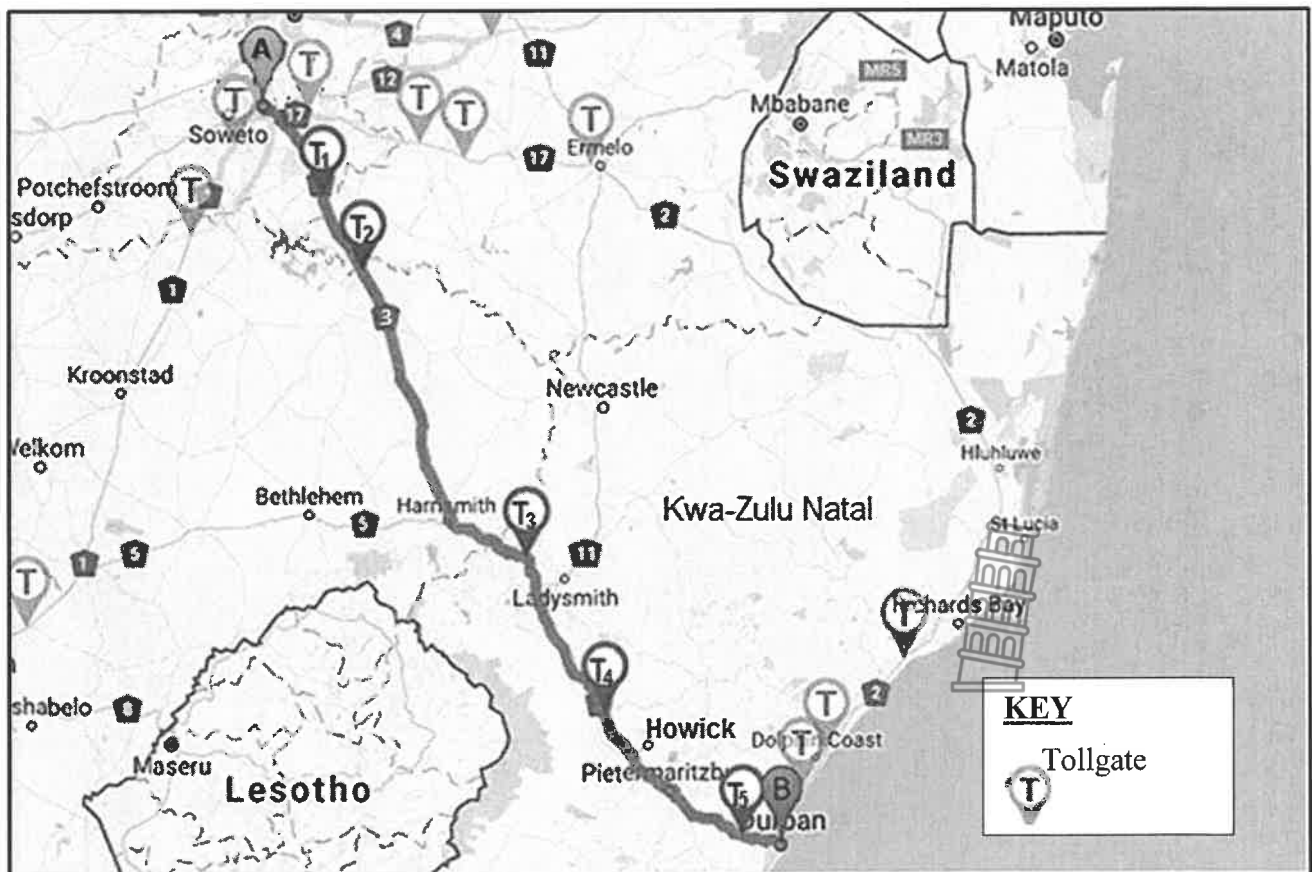
QUESTION 5

ROUTE MAP TO MKOMAZANA



[Source: mkomazana.co.za]

ROUTE MAP FROM JOHANNESBURG (A) TO DURBAN (B)





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MATHEMATICAL LITERACY P2/WISKUNDIGE GELETTERDHEID V2

2023

MARKING GUIDELINES/NASIENRIGLYNE

MARKS/PUNTE: 150

Symbol/Kode	Explanation/Verduideliking
M	Method/Metode
MA	Method with accuracy/Metode met akkuraatheid
CA	Consistent accuracy/Volgehoue akkuraatheid
A	Accuracy/Akkuraatheid
C	Conversion/Herleiding
S	Simplification/Vereenvoudiging
RT	Reading from a table/a graph/document/diagram/Lees vanaf tabel/grafiek/diagram
SF	Correct substitution in a formula/Korrekte vervanging in formule
O	Opinion/Explanation/Reasoning /Opinie/Verduideliking/redenasie
P	Penalty, e.g. for no units, incorrect rounding off, etc./Penalisasie, bv. vir geen eenhede/verkeerde afronding, ens.
R	Rounding off/Afronding
NPR	No penalty for correct rounding/Geen penalisasie vir korrekte afronding nie
AO	Answer only/Slegs antwoord
MCA	Method with constant accuracy/Metode met volgehoue akkuraatheid
RCA	Rounding consistent with accuracy/Afronding met volgehoue akkuraatheid

**These marking guidelines consist of 17 pages.
Hierdie nasienriglyne bestaan uit 17 bladsye.**



NOTE:

- If a candidate answers a question TWICE, only mark the FIRST attempt.
- If a candidate has crossed out (cancelled) an attempt to a question and NOT redone the solution, mark the crossed out (cancelled) version.
- Consistent accuracy (CA) applies in ALL aspects of the marking guidelines; however, it stops at the second calculation error.
- NOTE: consistent accuracy (CA) does not apply in cases of a breakdown.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalise for every extra item presented.
- As a general marking principle, if a candidate has incurred one mistake and there is evidence of sound mathematics thereafter, then that candidate should lose one mark only.
- Rounding is an independent mark.
- In order to award the verification / conclusion mark the candidate must have scored at least one mark in the calculations preceding the final conclusion.


LET WEL:

- *As 'n kandidaat 'n vraag TWEE KEER beantwoord, sien slegs die EERSTE poging na.*
- *As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, sien die doodgetrekte (gekanselleerde) poging na.*
- *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas, dit hou op by die tweede berekeningsfout.*
- *Let wel: volgehoue akkuraatheid (CA) geld nie in die geval van 'n afbreuk nie.*
- *Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra item.*
- *'n Algemene nasienbeginsel is dat indien 'n kandidaat een fout maak en daarna voortgaan met korrekte wiskunde, dat die kandidaat slegs een punt verloor.*
- *Afronding tel as 'n afsonderlike punt.*
- *Ten einde die verifikasie/ gevolgtrekking punt toe te ken moes die kandidaat ten minste een punt gekry het in die berekening wat lei tot die finale gevolgtrekking.*


Note: Questions marked with * refers to the notes.

Questions where the numbers are encircled are the ones where we have a tolerance range.

QUESTION/VRAAG 1 [28 MARKS/PUNTE] Answer Only AO - full marks			
Q/V	Solution/Oplossing	Explanation/Verduideliking	T/L
*1.1.1	E ✓✓A	2A correct option (2)	M L1 E
*1.1.2	C ✓✓A	2A correct option (2)	M L1 E
*1.1.3	I ✓✓A	2A correct option (2)	MP L1 E
*1.1.4	B ✓✓A	2A correct option (2)	MP L1 E
*1.1.5	G ✓✓A	2A correct option (2)	P L1 E

Q/V	Solution/Oplossing	Explanation/Verduideliking	T/L
1.2.1	\checkmark RT \checkmark RT \checkmark RT Potatoes, Onions and Cucumber <i>Aartappels, Uie en Komkommer</i>	3RT correct partner (3)	MP L1 E
1.2.2	 Six /Ses (6) $\checkmark\checkmark$ RT	2RT correct number (2)	MP L1 M
1.2.3	Beans /Bone $\checkmark\checkmark$ RT	2RT correct partner (2)	MP L1 M
*1.2.4	South East OR SE $\checkmark\checkmark$ RT <i>Suidoos OF SO</i>	2RT correct direction (2)	MP L1 M
*1.2.5	$\checkmark\checkmark$ RT \checkmark RT 3 and 7	2RT 1 st correct number label 1RT 2 nd correct number label (3)	MP L1 E
1.3.1	C OR/OF $\pi \times r^2 \times h$ $\checkmark\checkmark$ RT	2A correct option (2)	M L1 E
1.3.2	mm^3 $\checkmark\checkmark$ A	2A correct unit (2)	M L1 E
1.3.3	mm to metre = $124 \div 1\ 000$ \checkmark C <i>mm tot meter</i> = 0,124 m \checkmark A	1C correct conversion/dividing by 1 000 1A answer in metres (2)	M L1 E
			[28]



QUESTION/VRAAG 2 [24 MARKS/PUNTE]			
Q/V	Solution/Oplossing	Explanation/Verduideliking	T/L
2.1.1	5 ✓✓ A 	2A correct number (2)	MP L1 E
2.1.2	Tripod/Driepoot ✓✓ A	2A correct item (2)	MP L1 E
2.1.3	Clockwise/Kloksgewys ✓✓ A	2A correct direction (2)	MP L1 E
2.1.4 (a)	H ✓✓ A	2 A correct choice (2)	MP L2 M
2.1.4 (b)	G ✓✓ A	2 A correct choice (2)	MP L2 M
2.2.1	$65 \text{ km} \times 100\,000$ $= 6\,500\,000 \text{ cm} \quad \checkmark C$ Distance on the map /Afstand op kaart $= \frac{6\,500\,000}{250\,000} \quad \checkmark MA$ $= 26 \text{ cm} \quad \checkmark CA$ <p style="text-align: center;">OR/OF</p> $65 \text{ km} \times 1\,000\,000$ $= 65\,000\,000 \text{ mm} \quad \checkmark C$ Distance on the map /Afstand op kaart $= \frac{65\,000\,000}{250\,000} \quad \checkmark MA$ $= 260 \text{ mm} \quad \checkmark CA$ <p style="text-align: center;">OR/OF</p> Map: Reality Kaart : Werklikheid 1: 250 000 Map Dist/Kaart afstand : 65 km $\text{Map distance} = \frac{65}{250\,000}$ Kaart afstand $= 0,00026 \text{ km} \quad \checkmark C$ $= (0,00026 \times 100\,000) \text{ cm}$ $= 26 \text{ cm} \quad \checkmark CA$	1C conversion 1MA division by 250 000 1CA simplification <p style="text-align: center;">OR/OF</p> 1C conversion 1MA division by 250 000 1CA simplification <p style="text-align: center;">OR/OF</p> 1MA division by 250 000 1C conversion 1CA simplification	MP L2 D

Q/V	Solution/Oplossing	Explanation/Verduideliking	T/L
	<p style="text-align: center;">OR/OF</p> <p>1 cm: 250 000 cm $\therefore 1 \text{ cm} : 2,5 \text{ km} \quad \checkmark \text{C}$ $\therefore 1 : 2,5 \text{ km}$ Map Dist/<i>Kaart afstand</i> : 65 km</p> <p>Map distance /<i>Kaart afstand</i> $= \frac{65}{2,5} \quad \checkmark \text{MA}$ $= 26 \text{ cm} \quad \checkmark \text{CA}$</p>	<p>1C conversion</p> <p>1MA division by 2,50</p> <p>1CA simplification</p> <p style="text-align: right;">(3)</p>	
2.2.2	<p>Bar scale or line scale or Graphic Scale $\checkmark \checkmark \text{A}$ <i>Staafskaal/ Balkskaal of lynskaal of Grafiese skaal</i></p>	<p>2A correct scale</p> <p style="text-align: right;">(2)</p>	<p>MP L1 E</p>
*2.3.1	<p>Number of reams lengthwise/<i>Getal rieme in die lengte</i> $\checkmark \text{MA}$ $= \frac{102 \text{ cm}}{27,94 \text{ cm}} = 3,65 \approx 3 \quad \checkmark \text{A} \quad \checkmark \text{R}$</p> <p>Number of reams widthwise /<i>Getal rieme in die breedte</i> $= \frac{44 \text{ cm}}{21,59 \text{ cm}} = 2,04 \approx 2 \quad \checkmark \text{MCA}$</p> <p>Number of reams heightwise/<i>Getal rieme in die hoogte</i> $= \frac{39 \text{ cm}}{6,35 \text{ cm}} = 6,14 \approx 6 \quad \checkmark \text{A}$</p> <p>Total number of reams/<i>Totale getal rieme</i> $= 3 \times 2 \times 6 \quad \checkmark \text{MCA}$ $= 36 \quad \checkmark \text{CA}$</p>	<p>1MA dividing lengths 1A simplification 1R rounding down</p> <p>1MC A reams widthwise</p> <p>1A reams heightwise</p> <p>1MCA multiplying the values 1CA total number of reams</p> <p style="text-align: right;">(7)</p>	<p>MP L3 M</p>




Q/V	Solution/Oplissing	Explanation/Verduideliking	T/L
2.3.2	<p style="text-align: center;">✓✓O</p> <p>To keep them dust free/<i>Om stof af te keer</i> To keep the reams dry/ moisture free <i>Om die rieme droog te hou</i></p> <p>OR/OF To keep them safe for later use. <i>Om hulle veilig te bêre vir latere gebruik</i></p> <p>OR/OF Glass door - For learners to see that the teacher is using their reams of paper – Easy to see how many reams are left (record keeping). <i>Glasseure - Sodat leerders kan sien hul onderwyser gebruik hulle rieme papier</i> --maklik om te sien hoeveel rieme is oor (hou rekord)</p> <p>OR/OF Convenient –Paper is in the class for later usage. –Keeps the teacher’s table clear/more space on teacher’s table –Easily accessible when needed. –Effective use of space Gerieflik: – die papier is in die klas gereed vir later gebruik – Hou die onderwyser se tafel skoon /meer spasie op die onderwyser se tafel – Maklike toegang te hê – Effektiewe gebruik van spasie</p> <p>OR/OF Keeps the classroom neat and in order. <i>Hou die klaskamer netjies en skep orde.</i></p>	<p style="text-align: center;">20 reason</p> <p style="text-align: right;">(2)</p>	<p>MP L4 E</p>
		[24]	





QUESTION/VRAAG 3 [31 MARKS/PUNTE]			
Q/V	Solution/Oplissing	Explanation/Verduideliking	T/L
3.1.1	<p>Surface area wall 1 = length × width <i>Oppervlakte muur 1 = lengte × breedte</i></p> <p>= 4,8 m × 2,75 m ✓SF</p> <p>= 13,2 m² ✓CA</p> <p>Surface area wall 2 = length × width <i>Oppervlakte muur 2 = lengte × breedte</i></p> <p>= 3,50 m × 2,75 m</p> <p>= 9,6250 m² ✓A</p> <p>Total surface area / <i>Totale oppervlakte</i></p> <p>= (13,2 + 9,625) m²</p> <p>= 22,8250 m² ✓CA</p> <p style="text-align: center;">OR/OF</p> <p style="text-align: center;">✓SF</p> <p>T SA/ TO = (4,8 m × 2,75 m) + (3,5 m × 2,75 m)</p> <p style="text-align: center;">= 13,2 m² + 9,6250 m² ✓A</p> <p style="text-align: center;">= 22,8250 m² ✓CA</p> <p style="text-align: center;">OR/OF</p> <p style="text-align: center;">✓A</p> <p>Surface Area = (3,5 m + 4,8 m) × 2,75 m ✓SF</p> <p style="text-align: center;">= 8,3 × 2,75 ✓CA</p> <p style="text-align: center;">= 22,825 m² ✓CA</p>	<p>1SF substitution</p> <p>1CA simplification</p> <p>1A simplification</p> <p>1CA simplification</p> <p>OR/OF</p> <p>1SF substitution</p> <p>1CA simplification</p> <p>1A simplification</p> <p>1CA simplification</p> <p>OR/OF</p> <p>1A adding both wall dimensions</p> <p>1SF substitution</p> <p>1CA simplification</p> <p>1CA simplification</p> <p>NPR</p>	<p>M</p> <p>L2</p> <p>M</p> <p>(4)</p>
*3.1.2	<p>Volume = Area of wall × thickness of plaster <i>Volume = Opp van muur × dikte van pleister</i></p> <p style="text-align: center;">= (22,8250 × 10 000) × $\frac{12}{10}$ ✓C ✓SF</p> <p style="text-align: center;">= 228 250 cm² × 1,2 cm ✓CA₂</p> <p style="text-align: center;">= 273 900 cm³ ✓CA</p>	<p>CA from 3.1.1</p> <p>2C conversion</p> <p>1SF substitution</p> <p>1CA simplification</p> <p>1CA simplification</p>	<p>M</p> <p>L3</p> <p>D</p>

Q/V	Solution/Oplissing	Explanation/Verduideliking	T/L
	<p style="text-align: center;">OR/OF</p> <p>12 mm = 1,2 cm ✓C</p> <p>$22,825\text{m}^2 = (22,825 \times 100 \times 100)\text{cm}^2$ ✓C $= 228\,250\text{cm}^2$ ✓CA</p> <p>Volume = Area of wall × thickness of plaster <i>Volume = Opp van muur × dikte van pleister</i> $= 228\,250\text{cm}^2 \times 1,2\text{cm}$ ✓SF $= 273\,900\text{cm}^3$ ✓CA</p> <p style="text-align: center;">OR/OF</p> <p>12 mm = (12 ÷ 1 000) $= 0,012\text{m}$ ✓C</p> <p>Volume = $22,825 \times 0,012$ ✓SF $= 0,2739\text{m}^3$ ✓CA $= (0,2739 \times 100 \times 100 \times 100)$ ✓C $= 273\,900\text{cm}^3$ ✓CA</p> <p style="text-align: center;">OR/OF</p> <p>Volume = $22\,825\,000\text{mm}^2 \times 12\text{mm}$ ✓SF $= 273\,900\,000\text{mm}^3$ ✓CA $= 273\,900\text{cm}^3$ ✓CA</p>	<p>1C conversion mm to cm</p> <p>1C conversion m² to cm² 1CA simplification</p> <p>1SF substitution 1CA simplification</p> <p style="text-align: center;">OR/OF</p> <p>1C conversion m</p> <p>1SF substitution 1CA simplification 1C conversion m³ to cm³ 1CA simplification</p> <p style="text-align: center;">OR/OF</p> <p>1C conversion mm² 1SF substitution</p> <p>1CA simplification</p> <p>1C conversion cm³ 1CA simplification</p> <p style="text-align: right;">(5)</p>	
3.1.3	<p>Number of bags/ <i>Getal sakke</i></p> <p>$= \frac{273\,900\text{cm}^3}{15\,000\text{cm}^3}$ ✓MCA $= 18,26$ ✓CA ≈ 19 ✓R</p>	<p>CA from 3.1.2</p> <p>1MCA dividing</p> <p>1CA simplification</p> <p>1R rounding up</p> <p style="text-align: right;">(3)</p>	M L2 M
3.1.4	<p>Perimeter / <i>Omtrek</i></p> <p>$= 2 \times (4,8 + 3,5)\text{m}$ ✓RT ✓SF $= 16,6\text{m}$ ✓CA</p> <p style="text-align: center;">OR/OF</p>	<p>1SF substitution 1RT correct values</p> <p>1CA simplification</p> <p style="text-align: center;">OR/OF</p>	M L2 E

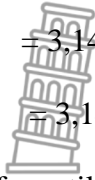

Q/V	Solution/Oplissing	Explanation/Verduideliking	T/L
	Perimeter/ Omtrek $= 4,8 \text{ m} + 3,5 \text{ m} + 4,8 \text{ m} + 3,5 \text{ m}$ ✓MA ✓RT $= 16,6 \text{ m}$ ✓CA  <p style="text-align: center;">OR/OF</p> Perimeter/Omtrek ✓MA $= 2(3,5 \text{ m}) + 2(4,8 \text{ m})$ ✓RT $= 16,6 \text{ m}$ ✓CA	1MA adding all 4 sides 1RT correct values 1CA simplification <p style="text-align: center;">OR/OF</p> 1MA adding all 4 sides 1RT correct values 1CA simplification AO	(3)
3.2.1	$P = \frac{1}{5}$ ✓A or/of 0,2 or/of 20% ✓A	1A numerator 1A denominator AO	P L2 E (2)
*3.2.2	$P(\text{not appear/ nie verskyn}) = 1 - 0,75$ ✓MA $= 0,25$ ✓A or/of $\frac{1}{4}$ or/of 25%	1MA subtracting from 1 1A simplification AO	P L2 M (2)
3.2.3	Less likely /kleiner kans ✓✓A	CA from Q3.2.2 2A correct likelihood	P L2 E (2)
*3.3.1	Starting time /Begin tyd $= 08:05 - 2 \text{ min} - 3 \text{ min} - 4 \text{ min}$ ✓MA ✓A $= 07:56$ ✓CA <p style="text-align: center;">OR/OF</p> Total time to prepare: $= 4 \text{ min} + 3 \text{ min} + 2 \text{ min}$ $= 9 \text{ min}$ ✓A Starting time /Begin tyd $= 08:05 - 9 \text{ min}$ ✓MA $= 07:56$ ✓CA or 4 minutes to eight in the morning	1MA subtract minutes 1A all the minutes 1CA simplification <p style="text-align: center;">OR/OF</p> 1A all the minutes 1MA subtract minutes 1CA simplification AO	M L2 M (3)

Q/V	Solution/Oplissing	Explanation/Verduideliking	T/L
3.3.2	<p>Total volume of water /<i>totale volume water</i></p> <p>$= 7 \ell \times 5 = 35 \ell$ ✓MA</p> <p>1 gallon/<i>gelling</i> = 3,78541 ℓ</p> <p>Number of gallons /<i>Getal gellings</i></p> <p>$= \frac{35}{3,78541}$ ✓C</p> <p>$= 9,24602619 \approx 9,25$ ✓R</p> <p style="text-align: center;">OR/OF</p> <p>1 gallon/<i>gelling</i> = 3,78541 ℓ $n = 7 \ell$</p> <p>Number of gallons /<i>Getal gellings</i></p> <p>$= \frac{7}{3,78541}$ ✓C</p> <p>$= 1,849205... \approx 1,85$</p> <p>For 5 bags/<i>Vir 5 sakke</i></p> <p>$= 1,85 \times 5 = 9,25$ gallon / <i>gelling</i> ✓MA ✓R</p>	<p>1MA multiplying with 5</p> <p>1C converting</p> <p>1R rounded answer</p> <p style="text-align: center;">OR/OF</p> <p>1C converting</p> <p>1MA multiplying with 5 1R rounded answer</p> <p style="text-align: right;">(3)</p>	<p>M</p> <p>L2</p> <p>M</p>
3.3.3	<p>$^{\circ}\text{F} - 32^{\circ} = (1,8 \times ^{\circ}\text{C})$</p> <p>$73,4 - 32^{\circ} = (1,8 \times ^{\circ}\text{C})$ ✓SF</p> <p>$41,4^{\circ} = 1,8 \times ^{\circ}\text{C}$ ✓S</p> <p>$^{\circ}\text{C} = 41,4^{\circ} \div 1,8$ ✓MCA</p> <p>$= 23^{\circ}\text{C}$ ✓CA</p>	<p>1SF correct substitution 1S simplification</p> <p>1MCA dividing by 1,8</p> <p>1CA simplification</p> <p style="text-align: right;">(4)</p>	<p>M</p> <p>L2</p> <p>M</p>
		[31]	








QUESTION/VRAAG 4 [30 MARKS/PUNTE]			
Q/V	Solution/Oplissing	Explanation/Verduideliking	T/L
4.1.1	12 ✓✓ RT 	2RT number of houses (2)	MP L2 E
4.1.2	✓✓ RT ✓ RT 1, 2 or/of 12 Any two /Enige twee	2RT 1 st house label or number 1RT second (3)	MP L2 M
*4.2.1	The depth 1m or it is shallow/ not too deep. ✓✓ O <i>Die diepte is 1m of dit is vlak/ nie te diep nie.</i>	2O explanation (2)	M L4 M
4.2.2	✓✓ A Capacity: the maximum amount of water the pool can hold/contain. Kapasiteit is die maksimum hoeveelheid water wat die swembad kan hou. OR/OF Capacity: a measure of space covered by pool structure with water. Kapasiteit is die mate van spasie wat die swembad met water vul.	2A concept (2)	M L1 M
*4.2.3	$\text{Volume}_{(\text{cylinder})} = 3,142 \times \left(\frac{7}{2}\text{m}\right)^2 \times 1\text{m} \quad \checkmark \text{SF}$ $= 3,142 \times (3,5\text{m})^2 \times 1\text{m}$ $= 38,4895 \text{ m}^3 \quad \checkmark \text{CA}$ $\text{Volume}_{(\text{rectangular})} = 6,2 \text{ m} \times 3,25 \text{ m} \times 1,65 \text{ m} \quad \checkmark \text{SF}$ $= 33,2475 \text{ m}^3 \quad \checkmark \text{CA}$ $\text{Difference / Verskil} = 38,4895 \text{ m}^3 - 33,2475 \text{ m}^3 \quad \checkmark \text{MCA}$ $= 5,242 \text{ m}^3 \quad \checkmark \text{CA}$ $= 5\,242 \text{ l} \quad \checkmark \text{C}$ OR/OF	1A radius 1SF correct substitutions 1CA simplification 1SF correct values 1CA rectangular volume 1MCA subtracting 1CA difference 1C conversion  OR/OF	M L3 M

Q/V	Solution/Oplissing	Explanation/Verduideliking	T/L
	$\text{Volume}_{(\text{cylinder})} = 3,142 \times (3,5\text{m})^2 \times 1\text{m} \times 1\,000 \text{ l/m}^3$ $= 38\,489,5 \text{ l}$ $\text{Volume}_{(\text{rectangular})} = 6,2 \text{ m} \times 3,25 \text{ m} \times 1,65 \text{ m} \times 1\,000 \text{ l/m}^3$ $= 33\,247,5 \text{ l}$ $\text{Difference / Verskil} = 38\,489,5 \text{ l} - 33\,247,5 \text{ l}$ $= 5\,242 \text{ l}$	1A radius 1SF correct substitutions 1C conversion 1CA simplification 1SF correct values 1CA rectangular volume 1MCA subtracting 1CA difference NPR (8)	
4.2.4 (a)	To accommodate cutting the tiles or breakages or curved surfaces or keep spares for later usage. <i>Om voorsiening te maak die sny van teëls of breekskade of die gekurfdde oppervlakte of om oor te hou vir latere gebruik.</i>	2O reason (2)	M L4 E
*4.2.4 (b)	$\text{SA}_{(\text{open cylinder})}/\text{BO} = 3,142 \times \text{radius} \times (\text{radius} + 2 \times \text{height})$ $= 3,142 \times 3,5 \text{ m} \times (3,5 \text{ m} + 2 \times 1 \text{ m})$ $= 3,142 \times 3,5 \text{ m} \times 5,5 \text{ m} = 60,4835 \text{ m}^2$ <p>Area of one tile/ <i>Opp van 1 teël</i></p> $= \frac{20}{100} \text{ m} \times \frac{20}{100} \text{ m}$ $= 0,2 \times 0,2 \text{ m}^2 = 0,04 \text{ m}^2$ <p>Number of tiles needed / <i>Getal teëls nodig</i></p> $= \frac{\text{Area to be tiled}}{\text{Area of single tile}}$ $= \frac{60,4835}{0,04}$ $= 1\,512,0875 \text{ OR/OF } \approx 1\,513$ <p>Plus 10%</p> $= \frac{10}{100} \times 1\,512,0875 + 1\,512,0875$ $= 1\,663,29625 \text{ tiles /teëls}$ $\approx 1\,664 \text{ tiles /teëls}$ <p>Number of boxes / <i>Getal bokse</i></p> $= 1\,664 \div 16$ $= 104$ <p>VALID/GELDIG</p>	<p>CA radius form 4.2.3</p> 1SF substitution 1CA area of pool 1C conversion 1CA area of a tile 1MCA finding number of tiles 1CA simplification 1MCA calc. 10% and adding it or multiply with 1,10 1CA number of tiles 1MCA dividing 1CA number of boxes 1O conclusion	M L4 D

Q/V	Solution/Oplossing	Explanation/Verduideliking	T/L
	<p style="text-align: center;">OR/OF</p> <p>$SA_{(\text{open cylinder})}/BO = 3,142 \times \text{radius} \times (\text{radius} + 2 \times \text{height})$ $= 3,142 \times 3,5 \text{ m} \times (3,5 \text{ m} + 2 \times 1 \text{ m}) \quad \checkmark \text{ SF}$ $= 3,142 \times 3,5 \text{ m} \times 5,5 \text{ m} = 60,4835 \text{ m}^2. \quad \checkmark \text{ CA}$</p>  <p>Area of one tile/ <i>Opp van 1 teël</i> $= \frac{20}{100} \text{ m} \times \frac{20}{100} \text{ m} \quad \checkmark \text{ C}$ $= 0,2 \times 0,2 \text{ m}^2 = 0,04 \text{ m}^2. \quad \checkmark \text{ CA}$</p> <p>Number of tiles needed /<i>Getal teëls nodig</i> $= \frac{\text{Area to be tiled}}{\text{Area of single tile}}$ $= \frac{60,4835}{0,04} \quad \checkmark \text{ MCA}$ $= 1\,512,0875 \quad \checkmark \text{ CA} \quad \text{OR/OF} \approx 1\,513$</p> <p>Number of boxes/<i>Getal bokse</i> $= 1\,512,0875 \div 16 \quad \checkmark \text{ MCA}$ $= 94,505... \quad \checkmark \text{ CA}$</p> <p>Increased number/ <i>Verhoogde getal</i> $= 94,505... \times 110\% \quad \checkmark \text{ MCA}$ $= 103,95...$ $\approx 104 \quad \checkmark \text{ CA}$ VALID/GELDIG $\checkmark \text{ O}$</p>	<p>1SF substitution</p> <p>1CA SA of pool</p> <p>1C conversion</p> <p>1CA area of a tile</p> <p>1MCA finding number of tiles</p> <p>1CA simplification</p> <p>1MCA dividing</p> <p>1CA number of boxes</p> <p>1MCA calc. 10% and adding it or multiply with 1,10</p> <p>1CA number of boxes</p> <p>1O conclusion</p>	
	<p style="text-align: center;">OR/OF</p> <p>$SA_{(\text{open cylinder})}/BO = 3,142 \times \text{radius} \times (\text{radius} + 2 \times \text{height})$ $= 3,142 \times 3,5 \text{ m} \times (3,5 \text{ m} + 2 \times 1 \text{ m}) \quad \checkmark \text{ SF}$ $= 3,142 \times 3,5 \text{ m} \times 5,5 \text{ m} = 60,4835 \text{ m}^2. \quad \checkmark \text{ CA}$</p> <p>Area of one tile/ <i>Opp van 1 teël</i> $= \frac{20}{100} \text{ m} \times \frac{20}{100} \text{ m} \quad \checkmark \text{ C}$ $= 0,2 \times 0,2 \text{ m}^2 = 0,04 \text{ m}^2. \quad \checkmark \text{ CA}$</p>	<p style="text-align: center;">OR/OF</p> <p>1SF substitution</p> <p>1CA area of pool</p> <p>1C conversion</p> <p>1CA area of a tile</p> 	

Q/V	Solution/Oplissing	Explanation/Verduideliking	T/L
	<p>Continue Area covered by one box/<i>Opp wat een boks bedek</i> $= 0,04 \text{ m}^2 \times 16$ ✓ MCA $= 0,64 \text{ m}^2$ ✓ CA</p> <p>Number of boxes/<i>Getal bokse</i> $= \frac{60,4835}{0,64}$ ✓ MCA $= 94,505\dots$ ✓ CA</p> <p>Increased number/<i>Verhoogde getal</i> $= 94,505\dots \times 110\%$ ✓ MCA $= 103,95\dots$ ✓ CA ≈ 104 VALID/<i>GELDIG</i> ✓ O</p> <p style="text-align: center;">OR/OF</p> <p>$SA_{(\text{open cylinder})}/BO = 3,142 \times \text{radius} \times (\text{radius} + 2 \times \text{height})$ $= 3,142 \times 3,5 \text{ m} \times (3,5 \text{ m} + 2 \times 1 \text{ m})$ ✓ SF $= 3,142 \times 3,5 \text{ m} \times 5,5 \text{ m} = 60,4835 \text{ m}^2.$ ✓ CA</p> <p>Increased area/<i>Vergrote opp</i> $= 60,4835 \times 1,1$ ✓ MCA $= 66,53185$ ✓ CA</p> <p>Area of one tile/<i>Opp van 1 teël</i> $= \frac{20}{100} \text{ m} \times \frac{20}{100} \text{ m}$ ✓ C $= 0,2 \times 0,2 \text{ m}^2 = 0,04 \text{ m}^2.$ ✓ CA</p> <p>Area covered by one box/<i>Opp wat een boks bedek</i> $= 0,04 \text{ m}^2 \times 16$ ✓ MCA $= 0,64 \text{ m}^2$ ✓ CA</p> <p>Number of boxes/<i>Getal bokse</i> $= \frac{66,53185}{0,64}$ ✓ MCA $= 103,956\dots$ ≈ 104 ✓ CA VALID/<i>GELDIG</i> ✓ O</p>	<p>1MCA finding area of box of tiles 1CA simplification</p> <p>1MCA dividing 1CA number of boxes</p> <p>1MCA calc. 10% and adding it or multiply with 1,10 1CA number of boxes 1O conclusion</p> <p style="text-align: center;">OR/OF</p> <p>1SF substitution 1CA area of pool</p> <p>1MCA calc. 10% and adding it or multiply with 1,10 1CA simplification</p> <p>1C conversion 1CA area of a tile</p> <p>1MCA finding area of box of tiles 1CA simplification</p> <p>1MCA dividing 1CA number of boxes 1O conclusion</p> <p style="text-align: right;">(11)</p>	
		[30]	

QUESTION/VRAAG 5 [37 MARKS/PUNTE]			
Q/V	Solution/Oplissing	Explanation/Verduideliking	T/L
5.1.1	R617  ✓✓RT	2RT correct road (2)	MP L1 E
5.1.2	6 km  ✓✓RT	2RT correct distance (2)	MP L1 E
5.1.3	Left /Links ✓✓A	2A correct direction (2)	MP L1 E
5.1.4	Dist. = 16km – dist. Hotel to Mkomazana – dist. Himeville to turn Afstand = 16 km – 4,4 km – 2 km ✓RT ✓M = 9,6 km ✓CA	1RT 2 km 1M subtracting of at least one correct value 1CA simplification (3)	M L2 M
5.2.1	The owners need to clean, put fresh linen on the beds and get the cottage ready early for the next booking. ✓✓O <i>Die eienaars moet die plek skoon maak, skoon beddegoed opsit en die kothuis vroeg gereed kry vir die volgende bespreking.</i> OR/OF To encourage spending more days at the venue. <i>Om kliënte aan te moedig om meer dae oor te bly.</i> OR/OF Breaking a long stay. To justify renting out the cottage for one night while someone else might have stayed longer. <i>Dit onderbreek 'n lang oorbly.</i> <i>Om dit te regverdig om die kothuis uit te verhuur vir een nag terwyl iemand anders langer kon oorbly.</i>	2O reason (2)	MP L4 M
5.2.2	Valley Cottage ✓A OR Coot Cottage <i>Vallei kothuis OF Bleshoender kothuis</i> ✓✓O These cottages sleeps 6 persons OR can accommodate 5 to six OR they are 5 OR Cheaper option / Price of 6 sleeper accommodation is more reasonable (R2 640 ÷ 6 = R440 pp) compared to the 2 sleeper (R1 150 ÷ 2 = R575 pp) / <i>Hierdie kothuise is vir 6 persone OF hulle kan 5 tot 6 persone huisves OF die groep is 5 OF Dit is die goedkoper opsie / Koste per persoon vir die 6-persoon is goedkoper (R2 640 ÷ 6 = R440 pp) vergeleke met 2-persoon (R1 150 ÷ 2 = R575 pp)</i>	1A one correct cottage  2O reason (3)	MP L4 E

Q/V	Solution/Oplissing	Explanation/Verduideliking	T/L
*5.2.3	<p>6 sleeper / slaper:</p> <p>Total cost / <i>totale koste</i> ✓RT ✓RT $= R2\ 640 + R2\ 730 \times 2$ ✓MA</p>  <p>$= R8\ 100$ ✓CA</p> <p>VALID/GELDIG ✓O</p>	<p>CA from 5.2.2</p> <p>1RT correct rate, Thursday 1RT correct rate, weekend 1MA multiplying with 2 1CA simplification</p> <p>1O conclusion</p> <p>(5)</p>	M/F L4 M
5.3.1 (a)	<p>✓A False, the map shows other roads also have toll gates. ✓O <i>Onwaar, die kaart toon ook ander tolhekke</i></p>	<p>1A correct option 1O reason</p> <p>(2)</p>	MP L4 E
5.3.1 (b)	<p>True/ <i>Waar</i> ✓✓A</p>	<p>2A correct option</p> <p>(2)</p>	MP L4 E
5.3.2	<p>Top view or aerial view or bird's eye view or satellite view <i>Bo-aansig of vanuit die lug aansig of voël-aansig of satelliet aansig.</i></p> <p>✓✓O</p>	<p>2O correct view</p> <p>(2)</p>	MP L1 E
5.3.3	<p>Distance/<i>Afstand</i> = speed/<i>spoed</i> × time/<i>tyd</i> $588\text{ km} = \text{speed}/\text{spoed} \times 7\text{ h}$ ✓SF</p> <p>Speed/<i>spoed</i> = $\frac{588\text{ km}}{7\text{ h}}$ ✓A</p> <p>$= 84\text{ km/h}$ ✓CA</p>	<p>1SF substitution</p> <p>1A change subject of formula</p> <p>1CA simplification</p> <p>(3)</p>	M L2 M
*5.3.4	<p>Expense for tolls / <i>Tol-fooie</i>: ✓RT $= R56,00 + R77,00 + R82,00 + R58,00$ $= R273$ ✓CA</p> <p>Fuel used/<i>Brandstof verbruik</i> $= 588\text{ km} \div 100\text{ km} \times 6,42\text{ l}$ ✓MA $= 37,7496\text{ l}$ ✓A</p> <p>Fuel cost / <i>Brandstofkoste</i> = $37,7497 \times R21,40$ $= R807,84$ ✓CA</p> <p>Total cost / <i>Totale koste</i> $= R8\ 100 + R807,84 \times 2 + R273,00 \times 2$ ✓MCA $= R10\ 261,68$ ✓CA</p> <p>Cost per person / <i>Koste per persoon</i> $= R10\ 261,68 \div 5$ ✓MCA $= R2\ 052,34$ ✓CA</p>	<p>CA from 5.2.3</p> <p>1 RT correct 4 tolls</p> <p>1CA simplification</p> <p>1MA fuel consumption rate 1A simplification</p> <p>1CA fuel cost</p>  <p>1MCA return trip 1CA total cost for 3 items</p> <p>1MCA dividing by 5 1CA simplification</p>	M/F L3 D

Q/V	Solution/Oplossing	Explanation/Verduideliking	T/L
	<p style="text-align: center;">OR/OF</p> <p>Round trip/ <i>Heer en terug</i> $588 \text{ km} \times 2 = 1176 \text{ km}$ Fuel used/<i>Brandstof verbruik</i> $= 1176 \text{ km} \div 100 \text{ km} \times 6,42 \ell \quad \checkmark\text{MA}$ $= 75,4992 \ell \quad \checkmark\text{A}$</p> <p>Fuel cost / <i>Brandstofkoste</i> $= 75,4992 \times \text{R}21,40$ $= \text{R}1\,615,68 \quad \checkmark\text{CA}$</p> <p>Cost per person/<i>Koste per persoon</i> $= \text{R}1\,615,68 \div 5 \quad \checkmark\text{MA}$ $= \text{R}323,14$</p> <p>Toll fees / <i>Tol-fooie</i>: $= \text{R}56,00 + \text{R}77,00 + \text{R}82,00 + \text{R}58,00 \quad \checkmark\text{RT}$ $= \text{R}273 \quad \checkmark\text{CA}$</p> <p>Round trip/ <i>Heen en weer</i> $= \text{R}273 \times 2 \quad \checkmark\text{MCA}$ $= \text{R}546$</p> <p>Cost per person/<i>Koste per persoon</i> $= \text{R}546 \div 5$ $= \text{R}109,20$</p> <p>Accommodation per person/<i>Verblyf per persoon</i> $= \text{R}8100 \div 5$ $= \text{R}1\,620$</p> <p>Total per person/ <i>Totaal per persoon</i> $= \text{R}323,14 + \text{R}109,20 + \text{R}1\,620 \quad \checkmark\text{MCA}$ $= \text{R}2\,052,34 \quad \checkmark\text{CA}$</p> <p style="text-align: center;">OR/OF</p> <p>Toll Expenses / <i>Tol-fooie</i>: $\checkmark\text{MCA} \quad \checkmark\text{RT}$ $= 2(\text{R}56,00 + \text{R}77,00 + \text{R}82,00 + \text{R}58,00)$ $= \text{R}546,00 \quad \checkmark\text{CA}$</p> <p>Fuel Cost /<i>Brandstof koste</i></p> <p>Total Distance/<i>Afstand</i> $= 588 \text{ km} \times 2 = 1176 \text{ km}$ $\checkmark\text{MA} \quad \checkmark\text{A}$</p> <p>Fuel used/<i>Brandstof</i>: $\frac{1176}{100} \times 6,42 = 75,4992 \ell$</p> <p>Cost/<i>Koste</i>: $75,4992 \times \text{R}21,40 = \text{R}1\,615,68 \quad \checkmark\text{CA}$</p> <p>Total Cost/<i>Totale koste</i>: $\text{R}8\,100 + \text{R}546,00 + \text{R}1\,615,68 = \text{R}10\,261,68 \quad \checkmark\text{CA}$</p> <p>Cost PP/ <i>Koste PP</i>: $\text{R}10\,261,68 \div 5 = \text{R}2\,052,34 \quad \checkmark\text{MCA} \quad \checkmark\text{CA}$</p>	<p>1MA fuel consumption rate 1A simplification</p> <p>1CA fuel cost</p> <p>1MA dividing by 5</p> <p>1 RT correct 4 tolls 1CA simplification</p> <p>1MCA return trip</p> <p>1MCA adding all the values 1CA total cost</p> <p style="text-align: center;">OR/OF</p> <p>1MCA return trip 1 RT correct 4 tolls 1CA simplification</p> <p>1MA fuel consumption rate 1A simplification</p> <p>1CA fuel cost</p> <p>1CA total cost for 3 items</p> <p>1MCA dividing by 5 1CA simplification</p>	(9)
		[37]	
		TOTAL/TOTAAL: 150	