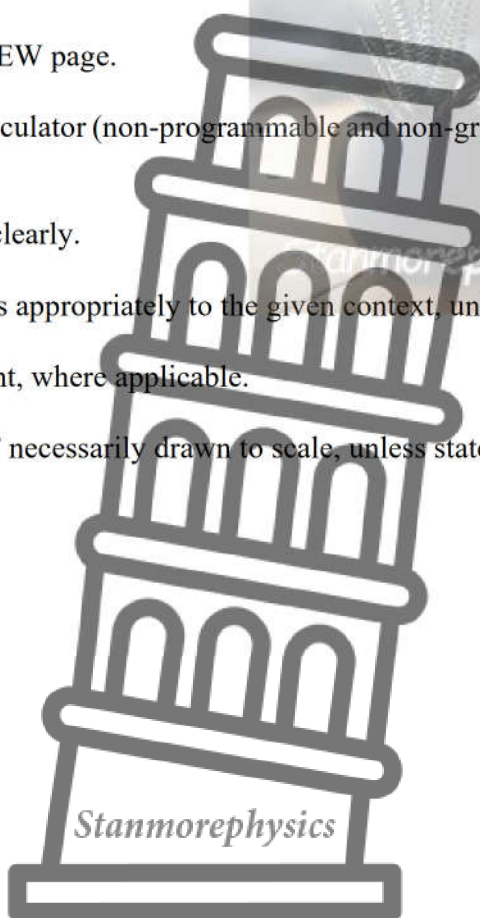




**INSTRUCTIONS AND INFORMATION:**

1. This question paper consists of FIVE questions. Answer ALL the questions.
2. Use the ANNEXURES to answer the following questions:  
ANNEXURE A for QUESTION 2.1  
ANNEXURE B for QUESTION 3.1  
ANNEXURE C for QUESTION 4.1
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 the calculations clearly.
7. Round off ALL final answers appropriately 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.



**QUESTION 1**

1.1 The list of ingredients for Butter bean curry with chicken as made by Fatima Sydow is shown below.

<p style="text-align: center;"><b>Fatima Sydow Cooks</b> <b>Butter bean curry with chicken</b></p> <p><b>Ingredients</b></p> <p>8-10 pieces of chicken (remove skin)                  2 cans of butter beans (drained).                  2 onions chopped finely.                  2-3 tablespoons of roasted masala                  2 teaspoons of turmeric                  2 teaspoons of paprika                  3 whole chillies                  1 tablespoon of sugar                  1 tablespoon of vinegar                  2 bay leaves                  2 cardamom pods                  Salt to taste                  2 tablespoons of vegetable oil for frying onions                  1 cup of chopped coriander</p> <p><b>NOTE: 1 teaspoon = 5 ml</b></p>	 <p style="text-align: center;">[Adapted from m.facebook.com]</p>  <p style="text-align: right;"><u>Drained mass:</u> 250 g</p> <p style="text-align: right;">[Source:game.co.za]</p>
---	--

1.1.1 Calculate in grams, the mass of the butter beans needed for this recipe. (3)

1.1.2 A tablespoon is 3 times the quantity of a teaspoon. Calculate the maximum amount of roasted masala used in ml. (3)

1.1.3 According to the instructions this dish should take a maximum of 35 minutes to make.

A client walks into a restaurant and orders the meal at 19:22, determine the time it should be ready. (2)

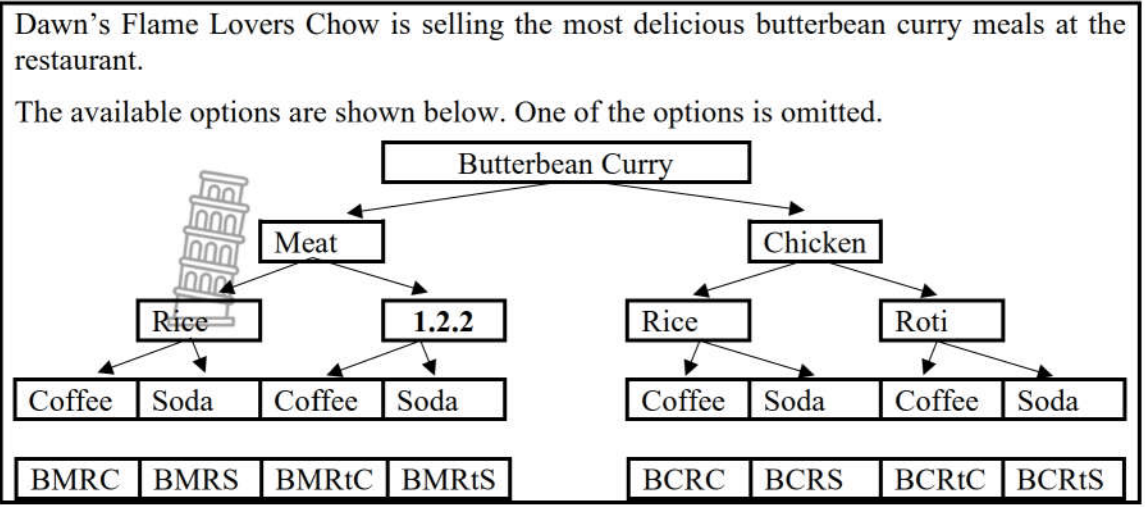
1.1.4 The picture alongside is indicating the temperature of the content of the pot on a food thermometer during the cooking process.

Write down the temperature in °C.



(2)

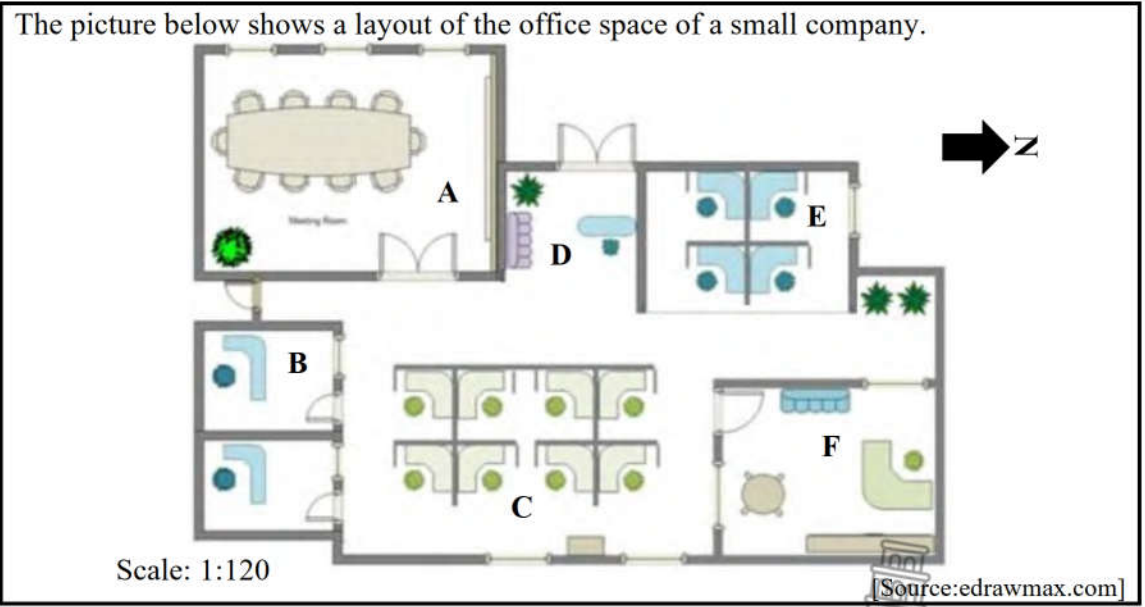
1.2



Use the information above to answer the questions that follow.

- 1.2.1 Write down the name of the representation used above to illustrate all meal options. (2)
- 1.2.2 Write down the name of the option that is omitted. (2)
- 1.2.3 Write down, as a fraction, the probability of randomly ordering a Butterbean Curry meal with chicken and soda at this restaurant. (2)

1.3



Use the information above to answer the questions that follow.

- 1.3.1 State whether the following statement is TRUE or FALSE. (2)  
The layout plan of the office is an example of 3-Dimensional plan.

- 1.3.2 Write down the type of scale used in this layout plan. (2)
- 1.3.3 Identify a feature that was not included in office space B that might be problematic. (2)
- 1.3.4 Explain the meaning of the scale indicated on the picture. (2)
- 1.3.5 A letter is assigned to the different rooms or parts of the office. Write down ONLY the letter that best suits the statements below:
- (a) An area where clients wait before an appointment. (2)
- (b) From the boardroom, exit the double doors, walk in a southeasterly direction pass the cubicles (marked as C), turn into a northerly direction.
- Write down the letter of the room you will face. (2)
- [28]**

**QUESTION 2**

2.1 The Isaacs family wants to do the Swartberg Circle Route in the December holidays.

ANNEXURE A shows the map of the Swartberg Circle Route. The Swartberg Circle Route is a scenic drive that takes you from Oudtshoorn or Calitzdorp over the Swartberg Pass to the towns of De Rust, Klaarstroom, and Prince Albert.

When driving, allow yourself about 10 min to reach the pass from Prince Albert and 20 min from Oudtshoorn while setting aside roughly 1 hour for the 27 km pass itself.

Use ANNEXURE A and the above information to answer the following questions.

- 2.1.1 Identify the tourist attraction in Calitzdorp. (2)
- 2.1.2 Write down the compass direction of Volmoed from Oudtshoorn. (2)
- 2.1.3 Describe the location of the Meiringspoort Waterfall using the towns and road(s) in the area. (3)
- 2.1.4 The Isaacs family wants to eat at one of the restaurants on the map.
- Determine the probability as a percentage to randomly choose a restaurant on the southern side of ROUTE62 and N12. (3)
- 2.1.5 There are TWO possible routes from Oudtshoorn to Prince Albert, a shorter direct route or a longer route via the N12.
- Calculate the difference in km between the two routes. (5)

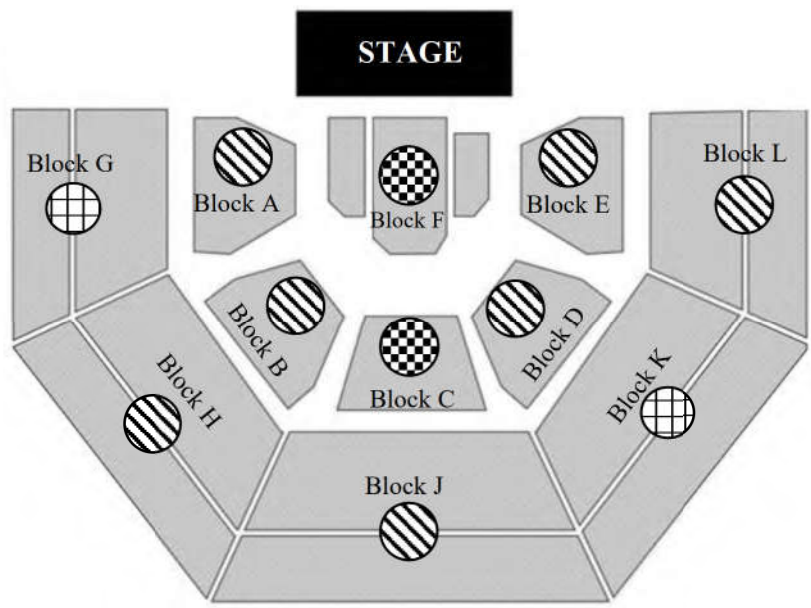
2.1.6 Give ONE reason why it will take longer from Oudtshoorn to Prince Albert if the shortest route is taken compared to the longer route. (2)

2.1.7 The measured distance between Calitzdorp and Oudtshoorn is 10,5 cm.

Determine the scale of the map in the form 1 : ... (4)

2.2 Back in Cape Town the Isaacs family attended The Soul Sister concert at the Grand Arena at the GrandWest Casino.

Below is the layout plan of the arena and use it to answer the questions that follow.



	R362 – R485		R486 – R654		More than R654
--	-------------	--	-------------	--	----------------

[Adapted from:viagogo.co.za]

NOTE: All prices include VAT.

2.2.1 Determine the number of blocks that a person could choose from if they want to pay less than R486 per ticket. (2)

2.2.2 Write down ONE possible reason why Block F's tickets are one of the most expensive ones of the arena. (2)

2.2.3 They selected the cheapest tickets in their respective blocks.

Calculate their total cost if they booked as follow:

Block B – 3 tickets

Block K – 2 tickets

(4)  
[29]

**QUESTION 3**

3.1 Amanda, a Mathematical Literacy learner was asked by her sister Zonke to design part of the garden, for their new house.

ANNEXURE B shows the design and information of the garden.

Use ANNEXURE B to answer the questions that follow.

3.1.1 Calculate **A**, the width of the vegetable patch, in meter. (3)

3.1.2 Calculate the area, in  $m^2$  of one stepping stone on the path. (2)

3.1.3 Zonke wants to put small stones around the stepping stones on the path. The area of the path which needs to be covered by these small stones is  $1,26 m^2$ .

Show how the area of the path that needs to be covered by these small stones, is calculated. (7)

3.1.4 Zonke buys stones in a bag that can cover an area of  $2\,600 cm^2$ . Amanda claims that Zonke will need 4 bags of stones to cover the whole path area between the stepping stones.

Verify, showing all your calculations if her claim is valid. (4)

3.1.5 Show by means of calculations, that the amount of water (in  $m\ell$ ) required to fill the fish pond up to 85% of its capacity, is  $624\,943,8 m\ell$ .

**NOTE:**  $1 cm^3 = 1 m\ell$  (4)

3.1.6 Amanda advises Zonke to put fencing around the rose beds. Calculate the length of fencing needed in meter.

**NOTE:** The fence for the rose beds will not be put up against the wall. (3)



- 3.2 Zonke's doctor stated that a person's BMI (Body Mass Index) could be one of the indicators of your health status.

Zonke is 1 900 mm tall, and her mass is 85 kg.

TABLE 1 shows the BMI Weight Status Table that classifies people based on their BMI status.

**TABLE 1: BMI WEIGHT STATUS TABLE**

BMI	Weight Status
Below 18,5	Underweight (U)
18,5 – 24,9	Normal (N)
25 – 29,9	Overweight (OW)
30 and more	Obese (O)

Use the information in TABLE 1 to answer the questions that follow.

- 3.2.1 Use the formula below to calculate her BMI. Round off the answer to the nearest whole number.

You may use the following formula:

$$\mathbf{BMI} = \frac{\mathbf{Mass\ in\ kg}}{(\mathbf{height\ in\ m})^2} \quad (3)$$

- 3.2.2 Use your answer in 3.2.1 to determine her weight status. (2)

**[28]**



**QUESTION 4**

4.1 A Namibian family (Mr. and Mrs. le Roux and their two children), decided to spend their annual vacation at Sun City Resort in South Africa. They embarked on a road trip to save on costs. ANNEXURE C shows a map that they could use to travel to their destination.

Study the map on ANNEXURE C and answer the questions that follow.

4.1.1 Identify the type of map used. (2)

4.1.2 Write down the number of South African national roads that appear on the map. (2)

4.1.3 Determine the shortest distance from Windhoek to Sun City. (3)

4.1.4 Mr. Le Roux used his Toyota Fortuner with a fuel consumption of 9,5 litres of diesel per 100 km. The average price of diesel is R21,86 per litre.

Calculate the diesel cost in rand of a return trip if they travelled from their home in Windhoek to Sun City. (6)

4.1.5 They left Windhoek at 04:00 and travelled at an average speed of 95 km/h.

Verify, showing all your calculations if they would have arrived at Gobabis before 06:00.

You may use the following formula:


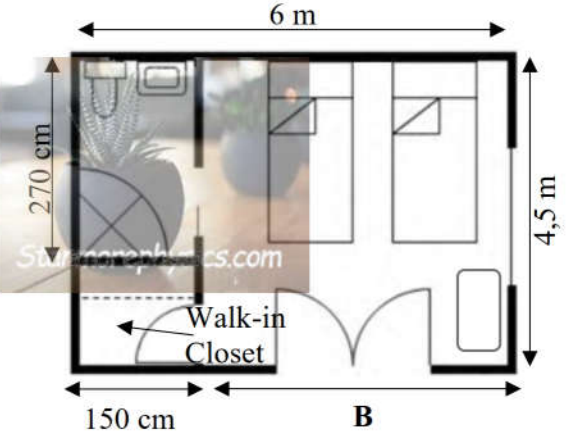
$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} \tag{5}$$





4.2 On their way to Sun City, the le Roux family booked a chalet at a Bed and Breakfast in Kanye (Botswana). The entire floor of the chalet is carpeted except for the bathroom.

The picture below shows the picture of the bedroom as well as a floorplan of the full chalet.

Picture of the bedroom in the chalet	Floorplan of the full chalet.
	
[Source: booking.com]	[Adapted from: pinterest.com]

Use the information above to answer the questions that follow.

4.2.1 The bedroom is a square. Show by means of calculations that the length of the side marked **B** is 4,5 m. (2)

4.2.2 Mr Le Roux mistakenly left the tap of the basin open, that resulted in damages to the carpet.

Determine the cost of replacing all the carpets, if the cost of supplying and fitting of new carpets are R245,00 per m<sup>2</sup>.

You may use the formula:

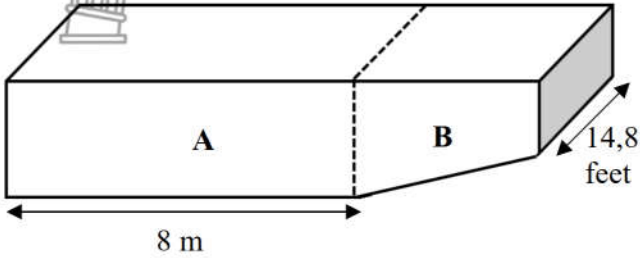

**Area of rectangle = length × width**

**Area of a square = side<sup>2</sup>** (7)



4.2.3 The swimming pool below is just outside of their chalet. The pool has a total capacity of 99 kℓ. The capacity of part **B** of the pool is 19,8 kℓ.

The length of the part **A** of the pool is 8 m. The width of the pool is 14,8 feet.

DIAGRAM OF SWIMMING POOL	PICTURE OF POOL
 <p data-bbox="323 831 646 862"><u>You may use the formula:</u></p> <p data-bbox="323 898 1136 934"><b>Volume of a Rectangular Prism = Length × Breadth × Height</b></p> <p data-bbox="323 969 584 1003"><b>NOTE:</b> 1 m<sup>3</sup> = 1 kℓ</p> <p data-bbox="438 1039 663 1070">1 m = 3,2808 feet</p>	 <p data-bbox="1059 770 1362 801">[Source: planetofhotels.com]</p>

Mr. Le Roux estimated that the depth of Part **A** of the pool is between 2 and 2,5 m.

Verify, showing all your calculations if his estimation is correct.

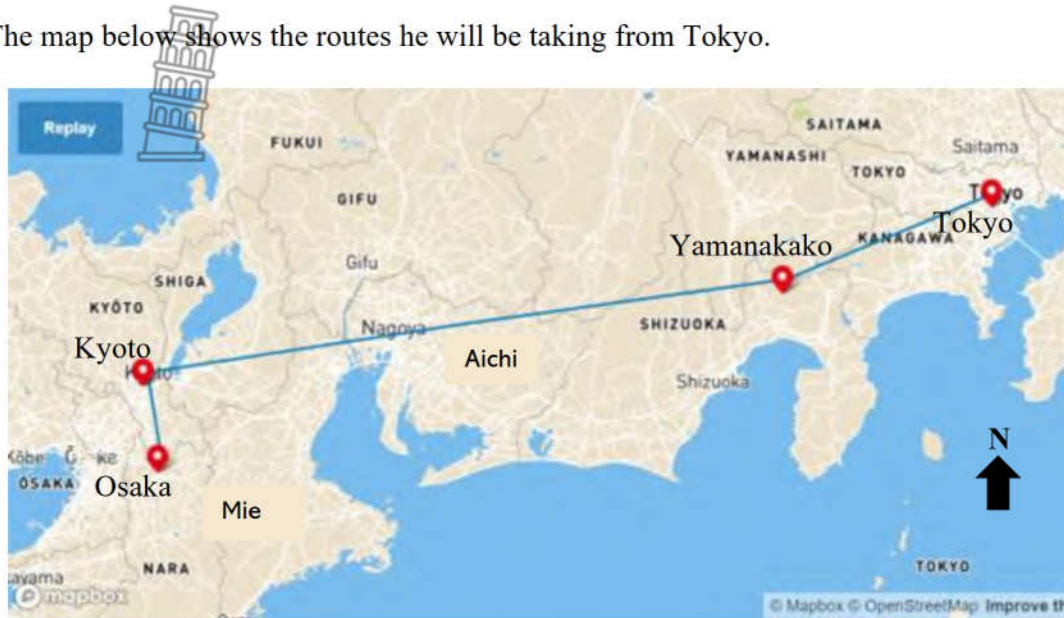
(6)  
[33]



**QUESTION 5**

5.1 Nkosi planned to go on a tour to Japan. The tour will include visiting FOUR cities. The cities to be visited are Tokyo, Yamanakako, Kyoto and Osaka.

The map below shows the routes he will be taking from Tokyo.



NOTE: Map is drawn to scale.

[Adapted from topasiatour.com]

Study the map and answer the questions that follow.


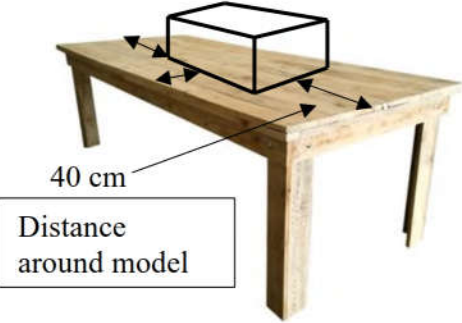
- 5.1.1 State whether the following statements are true or false. (2)
- a) When stopping at Osaka, Mie is in a south-westerly direction from Osaka. (2)
  - b) If you fly back from Kyoto to Yamanakako, Aichi will be on your right-hand side. (2)
- 5.1.2 People are also using trains to travel between cities. The duration of the train ride from Tokyo to Yamanakako is 6 h 32 min. (7)
- Verify, using measurements and calculations, if the duration of the train ride from Yamanakako to Kyoto is 18 hours and 32 minutes.



5.2 While Nkosi was in Japan he visited the Great Buddha Hall, the world's largest wooden building until 1998. The Great Buddha Hall in Japan has been rebuilt twice after fire damage.

The current dimensions of the hall are:

- 57 metres (187 feet) long,
- 50 metres (160 feet) wide
- and 49 metres (161 feet) high.

Picture: The Great Buddha Hall	Scale model on table
	
[Adapted from wikipedia.org]	[Adapted from makitihire.co.za]

Study the information above and answer the questions that follow.

5.2.1 Determine the area of the existing great Buddha Hall in square feet (ft<sup>2</sup>)

You may use the formula:

$$\text{Area} = \text{Length} \times \text{Width}$$

(3)

5.2.2 The base of the scale model of the Great Buddha Hall is 43,8 cm × 29,2 cm and a table to place it on was specifically made for it.

Determine the perimeter, in centimetre (cm), of the table that the model is placed on, if the distance from the edges model is exactly 40 cm to all sides of the table. (See picture above)

You may use the formula:

$$\text{Perimeter} = 2 \times (\text{Length} + \text{Width})$$

(5)



5.3 Koyasu Pharmacy in Tokyo offers delivery services to other pharmacies. The company uses two types of cars to deliver boxes to pharmacies within Tokyo.

The boxes for ONE specific delivery are square-based with the dimensions as shown on the sketch.



	Boot Space	
	Suzuki S-Presso	Renault Kwid
Length/Width/Height	880/600/570mm	950/680/530mm

You may use the following formula:  
**Volume = Length × Width × Height**

Boot Space of Suzuki S-presso



[Adapted from:carwale.com] [Adapted from fedhealth.co.za]

Study the information above and answer the questions that follow.

5.3.1 Explain the term capacity within the context. (2)

5.3.2 The Suzuki S-presso has a boot capacity of 300 960 cm<sup>3</sup>.

The salesman at Renault states that the boot capacity of the Renault Kwid is 41 420 000 mm<sup>3</sup> bigger than the Suzuki S-presso.

Verify, showing all your calculations whether he is correct. (5)

5.3.3 Calculate the number of boxes that will be able to fit into the Suzuki S-presso, if the boxes are to be packed upright. (6)



**TOTAL: 150**

[32]



**GRADE 12**

**MATHEMATICAL LITERACY P2**

**ADDENDUM**

**SEPTEMBER 2023**

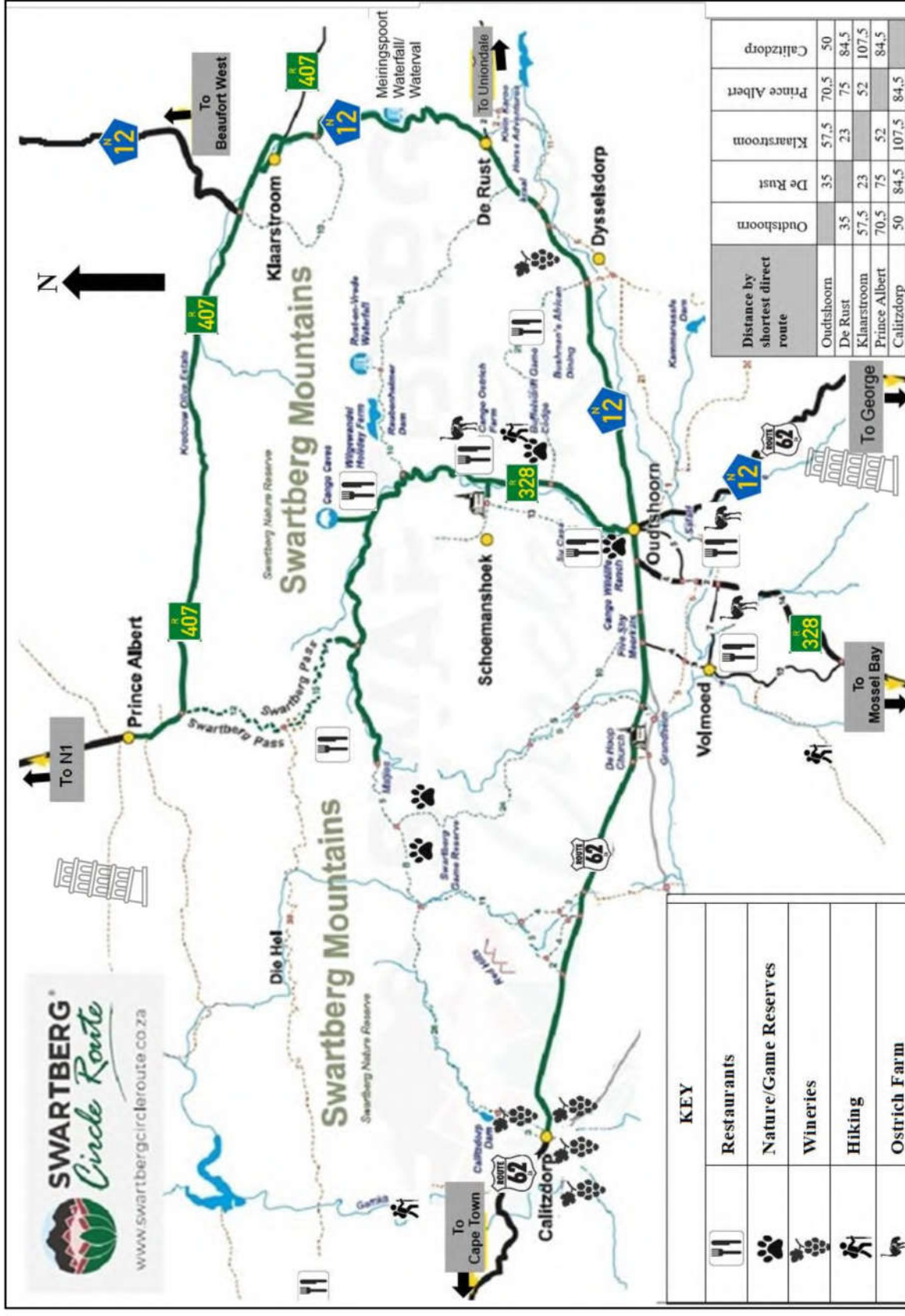
**MARKS: 150**

**TIME: 3 hours**

**This addendum consists of 4 pages with 3 annexures.**



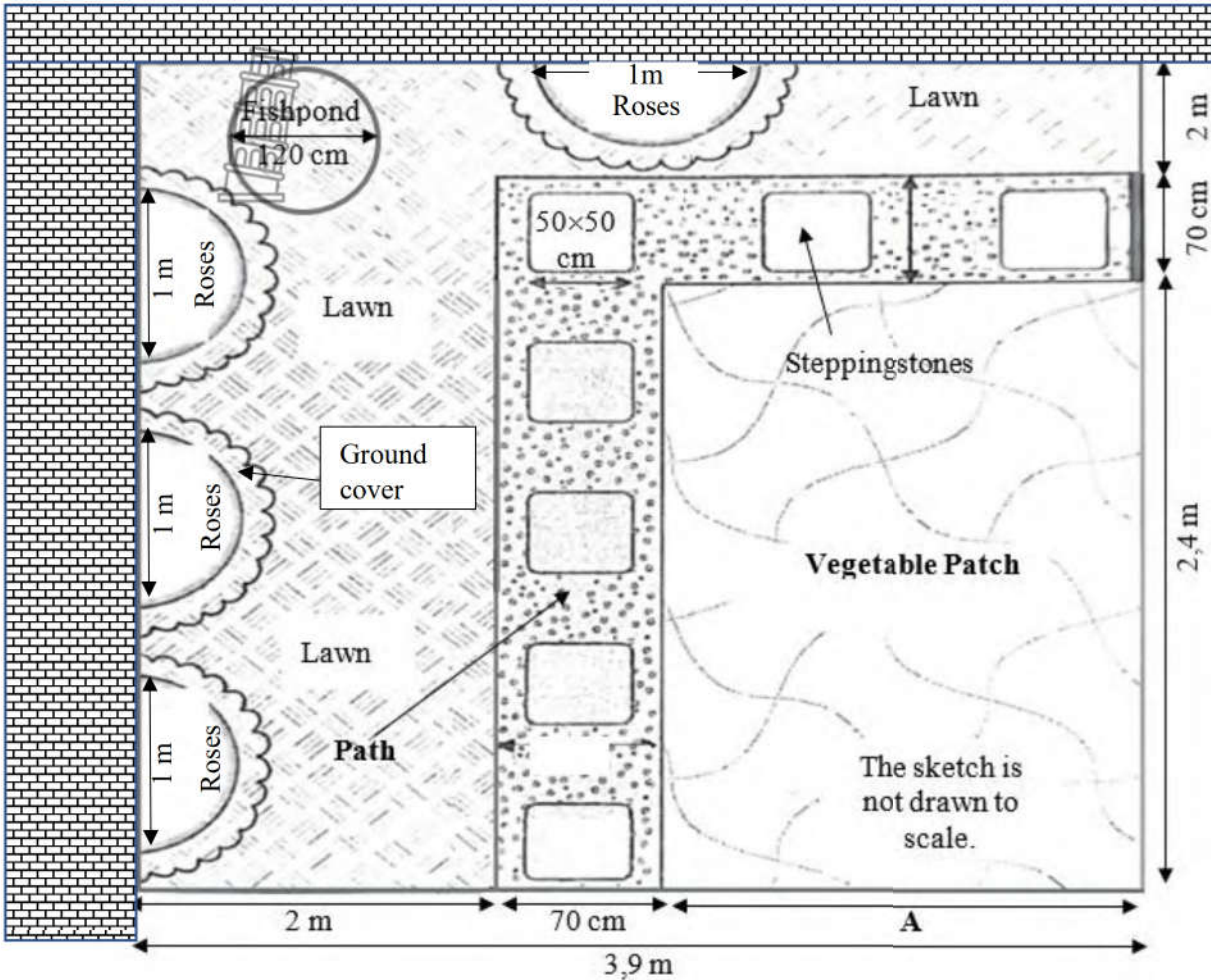
ANNEXURE A - QUESTION 2.1: MAP OF THE SWARTBERG CIRCLE ROUTE



[Source: Adapted swartbergcircularroute.co.za]

**ANNEXURE B**

**QUESTION 3.1 DESIGN AND INFORMATION OF THE GARDEN**



**NOTE:**

- The circular fish pond has a diameter of 120 cm and is 65 cm deep.
- The roses are planted in semi-circular flowerbed with a diameter of 1 m.
- The path is 70 cm wide.
- On the path is seven stepping stones each with dimensions of 50 cm × 50 cm.

You may use the following formulae:

**Perimeter of rectangle** =  $2(\text{length} + \text{breadth})$

**Area of rectangle** =  $\text{length} \times \text{breadth}$

**Volume of cylinder** =  $\pi \times \text{radius}^2 \times \text{height}$ , use  $\pi = 3,142$

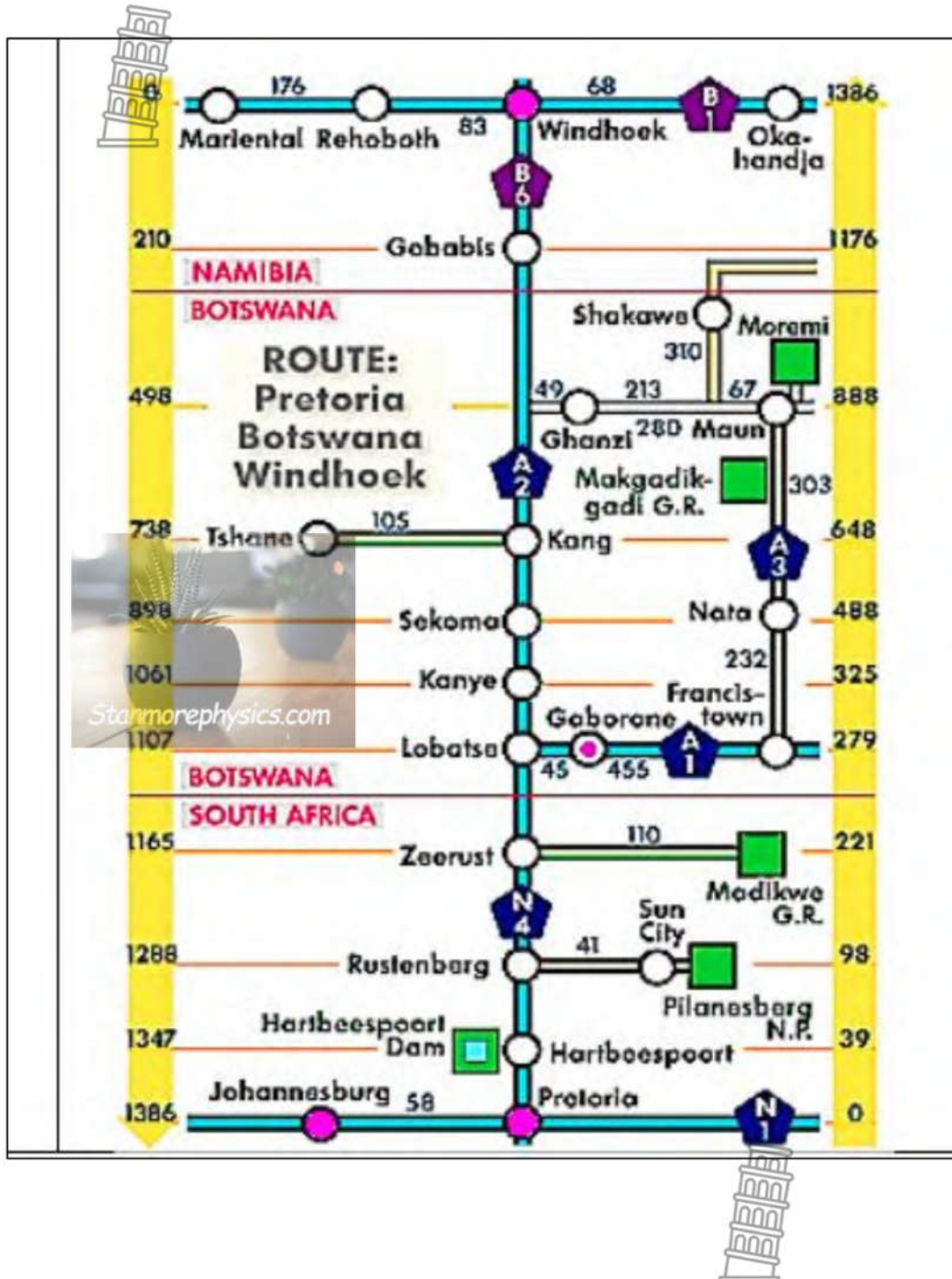
**Circumference of circle** =  $2 \times \pi \times \text{radius}$ , use  $\pi = 3,142$





ANNEXURE C:

QUESTION 4.1 MAP – WINDHOEK TO JOHANNESBURG




**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.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalise for every extra item presented.

**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.
- Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra item.

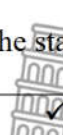
QUESTION 1 [27] NB: (CORRECT) ANSWER ONLY – FULL MARKS			
Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
1.1.1	Mass of butter beans/Massa van botterbone $\checkmark M$ $2 \times 250 \text{ g} \checkmark RT$ $=500 \text{ g} \checkmark A$	1RT correct weight 1M multiply by 2 1A answer in g (3)	M L1 M
1.1.2	Amount of roasted masala/Hoeveelheid geroosterde masala $\checkmark RT$ $3 \times 5 \text{ ml} \times 3 \checkmark M$ $=45 \text{ ml} \checkmark A$	1RT number of teaspoons 1M multiply by 3 1A answer in ml (3)	M L1 E
1.1.3	19:22 + 0h35 $\checkmark M$ 19:57 $\checkmark A$	1M adding 35 minutes. 1A correct time (2)	M L1 E
1.1.4	25°C $\checkmark \checkmark A$	2A correct reading (2)	M L1 E
1.2.1	Tree diagram $\checkmark \checkmark A$	2A correct name (2)	P L1 E
1.2.2	Roti $\checkmark \checkmark A$	2A correct selection (2)	P L1 E

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
1.2.3	$\frac{2}{8} \sqrt{A}$ OR $\frac{1}{4} \sqrt{A}$	1A numerator 1A denominator (2)	P L1 E
1.3.1	FALSE  ✓✓A	2A correct choice (2)	MP L1 E
1.3.2	Number scale ✓✓A	2A correct option (2)	MP L1 E
1.3.3	No external windows ✓✓A	2A correct feature (2)	MP L1 M
1.3.4	✓✓A One unit on the plan is equal to one hundred and twenty units in real-life.	2A correct explanation. (2)	MP L1 E
1.3.5a)	D ✓✓A	2A correct area. (2)	MP L1 E
1.3.5b)	F ✓✓A	2A correct room. (2)	MP L1 E
		<b>[28]</b>	

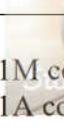



QUESTION 2 [29]			
Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
2.1.1	Wineries ✓✓A	2A correct answer (2)	MP L1
2.1.2	Southwest OR SW ✓✓A	2A correct direction (2)	MP L1
2.1.3	Between Klaarstroom en De Rust ✓✓RT Next to the N12 ✓RT (Accept as road - between the R407 and the road to Uniondale)	2RT both towns 1RT road (3)	MP L2
2.1.4	Probability <sub>restaurants</sub> = $\frac{2}{8} \times 100\%$ ✓A = 25% ✓A ✓CA	1A numerator 1A denominator 1CA percentage (3)	P L2
2.1.5	Via N12 Distance = Oudtshoorn to De Rust to Klaarstroom to Prince Albert = 35 + 23 + 52 ✓RT OR 35 + 75 = 110 km ✓CA  Shortest Distance = 70,5 km ✓RT  Difference = 110 - 70,5 ✓M = 39,5 km ✓CA	1RT all 3 distances 1CA distance via N12  1RT shortest distance  1M subtract distances 1CA difference (5)	MP L2
2.1.6	You need to drive slow through the Swartberg Pass ✓✓O	2O reason (2)	MP L4
2.1.7	Distance between Calitzdorp and Oudtshoorn = 50 km ✓RT 10,5 cm = 50 km ✓MA 10,5 cm = 5 000 000 cm ✓C 1 : 476 190 ✓CA	1RT distance 1MA setting up scale 1C convert to cm or mm or m 1CA 1 : ... <b>NPR</b> (4)	MP L3



Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
2.2.1	2 blocks ✓✓RT	2RT correct number (2)	MP L1
2.2.2	Closest to the stage. ✓✓O	2O correct justification. (2)	MP L4
2.2.3	 Block B - $3 \times R486 = R 1\,458,00$ ✓MA Block K - $2 \times R362 = R 724,00$ ✓MA Total = R 2 182,00 ✓CA	1RT correct ticket prices 1MA finding Block B cost. 1MA finding Block K cost. 1CA simplification (4)	MP L2
			<b>[29]</b>

**QUESTION 3 (28)**

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
3.1.1	✓MA <b>A</b> = $(3,9 - 2 - 0,7) \text{ m}$ ✓C = 1,2 m ✓A	1MA subtracting from 3,9 m 1C convert cm na m 1CA simplification (3)	M L2
3.1.2	$50 \text{ cm} = 0,5 \text{ m}$ $0,5 \text{ m} \times 0,5 \text{ m}$ ✓M $= 0,25 \text{ m}^2$ ✓A  <b>OR</b> $50 \text{ cm} \times 50 \text{ cm}$ ✓M $= 2500 \text{ cm}^2$ $= 0,25 \text{ m}^2$ ✓A	 1M concept of area 1A correct answer in $\text{m}^2$ .  1M concept of area 1A correct answer in $\text{m}^2$ . (2)	M L2
3.1.3	Side 1: $2,4 \text{ m} \times 0,7 \text{ m}$ ✓RT $= 1,68 \text{ m}^2$ ✓MA  Side 2 $(3,9 - 2) \text{ m} \times 0,7 \text{ m}$ ✓RT $= 1,33 \text{ m}^2$ ✓MA Total area: $1,68 \text{ m}^2 + 1,33 \text{ m}^2$ ✓MA $= 3,01 \text{ m}^2$  Area of all stepping stones: $0,25 \text{ m}^2 \times 7 = 1,75 \text{ m}^2$ ✓MA  $3,01 \text{ m}^2 - 1,75 \text{ m}^2$ ✓M $= 1,26 \text{ m}^2$	<b>CA from 3.1.1 and 3.1.2</b> 1RT correct values 1MA finding area.  1RT correct values 1MA finding area.   1MA adding values.  1MA multiply area by 7.  1M subtracting correct values.	M L3


Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
3.1.3	<p><b>OR/OF</b> ✓RT ✓RT</p> $\text{Area} = (1,2 \times 0,7) + [(2,4 + 0,7) \times 0,7] - (7 \times 0,25)$ <p>✓MA ✓MA</p> $= (1,2 \times 0,7) + (3,1 \times 0,7) - (7 \times 0,25)$ <p>✓MA ✓MA</p> $= 0,84 + 2,17 - 1,75$ <p>✓M</p> $= 3,01 - 1,75$ $= 1,26$	<p>1RT correct values 1MA finding area. 1RT correct values 1MA finding area. 1MA adding values. 1MA multiply area by 7. 1M subtracting correct values.</p> <p>(7)</p>	
3.1.4	<p><math>2\,600\text{ cm}^2 = 0,26\text{ m}^2</math> ✓C</p> <p>Number of bags needed: <math>1,26\text{ m}^2 \div 0,26\text{ m}^2</math> ✓M <math>= 4,846</math> bags ✓CA <math>= 5</math> bags It is not valid. ✓O</p>	<p>1C convert <math>\text{cm}^2</math> to <math>\text{m}^2</math></p> <p>1M divide by <math>1,26\text{ m}^2</math> 1CA simplification</p> <p>1O conclusion</p> <p>(4)</p>	M L4
3.1.5	<p>Volume = <math>\pi r^2 h</math> <math>= 3,142 (60)^2 65</math> ✓SF <math>= 735\,228\text{ cm}^3</math> ✓CA</p> <p><math>\frac{85}{100} \times \frac{735\,228}{1}</math> ✓M</p> <p><math>624943,8\text{ cm}^3</math> ✓CA <math>= 624\,943,8\text{ ml}</math></p>	<p>1SF correct values 1CA simplification</p> <p>1M percentage calculation</p> <p>1CA simplification</p> <p><b>NPR</b></p> <p>(4)</p>	M L2
3.1.6	<p>Fence of 2 rose beds: <math>2 \times \pi \times \text{radius}</math> <math>2 \times 3,142 \times 0,5\text{ m}</math> ✓SF <math>= 3,142\text{ m}</math> ✓CA Fence of 4 rose beds <math>= 3,142\text{ m} \times 2</math> <math>= 6,284\text{ m}</math> ✓MA</p> <p>OR Fence of 4 rosebeds ✓SF <math>= (\frac{1}{2} \times 2 \times 3,142 \times 0,5) \times 4</math> <math>= 1,571 \times 4</math> ✓CA <math>= 6,284</math> ✓MA</p>	<p>1SF correct value 1CA simplification</p> <p>1MA finding total circumference</p> <p>(3)</p>	M L2
3.2.1	<p><math>190\text{ cm} = 1,9\text{ m}</math> ✓C</p> <p><math>\text{BMI} = \frac{\text{Mass}}{(\text{Height})^2}</math> <math>= \frac{85\text{ kg}}{(1,9)^2}</math> ✓SF <math>= 23,54570637</math> <math>= 24\text{ kg/m}^2</math> ✓R</p>	<p>1C mark converting to 1,9 1SF correct values 1R rounded answer</p> <p>(3)</p>	M L2
3.2.2	<p>Zonke has a normal weight status. ✓✓A</p>	<p>2A conclusion</p> <p>(2)</p>	M L1
		[28]	

QUESTION 4 (33)			
Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
4.1.1	Strip Map ✓✓ A	2A correct map (2)	MP L1
4.1.2	2 ✓✓ RT	2RT number of roads (2)	MP L1
4.1.3	Windhoek to Rustenburg = 1 288 km ✓ RT Rustenburg to Sun City = 41 km ✓ RT Total Distance = 1 288 + 41 = 1 329 km ✓ CA	1RT correct distance 1RT correct distance 1CA finding total distance. (3)	MP L2
4.1.4	9,5 liters = 100km Distance = 1 329 km Diesel consumption = $1\,329\text{ km} \div 100 \times 9,5\text{ km}$ ✓ M = 126,255 litres ✓ CA = $126,255 \times R\,21,86$ ✓ M = R2 759,93 ✓ CA × 2 ✓ M = R5 519,8686 = R5 519,87 ✓ CA  OR/OF Distance = $1\,329 \times 2$ ✓ M = 2 658 ✓ CA Diesel consumption = $2\,658\text{ km} \div 100 \times 9,5\text{ km}$ ✓ M = 252,51 litres ✓ CA = $252,51 \times R\,21,86$ ✓ M = R5 519,8686 = R5 519,87 ✓ CA	<b>CA from 4.1.3</b>  1M divide by consumption rate. 1CA amount of litres 1M multiply by price/litre 1CA single trip cost / total distance 1M multiply by 2 1CA return cost.  (6)	M L3
4.1.5	Distance to Gobabis = 210 km ✓ RT  Speed = Distance ÷ Time $95\text{ km/h} = 210\text{ km} \div \text{Time}$ ✓ SF Time = $210\text{ km} \div 95\text{ km/h}$ ✓ M = 2,210526316 h ✓ CA = 2h13 Statement is invalid, they arrived 13 minutes later than expected. ✓ O	1RT correct distance  1SF correct values 1M changing subject of formula 1CA simplification  1O conclusion  (5)	M L4
4.2.1	$B + 150\text{ cm} = 6\text{ m}$ $B + 1,5\text{ m} = 6\text{ m}$ ✓ C $B = 6 - 1,5$ ✓ MA $B = 4,5\text{ m}$	1C convert cm to m. 1MA finding distance of B.  (2)	M L2

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
4.2.2	$\text{Area} = 6 \times 4,5 \checkmark \text{MA}$ $= 27 \text{ m}^2 \checkmark \text{A}$ $\text{Area of bathroom} = 1,5 \times 2,7 \checkmark \text{C}$ $= 4,05 \checkmark \text{CA}$ $\text{Area to be carpeted} = 27 - 4,05$ $= 22,95 \text{ m}^2 \checkmark \text{CA}$ $\text{Cost} = 22,95 \times \text{R}245/\text{m}^2 \checkmark \text{M}$ $= \text{R}5\,622,75 \checkmark \text{CA}$ <p><b>[Note : Rounding up – Full marks]</b></p>	<p>1MA calculate area of chalet. 1A answer in <math>\text{m}^2</math>.</p> <p>1C convert to m. 1CA area of bathroom</p> <p>1CA finding area to be carpeted. 1M multiply by cost 1CA simplification</p> <p style="text-align: right;">(7)</p>	M L3
4.2.3	$\text{Capacity of A} = 99 - 19,8$ $= 79,2 \text{ kl} \checkmark \text{MA}$ $= 79,2 \text{ m}^3$ $\text{Breadth in m} = 14,8 \div 3,2808$ $\approx 4,5 \text{ m} \checkmark \text{C}$ <p>Height:</p> $79,2 = 8 \times 4,5 \times \text{height} \checkmark \text{SF}$ $\text{Height} = 79,2 \div 36 \checkmark \text{M}$ $= 2,2 \checkmark \text{CA}$ <p>His estimation is CORRECT <math>\checkmark \text{O}</math></p>	<p>1MA finding capacity of A</p> <p>1C converting feet to m.</p> <p>1SF correct values 1M changing subject of formula 1CA simplification 1O conclusion</p> <p style="text-align: right;">(6)</p>	M L4
		<b>[33]</b>	





QUESTION 5 (32)			
Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
5.1.1 a)	False ✓✓A	2A correct answer (2)	MP L1
5.1.1 b)	True ✓✓A 	2A correct answer (2)	MP L1
5.1.2	<p>Duration in minutes:  <math>6h32 = (6 \times 60) + 32</math>  <math>= 392</math> ✓C ✓A                      Measured distance (Tokyo to Yamanakako) = 30 mm                      Measured distance (Yamanakako to Kyoto) = 86 mm ✓A</p> <p>30 mm = 392 min                      86 mm = ... min</p> <p>Duration in minutes = <math>\frac{86}{30} \times 392</math> ✓M  <math>= 1123,7333</math> minutes (<math>\div 60</math>) ✓C  <math>= 18,72889</math> hours  <math>= 18</math> h 44 min ✓CA                      ✓O</p> <p>No. It is incorrect.</p> <p><b>[NB: Check schools' learners final printed paper– Allow 1 mm variation/ NB: Kontroleer leerders se finale gedrukte vraestelle– Laat 1 mm verskil toe]</b></p>	<p>1C converting to minutes.                      1A measured distance.                      1A measured distance.                      1M ratio calculations                      1C converting to hours.                      1CA simplification                      1O justification</p> <p>(7)</p>	MP L4
5.2.1	<p>✓SF                      Area = length <math>\times</math> breadth                      Area = 187 ft <math>\times</math> 160 ft ✓M  <math>= 29\,920</math> ft<sup>2</sup> ✓A</p>	<p>1SF correct values                      1M multiply values.                      1A correct answer and units.                      (3)</p>	M L2
5.2.2	<p>Length = 43,8 + (40 cm <math>\times</math> 2) ✓M  <math>= 123,8</math> cm ✓CA</p> <p>Width = 29,2 + (40 cm <math>\times</math> 2) ✓MCA  <math>= 109,2</math> cm</p> <p>Perimeter = 2(123,8 cm) + 2(109,2 cm) ✓SF  <math>= 466</math> cm ✓CA</p>	<p>1M adding extra lengths.                      1CA simplification                      1MCA finding increased width.                      1SF substituting correct values.                      1CA simplification                      (5)</p>	M L3 D
5.3.1	Capacity is the largest amount or number of units that can be contained by a certain space. / Space of the boot in car ✓✓A	2A correct explanation (2)	M L1 E

Q/V	Solution/Oplissing	Explanation/Verduideliking	T&L
5.3.2	<p>S-presso in <math>\text{mm}^3</math>:</p> $= 300\,960\text{ cm}^3 (\times 1000)$ $= 300\,960\,000\text{ mm}^3 \quad \checkmark C$ <p style="text-align: right;"><math>\checkmark SF</math></p> <p>Volume = <math>880\text{ mm} \times 600\text{ mm} \times 570\text{ mm}</math>  <math>= 300\,960\,000\text{ mm}^3 \quad \checkmark CA</math></p> <p>Difference = <math>342\,380\,000 - 300\,960\,000 \quad \checkmark MCA</math>  <math>= 41\,420\,000</math></p> <p>He is correct. <math>\checkmark O</math></p>	<p>1C converting to <math>\text{mm}^3</math></p> <p>1SF correct values</p> <p>1CA simplification</p> <p>1MCA subtracting from correct value.</p> <p>1O conclusion</p> <p style="text-align: right;">(5)</p>	M L4 M
5.3.3	<p>Dimensions of box in mm:                      Length – 250 mm; Height – 450 mm <math>\checkmark C</math></p> <p>Boxes in the length: <math>880\text{ mm} \div 250\text{ mm} \quad \checkmark MA</math>  <math>= 3,52</math></p> <p>Boxes in the width: <math>600\text{ mm} \div 250\text{ mm} \quad \checkmark MA</math>  <math>= 2,4</math></p> <p>Number of boxes = <math>3 \times 2 \quad \checkmark MA</math>  <math>= 6\text{ boxes} \quad \checkmark CA</math></p>	<p>1C converting to mm.</p> <p>1MA dividing by correct value. 1MA finding number of boxes.</p> <p>1MA calculating no of boxes 1R using rounded values. 1CA correct answer.</p> <p style="text-align: right;">(6)</p>	MP L3 D
		<b>[32]</b>	

