LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

SEPTEMBER 2023

MARKS: 150

TIME: 3 hours

EMLITP2

This question paper consists of 13 pages, 2-paged answer sheet and a 5-paged addendum with 4 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:

   2.1 ANNEXURE A for QUESTION 2.1
   ANNEXURE B for QUESTION 2.2
   ANNEXURE C for QUESTION 5.1
   ANNEXURE D for QUESTION 5.2

   2.2 Answer QUESTION 4.2.1 and 5.1.2 on the attached ANSWER SHEETS.

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 Sinky is baking a cake for her birthday using the following recipe.
She will start baking at 1: 20 pm.

Ingredients (Serving: 12)

4 large eggs	1 cup whole buttermilk
$1\frac{1}{2}$ cups granulated sugar	$2\frac{3}{4}$ cups all - purpose flour
1 teaspoons baking powder	1cup unsalted butter
2 teaspoons vanilla extract	$\frac{1}{2}$ kosher teaspoon salt

Prep. Time: 15 minutes **Cook Time: 30 minutes**

TABLE 1: NUTRITIONAL VALUE FOR THE CAKE

Description	Quantity
Total carbohydrates	51g
Total Sugar	31g
Protein	5g
Calcium	82mg
Potassium	78mg

PLEASE NOTE:
1 cup = 250 mℓ 1 cup flour = 150 g 1 teaspoon = 5 mℓ

[Adapted from myrecipes.com/classic-birthday-cake]

Use TABLE 1 and the information above to answer the questions that follow.

1.1.1 Sinky bought 2 000 g of flour.
Calculate 15% of the flour. (2)

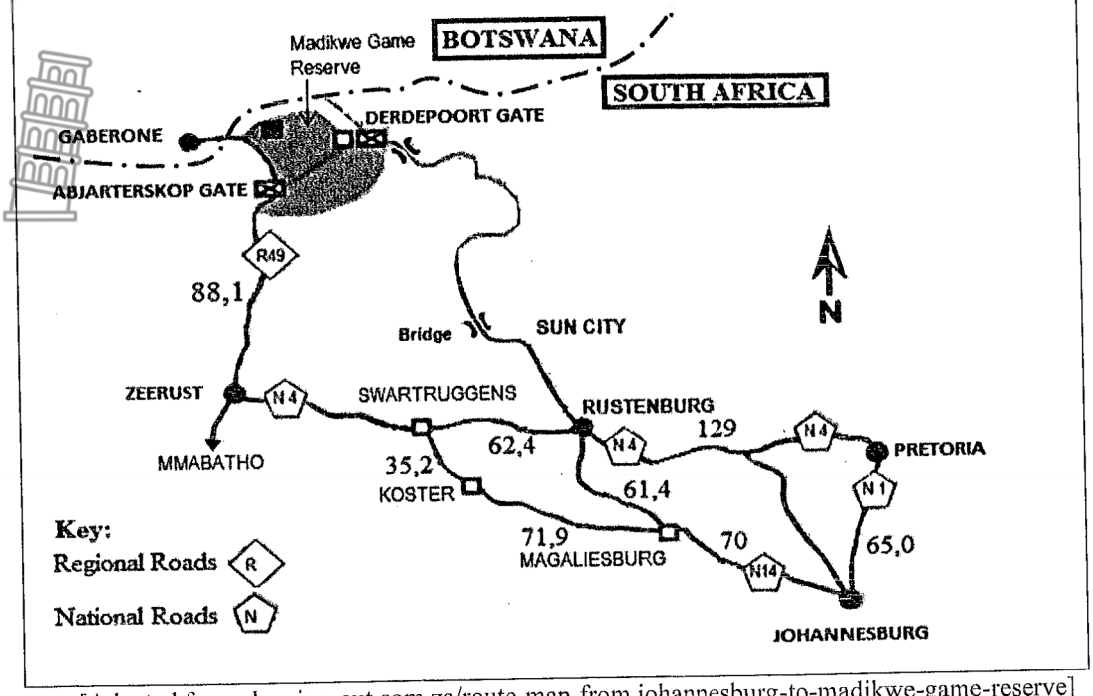
1.1.2 Write the teaspoons of salt required for the cake to the teaspoons of vanilla extract required for the cake as a ratio in simplified form. (3)

1.1.3 Sinky bought 1 ℓ of whole buttermilk.
Determine the number of cakes can be baked with 1ℓ of whole buttermilk (2)

1.1.4 Write 1: 20 pm in 24 – hour format. (2)

1.1.5 Convert the total carbohydrate intake to milligrams. (2)

1.2 Sinky used the map below to travel from Johannesburg to Madikwe game reserve to celebrate her birthday.



[Adapted from sleeping-out.com.za/route-map-from.johannesburg-to-madikwe-game-reserve]

Use the map and the information above to answer the questions that follow.

1.2.1 Identify the type of map given above. (2)

1.2.2 Name the regional road indicated on the map. (2)

1.2.3 Determine the distance from Johannesburg to Koster. (2)

1.2.4 Write down the number of national roads shown on the map. (2)

1.3 The year 2020 was a leap year. A leap year occurs every 4 years.

The calendar of February 2020 is given below.

FEBRUARY 2020

SUN	MON	TUES	WED	THURS	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

[Adapted from www.calendarpedia.com]

NOTE:
A leap year is a year in which February has 29 days.

Use the calendar above to answer the questions that follow

1.3.1 Write down the number of Saturdays in February 2020, (2)

1.3.2 On which day was the 1st of March 2020? (2)

1.3.3 Determine the number of days in the month of March. (2)

1.3.4 Write the date in full on the second Thursday of this month. (2)

1.3.5 Determine the year which will be the next leap year after 2020. (2)
[29]

QUESTION 2

2.1 Handy lives in Mossel Bay.
The map showing part of Mossel is given in ANNEXURE A.

Use ANNEXURE A to answer the questions that follow

2.1.1 Write down the grid reference for the Bay View Hospital. (2)

2.1.2 Name two streets on either side of the City Hall Complex (4)

2.1.3 Handy lives in Bruns Street. He wants to go to the police station.

Describe ONE of the routes from his home to the police station. (4)

2.1.4 Handy covers 2,4 km in 0,16 hours

Calculate the average speed in km/h at which he cycles.

You may use the following formula:

$$\textbf{Average speed} = \frac{\textbf{Distance (km)}}{\textbf{Time (h)}}$$ (2)

2.2 Handy visited his grandmother in Mokopane.
He first went to Mookgopong to collect his jacket from his friend.

He uses the map in ANNEXURE B to plan his trip.

Use ANNEXURE B to answer the questions that follow.

2.2.1 Identify the type of scale used on the map (2)

2.2.2 Determine the scale of the map in the form 1:-----, if the measured length on the scale is 32 mm. (3)

2.2.3 Give the general direction of Mookgopong from Mokopane. (2)

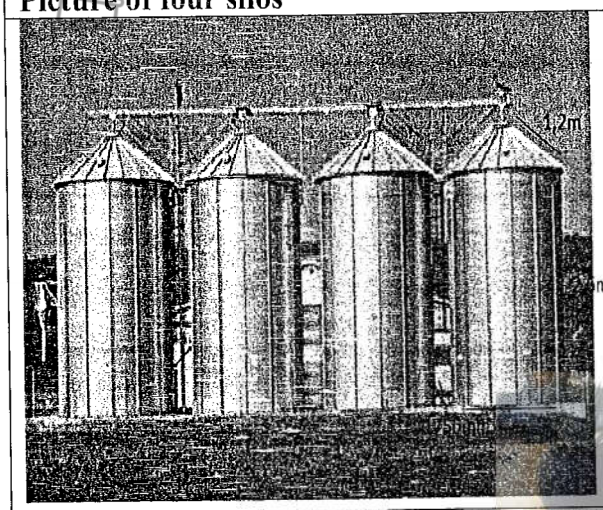
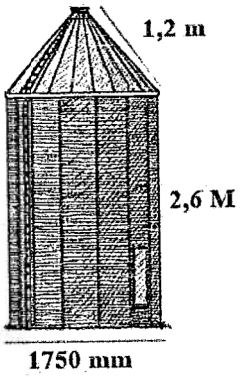
2.2.4 Calculate the actual distance, to the nearest km, between Mokopane and Mookgopong using the given scale. (5)

2.2.5 The distance calculator indicates that the distance between Mokopane and Mookgopong is 52,5km.

Give one possible reason why this distance is not exactly the same as the distance calculated in 2.2.4 above. (2)
[26]

QUESTION 3

3.1 Mr. Masutha stores his maize in the four cylindrical silos before taking them for processing.
Each silo has a diameter of 1750 mm, the slanting height of 1,2 m and a height of 2,6 m.
Each silo can carry 15 000 tons of raw maize

Picture of four silos	Picture of one silo with dimensions
	

[Adapted from content://media/external/download] [Adapted from dreamstime.com/drawing-of-silo]

Use the information above to answer the questions that follow.

3.1.1 Calculate the radius, in mm, of one silo. (2)

3.1.2 Determine the volume of the 4 silos in m^3.

You may use the following formula:

Volume of a cylinder = $\pi r^2 h$, where $\pi = 3{,}142$ (5)

3.1.3 Mr. Masutha will paint the outside of the silos.
He bought a paint with a spread rate of 6 m^2/ℓ per coat.
Two coats will be applied.

Calculate to the nearest litre the minimum number of litres of paint required to paint the four silos.

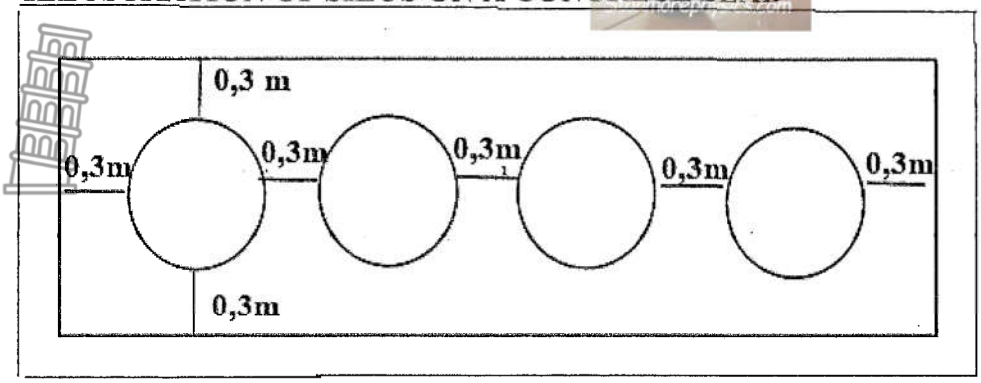
You may use the following formula:
Surface Area of a silo = $\pi rs + 2\pi rh$, where $\pi = 3{,}142$ (7)

3.1.4 Calculate the number of 5 litre tins Mr. Masutha will buy if the paint is sold in 5 litre tins only. (3)

3.1.5 Give one possible reason for Mr. Masutha to paint the silos. (2)

3.2 Mr. Masutha will place the four silos on a concrete slab. The space between the silos is 0,3 m. The drawing that illustrates the concrete slab and the silos is given below.

ILLUSTRATION OF SILOS ON A CONCRETE SLAB



NOTE:
Diameter of each Silo is 1750 mm.
1 Silo can carry 15 000 tons of raw maize.

Use the information above to answer the questions that follow.

3.2.1 The volume of the concrete slab is given as 9,9 m^3.
Show that the thickness of the concrete slab is 0,5 m.

You may use the following formula:

Volume of a rectangular prism = length × width × height (4)

3.2.2 Mr. Masutha will erect a fence 1,5m from the concrete slab all round to fence in the silos.

Calculate the length of the fence required.

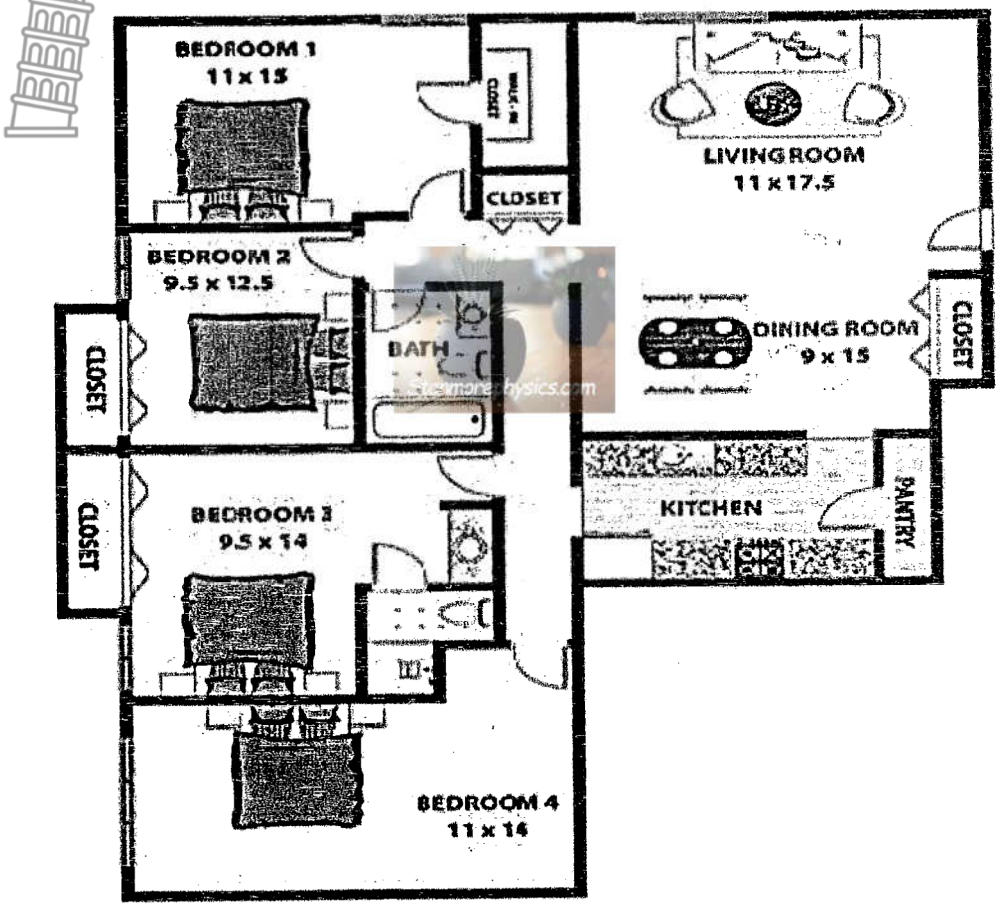
You may use the following formula:

Perimeter = 2 × (length + width) (5)

3.2.3 4 Bags of 80 kg raw maize can make 3 bags of 80 kg processed maize meal.
Determine the total number of processed maize meal that can be made from the four silos. (6)
[34]

QUESTION 4

4.1 Mavis bought a house in Kimberly. The floor plan of the house is given below.



NOTE:
Dimensions given in feet.
1 FOOT= 0,305 m


= Door

[Adapted from https://floorplanforrealestate.com]

Use the floorplan and the information above to answer the questions that follow.

4.1.1 Define the term floor plan in the given context. (2)

4.1.2 Determine the number of doors in the floor plan. (2)

4.1.3 Calculate the area of bedroom 2 to the nearest m^2.

You may use the following formula:

Area of a rectangle = length × width (4)

4.2 Mavis wants to tile the living room. She must choose from three different types of tiles.
The ceramic tile (C), porcelain tile (P) and Marble tile (M).
Each tile comes in two shapes, a square (S) and a rectangle shape (R).

[www.chntile.com]

Use the information above to answer the questions that follow.

4.2.1 Complete the tree diagram on ANSWER SHEET 1 to determine the probability of using each type and shape of tile. (3)

4.2.2 Write down the total number of outcomes of tiling the living room using the three tiles and shapes. (2)

4.2.3. Determine the probability, as a fraction in simplified form, that Mavis will use a ceramic tile or marble tile. (3)

4.3 Mavis decided to tile the living room using a marble tile.
The dimensions of the tiles are given below.

TABLE 2: DIMENSIONS OF TILES

Tile type	Length	Width
Rectangular	900 mm	600 mm
Square	0,5 m	0,5 m

[www.chntile.com]

Use TABLE 2 to answer the questions that follow.

4.3.1 Mavis claims that she will need a minimum of 30 rectangular tiles to tile the living room only.

Verify, showing ALL calculations whether her statement is valid. (8)

4.3.2 It takes tilers 45 minutes to lay 15 tiles and 25 minutes to grout the whole living room.

Mavis claims that the tilers will finish tiling the living room at 9:28 if they started at 8:15 in the morning.

Verify, showing ALL calculations, whether her statement is valid. (6)
[30]

QUESTION 5

5.1 Judy bought the chair. She was given a box with pieces inside and the assembly guide.

The assembly guide in ANNEXURE C and help Judy to assemble the chair.

Use ANNEXURE C to answer the questions that follow.

5.1.1 Calculate the total number of parts in the box including the additional parts. (2)

5.1.2 Match the steps and the pictures in ANNEXURE C to assemble the chair. Write your answers on ANSWER SHEET 2.

Steps
1 ----------
2 ----------
3 ----------
4 B
5 ----------
6 ----------

(5)

5.1.3 Part 12 is used in two steps. Identify the steps. (2)

5.1.4 State ONE advantage of packaging the chair as dismantled pieces rather than a full assembled chair. (2)

5.2 Judy is a serjeant at arms in the Australian parliament.
The layout plan of the Australian parliament is indicated in ANNEXURE D.

NOTE:
A serjeant at arms is an official of the legislative assembly whose duty is to maintain order and security in the parliament.

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

5.2.1 Determine the number of seats reserved for advisors in this parliament. (2)

5.2.2 Explain why the seat of the speaker faces all the seats in the parliament (2)

5.2.3 Give one reason why is it necessary to maintain order and security in a parliament. (2)

5.3 Serjeant at arms are required to maintain a healthy status by maintaining a normal weight status.
Judy and her friend Thulani are also required to maintain a healthy status as serjeant at arms.

TABLE 3: BMI WEIGHT STATUS

BMI	WEIGHT STATUS	HEALTH RISK
40 and above	Morbidity Obese	Severe
30 – 39,9	Obese	High
25 – 29,9	Overweight	Moderate
18,5 – 24,9	Normal	Low
Below 18,5	Underweight	Moderate

[Source: Myfitnessroad.com]

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

5.3.1 (a) Calculate Judy's BMI to the nearest ten if she is 1,8 m tall and weighs 75 kg.

You may use the formula

$$\textbf{BMI} = \frac{\textbf{Weight (kg)}}{\textbf{Height (m}^2\textbf{)}}$$ (4)

5.3.1 (b) Hence, determine Judy's weight status. (2)

5.3.2 Write down the weight status of Thulani if she is 1,6m tall and has a BMI of 26. (2)

5.3.3 Thulani is 1,6 m tall and has a BMI of 26.
Judy's weight is 75 kg.
Determine the difference in weight between Judy and Thulani. (4)

5.3.4 Suggest one way in which Thulani could maintain a normal weight status. (2)
[31]

TOTAL: 150

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MATHEMATICAL LITERACY/P2

ADDENDUM

SEPTEMBER 2023

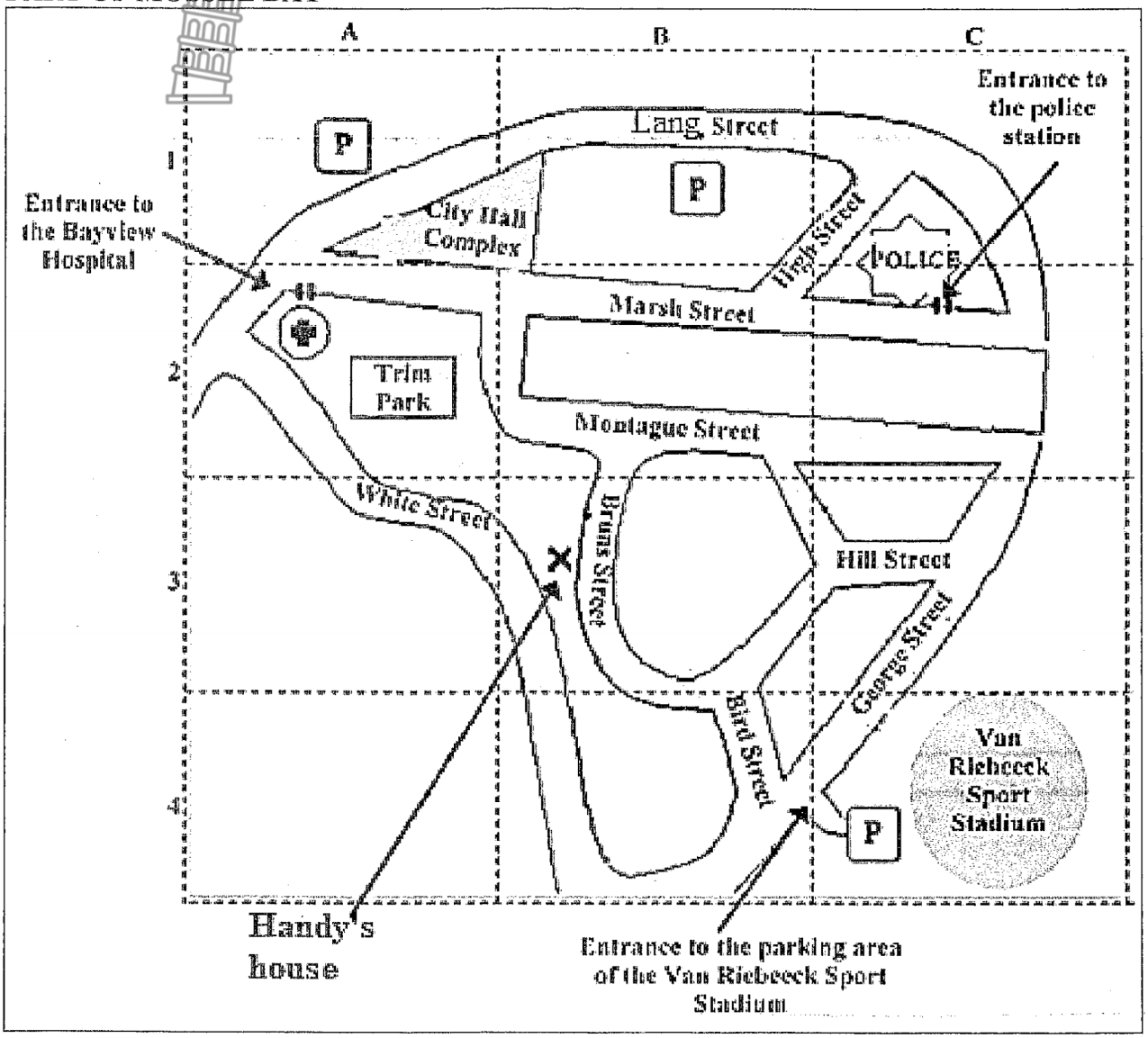
EMLITP2AD

This addendum consists of 5 pages with 4 annexures.

ANNEXURE A

QUESTION 2.1

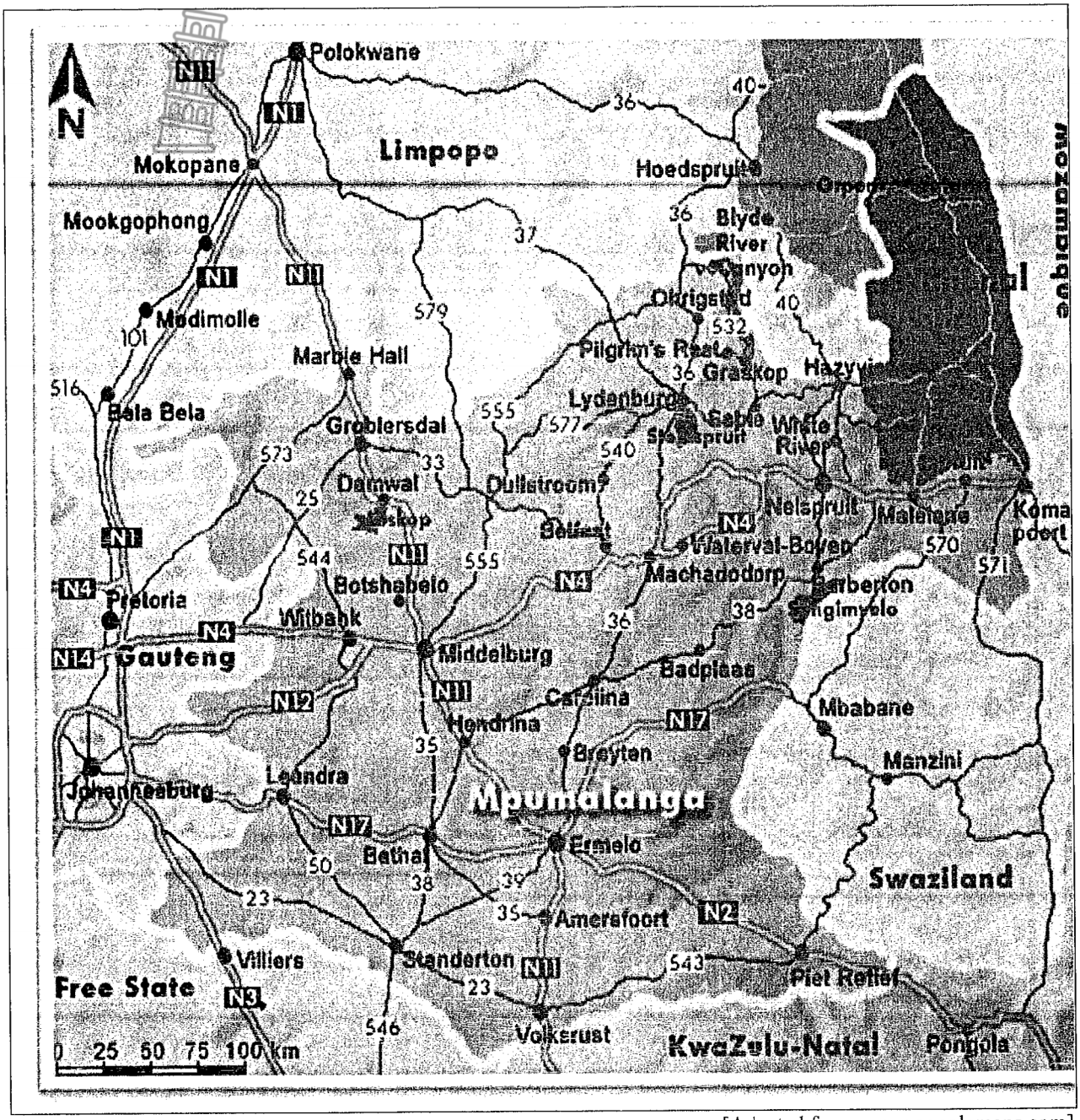
PART OF MOSSEL BAY



[Adapted from www.education.gov.za]

ANNEXURE B

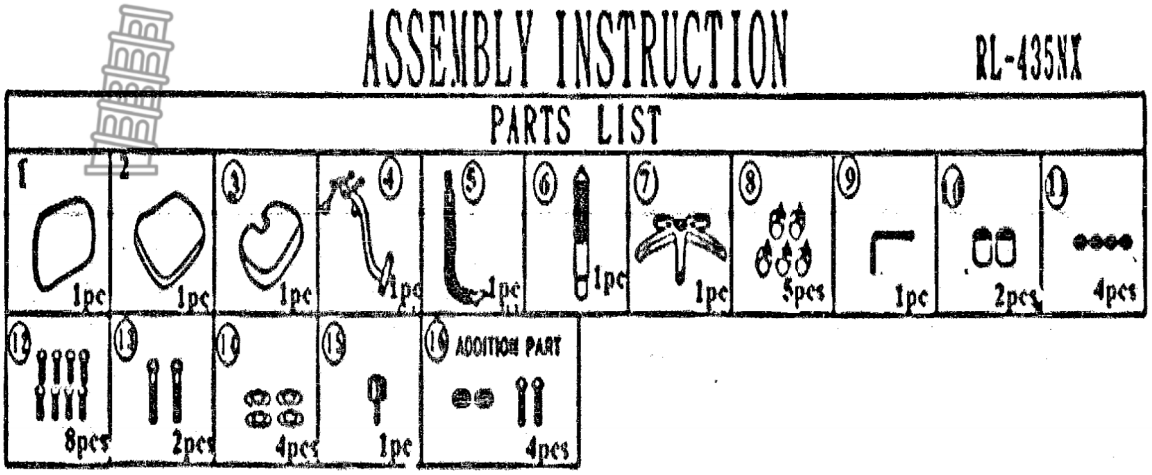
QUESTION 2.2

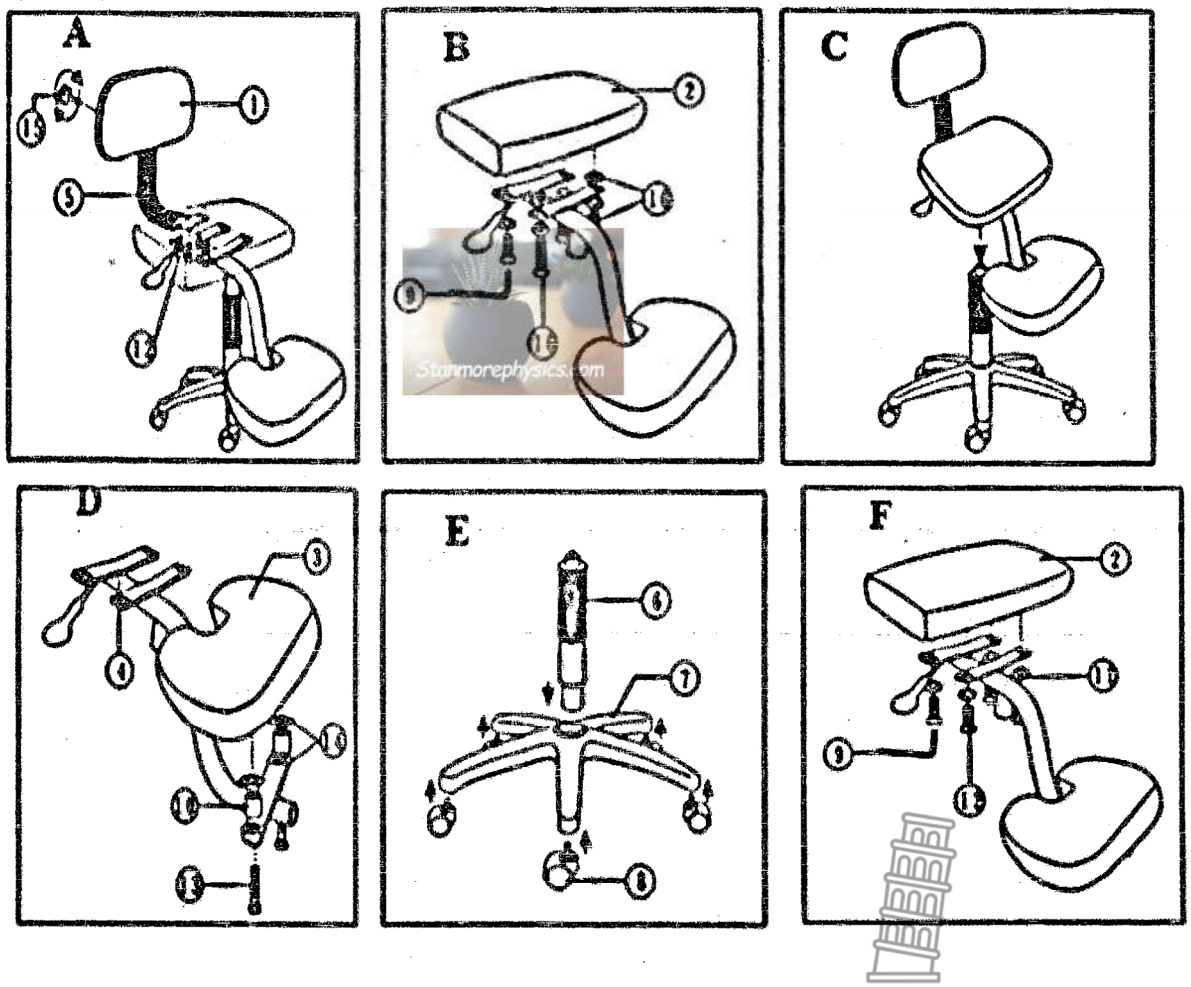


[Adapted from www.googlemaps.com]

ANNEXURE C

QUESTION 5.1

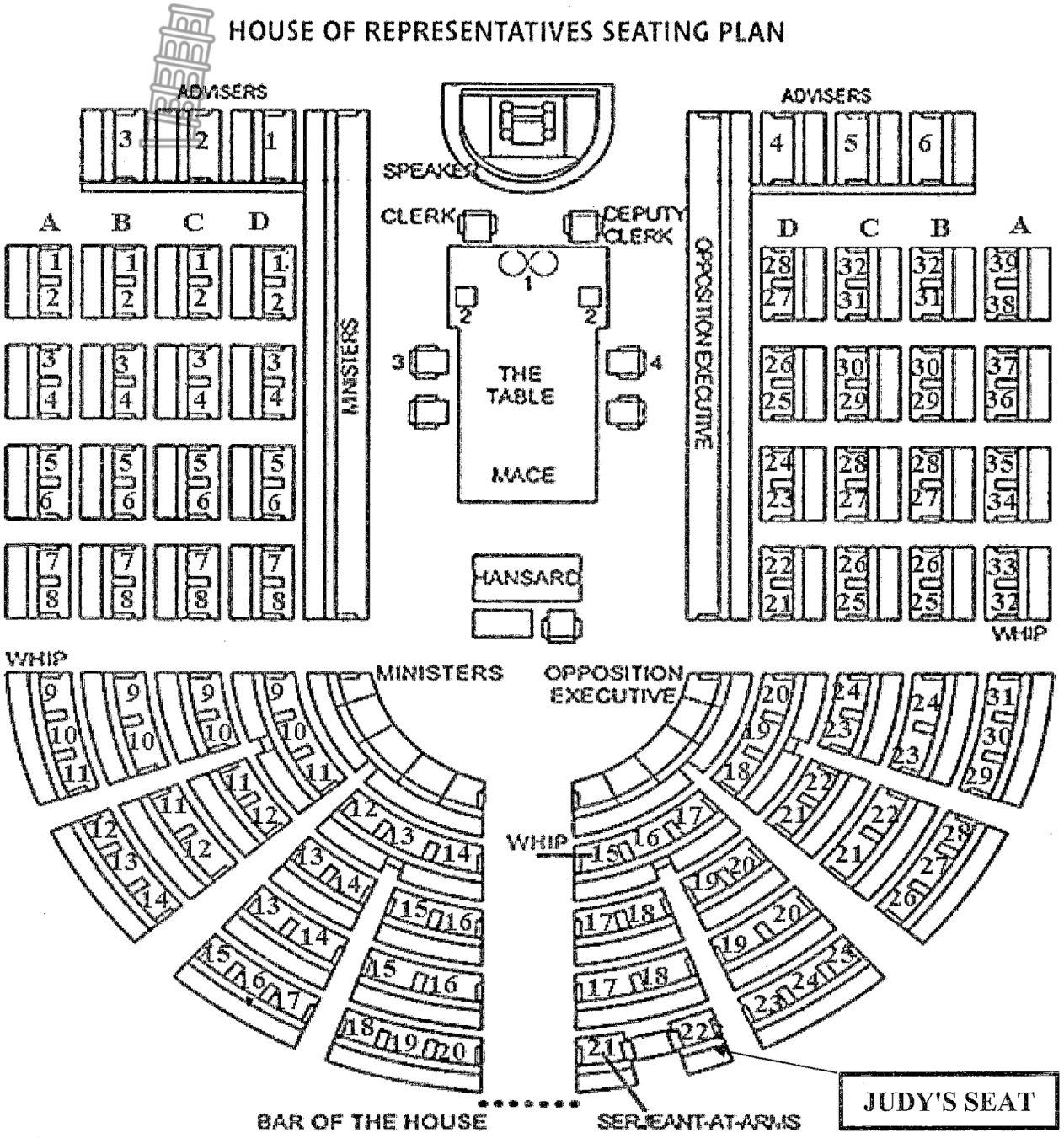




[Adapted from content://media/external/download]

ANNEXURE D

QUESTION 5.2



[Adapted from https:www.aph.gov.au/-/media/05_About_parliament]

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MATHEMATICAL LITERACY P2

PREPARATORY EXAM

MARKING GUIDELINES/NASIENRIGLYNE

SEPTEMBER 2023

MARKS/*PUNTE*: 150

Symbol/*Kode*	Explanation/*Verduideliking*
M	Method/*Metode*
MA	Method with accuracy/*Metode met akkuraatheid*
MCA	Method with consistent accuracy/*Metode met volgehoue akkuraatheid*
CA	Consistent accuracy/*Volgehoue akkuraatheid*
A	Accuracy/*Akkuraatheid*
C	Conversion/omskakel/*Herleiding*
S	Simplify/vereenvoudig/*Vereenvoudiging*
RT	Reading from a table/graph/document/diagram/*Lees vanaf tabel/grafiek/dokument/diagram*
SF	Correct substitution/vervanging in a formula/*Korrekte vervanging in 'n formule*
O	Opinion/opinie/Explanation/*Opinie/Verduideliking*
P	Penalty, e.g. for no units, incorrect rounding off, etc./*Penalisasie, bv. vir geen eenhede, verkeerde afronding, ens.*
NPR	No penalty for correct rounding/*Geen penalisasie vir korrekte afronding nie*
NPU	No penalty for omitting unit, but wrong unit is penalised/*Geen penalisasie indien die eenheid uitgelos is, maar wel indien 'n verkeerde eenheid gebruik word.*
AO	Answer/antwoord only/*Slegs antwoord*

These marking guidelines consist of 12 pages.
Hierdie nasienriglyne bestaan uit 12 bladsye.

Please turn/draai/deaai over

Marking Guidelines/*Nasienriglyne*

NOTE:

- If a candidate answer/antwoords 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.
- Rounding is an independent mark.
- General principle of marking, if the candidate makes one mistake he loses one mark.
- A conclusion mark can only be given if relevant calculations precedes it.

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 egter 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.*
- *Afronding tel as 'n afsonderlike punt.*
- *Die algemene beginsel van merk as 'n leerder een fout maak verloor hy een punt.*
- *'n Gevolgtrekkingspunt kan slegs gegee word indien relevante berekeninge dit voorgaan.*

QUESTION/*VRAAG* 1 [29 MARKS/*PUNTE*] ANSWER/ANTWOORD ONLY FULL MARKS			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.1.1	Percentage of flour $=\frac{15}{100} \times 2000g$ ✓MA =300g ✓A	1MA Multiplying/vermenigvuldigtydformaat 2000g by 15% 1A simplify/vereenvoudig (2)	M L1
1.1.2	Ratio / *Verhouding* ✓RT $=\frac{1}{2}:2$ **OR / *OF*** 0,5 :2 ✓MA = 1:4 ✓A	1RT correct values/korrekte waardes 1MA correct order/korrekte orde 1A simplify/vereenvoudig (3)	M L1
1.1.3	Number of cakes / *Aantal koeke* $=\frac{1000ml}{250ml}$ ✓MA = 4 cakes ✓A	1MA divide/deel by 250ml 1A simplify/vereenvoudig (2)	M L1
1.1.4	Time in 24-hour format / *Tyd in 24 uur formaat* = 13:20 ✓✓A	tydformaat 2A correct time format (2)	M L1

Marking Guidelines/*Nasienriglyne*

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.1.5	Total Carbohydrates in mg / *Totale Koolhidrate in mg* = 51 g × 1 000 ✓MA = 51 000 mg ✓A	 1MA multiplying/vermenigvuldig by 1 000 1A simplify/vereenvoudig (2)	M L1
1.2.1.	Route map / Roete kaart ✓✓A	2A correct map/korrekte kaart (2)	MP L1
1.2.2.	R49 ✓✓RT	2RT reading from the map /lees vanaf kaart/lees vanaf kaart (2)	MP L1
1.2.3.	Total distance / Totale afstand = 70 km + 71,9 km ✓MA = 141,9 km ✓CA	 1MA adding distance/bymekaartel 1CA simplify/vereenvoudig (2)	MP L1
1.2.4	3 ✓✓A	2A correct number. (2)	MP L1
1.3.1	✓✓RT 5 Saterdae/Saturdays	2 RT Reading from the Calender Lees van kalender (2)	M L1
1.3.2	✓✓A Sondag/Sunday	2A correct day/korrekte dag (2)	M L1
1.3.3	31 days ✓✓A	2A correct number of days/aantal dae/ (2)	M L1
1.3.4	13/02/2020 ✓✓A	2A Correct Answer/antwoord (2)	M L1
1.3.5	2020 + 4 years ✓MA = 2024 ✓A	1MA adding four years/4 jaar bytel 1A simplification/vereenvoudig (2)	M L1
		[29]	

Marking Guidelines/*Nasienriglyne*

QUESTION/*VRAAG* 2 [26 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T/L**
2.1.1	A2 or 2A ✓✓RT	2RT Reading from the map /lees vanaf kaart (2)	MP L1
2.1.2	✓✓RT Marsh Street and Lang Street ✓✓RT ✓A	2 RT Reading from the map /lees vanaf kaart (4)	MP L2
2.1.3	Draai links in Bruns straatdan links in Montagu straat by die kruising loop reguit tot byMarsh straat em draai ✓A dan regsreguit verby High straat aan linkerkant is die ingang van die polisiestasie Handy should enter Bruns street and turn left, then turn left again into Montague Street at the junction. Walk straight until Marsh Street and ✓A turn right into Marsh street. Walk straight and pass High Street. On the left side is the entrance of the police station ✓A	1A turn/draai/left/links 1A turn/draai left into /linksMontague 1A turn/draai right/regs into Marsh 1A On the left is the entrance ingang links (4)	MP L2
2.1.4	Speed/spoed $= \frac{Distance/afstand}{TimeTyd}$ $= \frac{2{,}4\ Km}{0{,}16\ hours}$ ✓SF $= 15\ km/h$ ✓CA	1SF Correct substitution/vervanging vervanging 1CA simplify/vereenvoudig (2)	MP L2

Marking Guidelines/*Nasienriglyne*

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
2.2.1	✓✓A Staaf lyn Bar/Line scale/skaal	2A correct scale/skaal (2)	MP L1
2.2.2	Scale/skaal $=\frac{100 \times 1000000}{32mm}$ ✓M = 3 125 000 ✓CA 1: 3 125 000 ✓CA	 1M multiplying/vermenigvuldig and divide/deel correct values 1CA simplify/vereenvoudig 1CA scale/skaal (3)	MP L3
2.2.3	North East ✓✓A	2A general direction/algemene rigting (2)	MP L2
2.2.4	Gemete kaartafstand Measured Map Distance = 15mm ✓A Ware afstand Actual Distance in km = $\frac{15mm \times 100km}{32mm}$ ✓MA ✓M = 46,875 km ✓CA = 47 km OR Gemete kaartafstand ✓A Measured Map Distance =15mm Werklike Afstand ✓MA Actual Distance = $\frac{15mm \times 3\ 125\ 000}{1000\ 000}$ ✓M = 46,875Km ✓CA = 47 km ✓R	1A Measured map distance kaart afstand (accept 13mm-17mm) 1MA Multiplying/vermenigvuldig by 100km 1M divide/deel by 32mm (Accept 30mm – 34mm) 1CA simplify/vereenvoudig 1 R Rounding afrond (5) 1A Measured map distance kaart afstand 1MA Multiplying/vermenigvuldig by scale/skaal 1M divide/deel by 1000000 1CA simplify/vereenvoudig 1 R Rounding afrond	MP L2
2.2.5	Pad is nie reguitlyn afstand nie The road is not a straight-line distance as measured on the map.✓✓O	2O Opinion/opinie (2)	MP L4
		[26]	

QUESTION 3 [34 MARKS]

Q/ V	Solution/*Oplossing*	Explanation/ *Verduideliking*	T/L
3.1.1	Radius $= \frac{diameter/deursnee}{2}$ $= \frac{1750mm}{2}$ ✓M $= 875mm$ ✓A	1MA Calculating/bereken/afrond radius in mm 1A Answer/antwoord (2)	M L1
3.1.2	Volume $= \pi r^2 h$ ✓C $= 3{,}142 \times (0{,}875m)^2 \times 2{,}6m$ ✓SF $= 6{,}25454375m^3$ ✓S $6.25454375m^3 \times 4$ ✓MCA $= 25{,}0181m^3$ $\approx 25m^3$ ✓R	**CA from Question 3.1.1** 1C conversion/omskakel 1SF Correct Substitution/vervanging 1S Simplify/vereenvoudig 1MCA Multiplying/vermenigvuldig by 4 1R Rounding (5)	M L2
3.1.3	Oppv Surface Area $= \pi rs + 2\pi rh$ ✓SF $= 3{,}142 \times 0{,}875m \times 1{,}2m + 2 \times 3{,}142 \times 0{,}875m \times 2{,}6m$ $=17{,}5952m^2$ ✓CA $17{,}5952m^2 \times 4$ ✓MCA $= 70{,}3808m^2$ ✓A Aantal liters verf No. of litres of paint $= \frac{70{,}3808m^2}{6m^2}$ ✓MCA $= 11{,}73\ell \times 2$ ✓M $= 23{,}46\ \ell$ $= 24\ell$ ✓A	**CA from Question 3.1.1** 1SF Substitung correct values/korrekte waardes 1CA simplify/vereenvoudig 1MCA Multiplying/vermenigvuldig by 4 1A Answer/antwoord 1MCA Divide/deel correct values/korrekte waardes 1MA multiplying/vermenigvuldig by 2	M L3

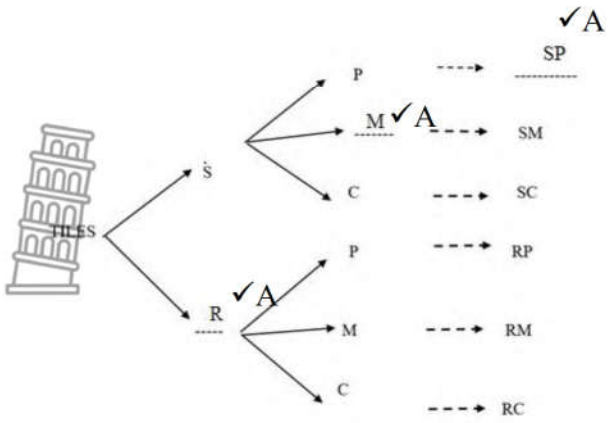
		1A Rounded Answer/antwoord afrond (7)	
3.1.4	Aantal kanne verf Number of tins of paint required $= \frac{24\ell}{5}$ ✓MA $= 4{,}8\ tins$ ✓CA $\approx 5tins$ ✓R	**CA from Question 3.1.3** 1MA Divide/deel by 5 1CA simplify/vereenvoudig 1R Rounding/afromd (3)	M L2
3.1.5 .	To prevent them from rust✓✓O Roes te voorkom	2O opinion/opinie (2)	M L4

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
3.2.1	Length/lengte of concrete slab = (0,3m × 5) + (1,75m × 4) ✓A = 8,5m Width/breedte of the concrete slab = (0,3m × 2)+ 1,75m = 2,35m $9{,}9m^2 = 8{,}5m \times 2{,}35m \times h$ ✓SF $h = \frac{9{,}9m^2}{8{,}5m \times 2{,}35m}$ ✓S $= 0{,}495619524m$ h= 0,5m ✓A	1A Length of concrete slab 1SF Substituting correct values/korrekte waardes 1S Simplify/vereenvoudig 1A Rounded answer/antwoord (4)	M L3
3.2.2	✓M Length/lengte of the fence $= (1{,}75m \times 4) + (0{,}3m \times 5) + 3m$ $= 11{,}5m$ ✓CA Width/breedte of the fence $= 1{,}75m + (0{,}3m \times 2) + 3m$ $= 5.35\ m$ ✓A ✓SF Total length/lengte required $= 2 \times (\ 11{,}5m + 5{,}35m)$ $= 33{,}7m$ ✓CA	1M Adding correct values/korrekte waardes 1CA Simplify/vereenvoudig 1CA Simplify/vereenvoudig width 1SF Substituting correct values/korrekte waardes 1CA Simplify/vereenvoudig (5)	M L3
3.2.3	$80kg\ raw\ maize \times 4 = 320kg$ ✓A $80kg\ processed\ maize\ meal \times 3 = 240kg$ $15\ 000\ tons \times 1000 = 15\ 000\ 000\ kg$ ✓C Aantal kg meel Number of kg of processed maize meal	1A Answer/antwoord, Total Kg of raw maize 1C conversion/omskakel	M L3

	$= \frac{15\,000\,000kg \times 240kg}{320\ kg}$ ✓M $= 11\,250\ 000kg$ ✓CA Aantal sake vir 4 silos ✓MCA Total number of bags for 4 silos= $\frac{11\,250\,000 \times 4}{80\ kg}$ = 562 500 bags ✓CA OR $80kg\ raw \times 4 = 320kg$ ✓A $320kg \div 1000 = 0{,}32\ ton$ ✓C Aantal meelsakke Number of bags of processed maize meal bags = $15\,000\ tons \times 0{,}24 \div 0{,}32\ tons$ ✓M $= 11250\ tons$ ✓CA 11 250 ÷ 0,08 = 140625 bags ✓MCA Aantal sake vir 4 silos Total number of bags for 4 silos= 140 625 bags × 4 = 562 500 bags ✓CA	1M Multiplying/vermenigvuldig and divide/deel correct values/korrekte waardes 1CA Simplify/vereenvoudig kg for 1 silo 1MCA Multiplying/vermenigvuldig by 4 and divide/deel by 80kg 1CA Simplify/vereenvoudig 1A Answer/antwoord, Total Kg of raw maize 1C conversion/omskakel 1M Multiplying/vermenigvuldig and divide/deel correct values/korrekte waardes (6)

QUESTION4 [30 MARKS]

Q/V	Solution/ *Oplossing*	Explanation	T/L
4.1.1	A floor plan is a top view of the design and dimensions of the inside of a building.Boaansig✓✓A OR A Floor plan is the Aerial view of the arrangements of the inside of a building /hoogte perspektief	2A explanation /verduidelik (2)	MP L1
4.1.2	9 doors/deure✓✓RT	2RT Reading from the plan Lees van plan (2)	MP L2
4.1.3	✓SF ✓M Area of the room/kamer = (9,5 ×0.305) × (12,5 × 0,305) ✓S $= 2{,}8975 \times 3{,}8125$ $= 11{,}05m^2$ ✓CA	1M Multiplying/vermenigvuldig by 0,305 1SF Substituting values Vervang waardes 1S Simplify/vereenvoudig 1CA Simplify/vereenvoudig (4)	M L3

4.2.1		1A R 1A M 1A SP (3)	P L2
4.2.2	6 Outcomes✓✓A	2A number of outcomes Aantal uitkomste (2)	P L2
4.2.3	P(Ceramic or Marble) $= \frac{2}{6} + \frac{2}{6} = \frac{4}{6} = \frac{2}{3}$ ✓A ✓A	1A numerator/teller 1A denominator/noemer 1A simplify/vereenvoudig (3)	P L2

Marking Guidelines/*Nasienriglyne*

Q/V	**Solution/*Oplossing***	**Explanation/*Verduideliking***	T/L
4.3.1	*Length/lengte of the living room* $= 17,5 \times 0,305$ $= 5,34m$ ✓A *Width/wydte of living the room* $= 11 \times 0,305$ $= 3,36m$ ✓CA Area/Oppv Of Living room $= 5,34m \times 3,36m$ ✓M $= 17,9424m^2$ ✓CA Oppv van reghoekige teel Area of a rectangular tile $= 0,9\ m \times 0,6m$ $= 0,54m^2$ ✓CA Aantal teels benodig Total number of tiles required $= \frac{17,9424m^2}{0,54m^2}$ ✓M $= 33,23tile \approx 34\ tiles$ ✓CA Nie geldig Her statement is not valid ✓O	1A Answer/antwoord length 1A Answer/antwoord width 1M Calculating/bereken area 1CA Simplify/vereenvoudig 1CA Simplify/vereenvoudig 1M Diving/duik Area 1A Rounded Answer/antwoord afrond 1O Opinion/opinie (8)	M L4
4.3.2	Time taken to tile the living room$= \frac{45min \times 36\ tiles}{15\ tiles}$ ✓M Tyd om sitkamer te teel $= 108\ min$ ✓S $= 1h\ 48\ min$ ✓A Eindtyd Finishing Time $= 08h15 + 1h48 + 25min$ ✓M $= 10h\ 28$ ✓CA Nie geldig ✓O Her statement is not valid	1M Multiplying/vermenigvuldig and divide/deel 1S Simplify/vereenvoudig 1A Answer/antwoord 1M Adding time/bymekaar tel 1CA Simplify/vereenvoudig 1O Opinion/opinie (6)	M L4
		[30]	

Marking Guidelines/*Nasienriglyne*

QUESTION[31 MARKS]

Q/V	Solution/ *Oplossing*	Explanation/ *Verduideliking*	T/L
5.1.1	Total Number of parts aantal parte = 1+1+1+1+1+1+1+1+5+1+2+4+8+2+4+1+4 ✓M = 38 ✓CA	1M Method of adding correct values/korrekte waardes 1CA Simplify/vereenvoudig (2)	MP L1
5.1.2	Steps 1 E ✓A 2 D ✓A 3 F ✓A 4 B 5 A ✓A 6 C ✓A	1A Answer/antwoord 1A Answer/antwoord 1A Answer/antwoord 1A Answer/antwoord 1A Answer/antwoord (5)	MP L1
5.1.3	✓✓A A AND F / 3 AND 4 ✓✓A	2A Answer/antwoord (2)	MP L2
5.1.4	Maklik vervoer ✓✓O For easier transportation. **OR** Maklik dra of hou ✓✓O Easy carrying or holding' **OR** Cheaper than readily made ✓✓O Goedkoper as klaargemaaktes **OR** Any valid reason or opinion/geldige opinie	2O Opinion/opinie (2)	MP L4
5.2.1	6 ✓✓A	2A Answer/antwoord (2)	MP L1
5.2.2	The speaker is the presiding officer of the parliament, hence he/she must be able to see all members, ✓✓A Voorsitter moet so geplaas wees dat hul almal kan xien	2O opinion/opinie (2)	MP L4
5.2.3	Om parlementslede van mekaar te beskerm ✓✓O To protect members of parliament against each other **OR Om gladde verloop van parlement te verseker** ✓✓O To maintain the smooth running of the parliament **OR** Any valid reason or opinion/opinie	2O Opinion/opinie (2)	MP L4

5.3.1 (a)	$BMI = \frac{75\ kg}{(1{,}8m)^2}$ ✓SF ✓A $= 23{,}14814815$ ✓A $= 23$ ✓R	1SF Correct Substitution/vervanging 1A Height Squared/vierkante hoogte 1A Answer/antwoord 1R Rounding/afrond (4)	M L2
Q/V	**Solution/*Oplossing***	**Explanation/*Verduideliking***	T/L
5.3.1 (b)	Normal weight/gewig✓✓A	**CA from Question 5.3.1(a)** 2A Answer/antwoord (2)	M L2
5.3.2	Overweight/oorgewig✓✓A	2A Answer/antwoord (2)	M L2
5.3.3	$BMI = \frac{weight\ in\ kg}{(height\ in\ m)^2}$ $26 = \frac{weight}{(1{,}6m)^2}$ ✓SF $Weight; gewig = 26 \times (1{,}6m)^2$ $= 66{,}56kg$ ✓A $75kg - 66{,}56kg = 8{,}44kg$ ✓A	1SF Correct Substitution/vervanging 1S Simplify/vereenvoudig 1A Answer/antwoord 1 CA Difference/verskil (4)	M L3
5.3.4	• Exercise a lot genoeg oefen ✓✓O • Reduce the amount of food she takes Verminder kos inname✓✓O • Reduce eating too much fat food Eet minder vet✓✓O • Join weight/gewigless programs/sluit by oefenprogram aan ✓✓O • Any reasonable answer/antwoord/enige aanvaarbare antwoord	2O Opinion/opinie (2)	M L4
		[31]	
		TOTAL/*TOTAAL*: 150	