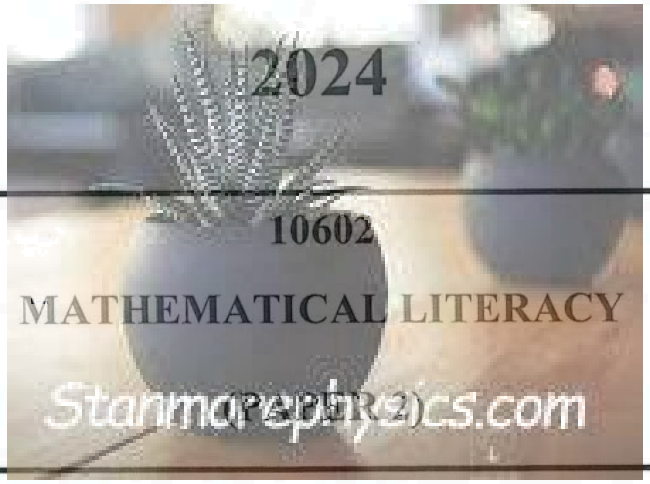
GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

PREPARATORY EXAMINATION



TIME: 3 hours

MARKS: 150

MATHEMATICAL LITERACY: Paper 2

10602E

15 pages and an addendum with 4 annexures

X10

INSTRUCTIONS AND INFORMATION

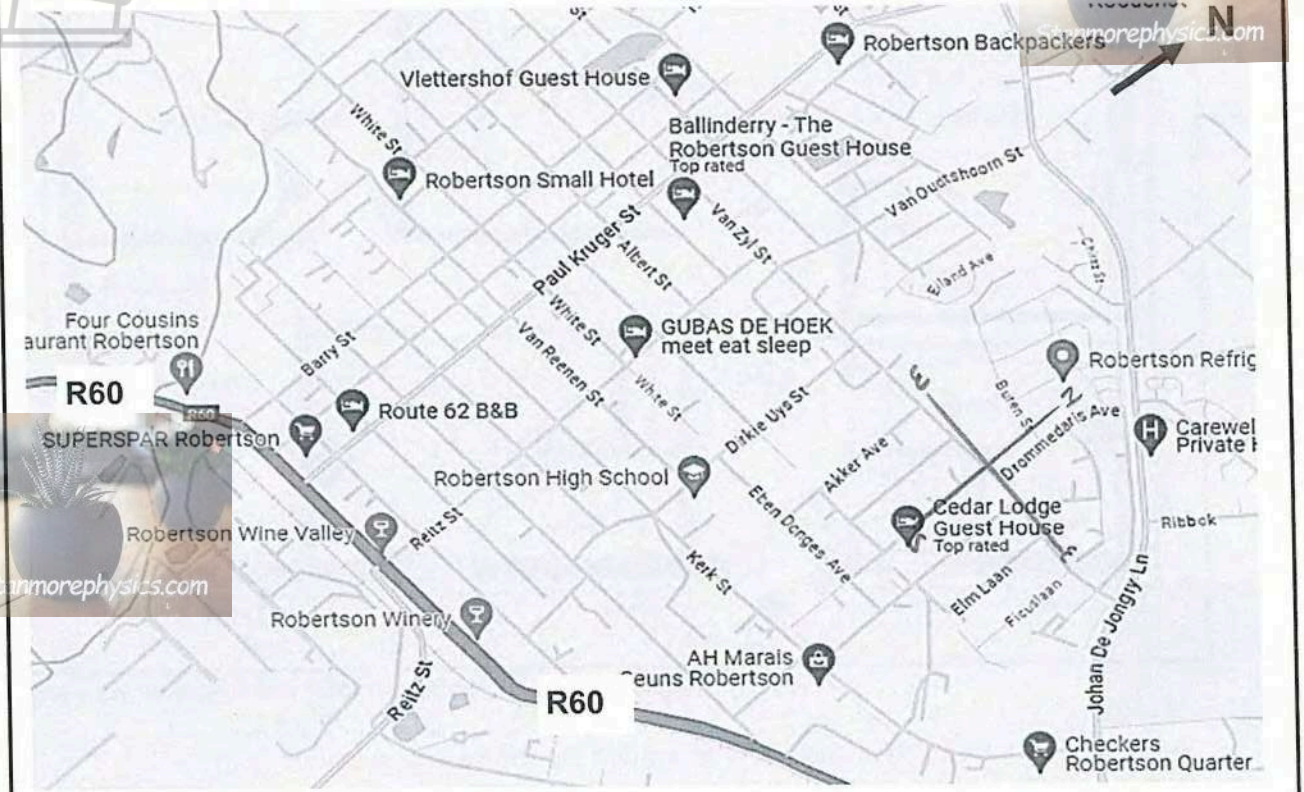
1. This question paper consists of FIVE questions. Answer ALL the questions.
2. Use the ANNEXURES in the ADDENDUM to answer the following questions:

   ANNEXURE A for QUESTION 2.1
   ANNEXURE B for QUESTION 3.1
   ANNEXURE C for QUESTION 5.1
   ANNEXURE D for QUESTION 5.2

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 necessarily drawn to scale, unless stated otherwise.
10. Write neatly and legibly.

QUESTION 1

1.1 Kriel travelled to Robertson (a town in the Western Cape) during the school holidays to visit his aunt Nini. A part of the map of Robertson that Kriel used for his journey is shown below. Study the map and use it to answer the questions that follow.



[Source: *https://www.google.com/maps/@-33.8060619,19.8805874,15z?entry=ttu*]

1.1.1 Name the road that passes through Robertson Winery and Robertson Wine Valley. (2)

1.1.2 Determine the general direction of the Robertson Small Hotel from the Cedar Lodge Guest House. (2)

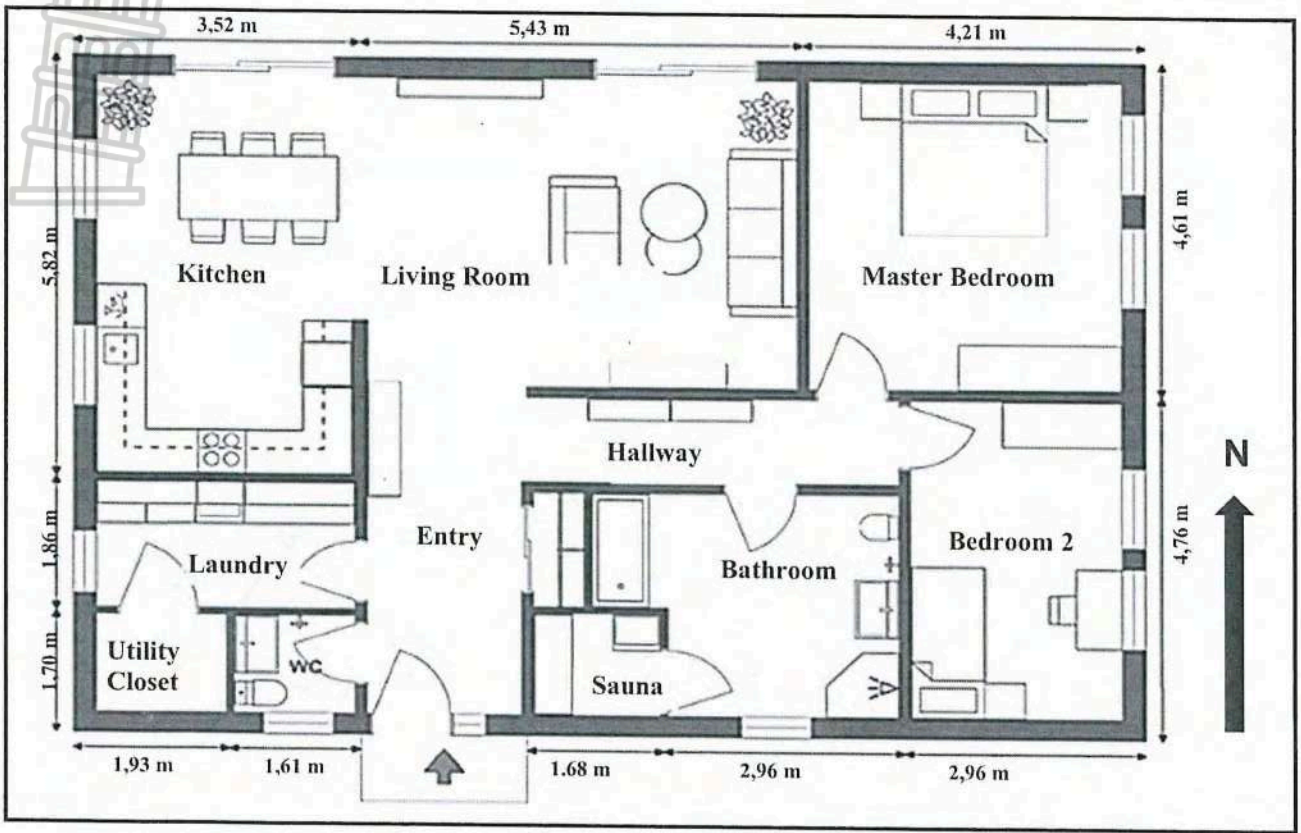
1.1.3 Name TWO grocery stores indicated on the map. (2)

1.1.4 Identify the name of the high school indicated on this map. (2)

1.1.5 Kriel arrived in Robertson at 11:03. Write down the time of Kriel's arrival in words. (2)

1.1.6 Identify the type of map shown above. (2)

1.2 Mr Soetmelk owns a house. A floor plan of the house is shown below.



[Source: *https://www.roomsketcher.com/blog/floor-plan-dimensions*]

Study the floor plan above and use it to answer the following questions.

1.2.1 Determine the number of windows on the eastern elevation of the floor plan. (2)

1.2.2 How many bedrooms are indicated on the floor plan? (2)

1.2.3 Write, as a simplified ratio, the number of doors to the number of windows on the floorplan. (2)

1.2.4 Mr Soetmelk stated that the perimeter of the floor plan is 45,06 m. Explain the word *perimeter* in the given context. (2)

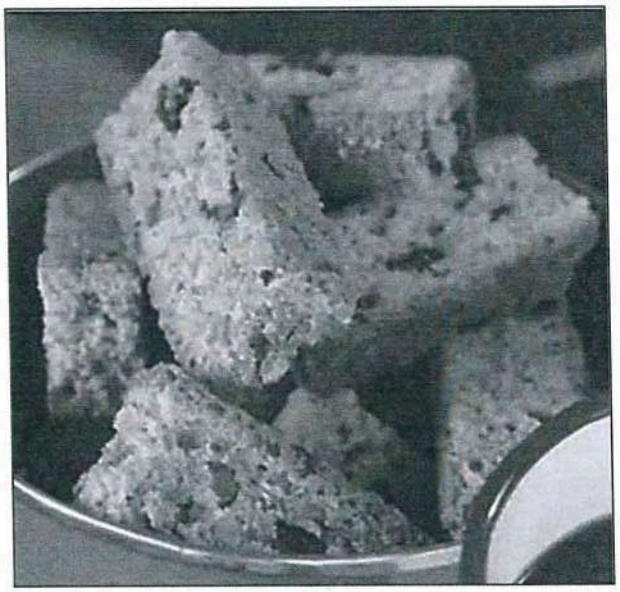
1.2.5 Select from the options below the correct unit that can be used for the area of the master bedroom. Write only the letter (A – C) next to the question number (1.2.5).

A. m
B. m^2
C. m^3

(2)

1.3 Mr Soetmelk's wife bakes homemade all-bran rusks for her family. The recipe that she uses is shown below.

INGREDIENTS



Makes 30 rusks

Baking time: 55 minutes

- 500 g butter
- 370 g sugar
- 500 ml buttermilk
- 1 ml lemon juice
- 3 large free-range eggs
- 1 kg flour
- 2 t baking powder
- 1 t salt
- 240 g all-bran wheat flakes
- 100 g oats (uncooked)
- 100 g pecan nuts or almonds

The oven should be heated to 180 °C.

Study the recipe above and answer the questions that follow.

1.3.1 How many grams of all-bran wheat flakes are needed for this recipe? (2)

1.3.2 Each batch of rusks needs to be baked for 55 minutes. The last batch was taken out at the time indicated on the watch alongside.

Convert 55 minutes to hours.

(2)

1.3.3 Write down the type of time format displayed on the watch. (2)

1.3.4 Write down the time indicated on the watch in 24-hour format. (2)

[30]

QUESTION 2

2.1 North West is the sixth largest of the nine provinces in South Africa. It has an area of 40 495 square miles and a population of about 4,1 million people as of 2021.

About 3,6% of the people in the North West Province live in Potchefstroom and the surrounding areas. The rest live in rural parts of the province.

The map of the province is shown in ANNEXURE A. Use the map and the given information to answer the following questions.

2.1.1 Write down the name of the town farthest to the south-west of Mafikeng as shown on the map. (2)

2.1.2 Use a ruler to measure the distance (as the crow flies) from Lichtenburg to Taung. Give your answer in millimetres. (2)

2.1.3 Use the scale on the map to calculate the actual distance in kilometres between Lichtenburg and Taung. (4)

2.1.4 Determine the actual number of people living in rural parts of the province. (3)

2.1.5 Convert the land area of the North West Province to the nearest km^2 given that 1 km = 0, 62137119 miles. (3)

2.1.6 Calculate the population density of the North West Province in people/km^2.

You may use the following formula:

$$\textbf{Population density} = \frac{\textbf{Population}}{\textbf{Area}}$$

(3)

2.2 One of the activities to participate in while in the North West Province is to ride in the Aerial Cableway, located at Hartbeespoort.

Read the following information and answer the questions that follow.

- Each of the cable cars can carry **6 people**.
- Each cable car travels at a maximum speed of **5 metres/second**.
- It takes a cable car **5 minutes** to reach the top of the Magaliesburg Mountains.
- A cable car goes to the top of the mountain every **7 minutes**.
- The maximum weight of passengers that a cable car can carry is **480 kg.**

2.2.1 A tourist is 30th in the queue waiting to go to the top of the mountain. At what time will she reach the top of the mountain if the first group in the queue boards the cable car at 09:43?

Assume that there is only one cable car operating on that day, and it is filled to capacity for each trip. (6)

2.2.2 Calculate the distance in metres, travelled by a cable car to transport people to the top of the mountain.

You may use the following formula: **Average Speed** = $\frac{\textbf{Distance}}{\textbf{Time}}$ (4)

[27]

QUESTION 3

3.1 Mrs. Masenya gave birth to twins, a boy and a girl. She monitored their weight over the first six months and summarised it as shown in the table below.

Table 1: Weight of babies over 6 months

	Birth	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
		Weight (kg)					
Boy	3,6	4,6	5,7	6,4	7,0	7,5	8,0
Girl	3,2	4,2	5,1	5,9	6,4	6,9	7,4

Use the information in Table 1 above and the growth chart shown in ANNEXURE B to determine which descriptions correctly represent the twins' growth over six months.

Write down the question numbers (3.1.1 to 3.1.5) followed by TRUE or FALSE. If FALSE, correct the statement.

3.1.1 The baby girl lay in the 10th percentile when she was born. (2)

3.1.2 When the baby boy was 3 months old, only 10% of other baby boys were heavier than he was. (2)

3.1.3 At the time the twins were 6 months old, they both lay close to the 50th percentile. (2)

3.1.4 At 4 months, both babies were developing at the same rate as the average growth rate. (2)

3.1.5 The baby boy's mass increased by a little more than 139% in the first six months of his life. (2)

3.2 Due to the increase in the size of his family, Mr Masenya decided to purchase a bigger geyser. The family purchased a 200-litre geyser, twice the size of their old geyser. A table showing the dimensions of standard horizontal round geysers is shown below.

Table 2: Standard Horizontal Round Geysers

CAPACITY	DIAMETER x LENGTH
50-litre	450 mm x 610 mm
100-litre	550 mm x 840 mm
150-litre	550 mm x 1 150 mm
200-litre	550 mm x 1 470 mm
250-litre	550 mm x 1 875 mm

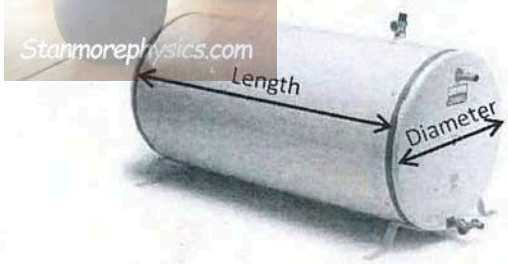
Study the information given in Table 2 above and use it to answer the questions that follow.

3.2.1 Write down the dimensions of the old geyser. (2)

3.2.2 Calculate the circumference of the base of the new geyser.

You may use the following formula:
Circumference of a circle = π × diameter, where π = **3,142** (2)

3.2.3 Mr Masenya claims that because the new geyser has twice the volume of the old geyser, the surface area of the new geyser will also be twice that of the old geyser. Verify whether his claim is correct.



You may use the following formula:

Surface area of a closed geyser = (2 × π × radius^2) + (2 × π × radius × length)

where π = **3,142** (8)

3.2.4 Mr Masenya wanted to be sure that the stated capacity of the geysers is correct, so he performed the following calculations:

OLD 100 ℓ GEYSER

Volume = π × radius^2 × length
= π × (550 mm)^2 × 840 mm
= 798 278 69,33 mm^3
= 79 827 869,33 cm^3
≈ 79 828 ℓ

NOTE: 1 000 cm^3 = 1 litre

Identify TWO possible errors that were made in the calculation above. (4)

3.2.5 Calculate the capacity of the new 200 ℓ geyser. Round-off your answer to the nearest litre.

You may use the formula:

Volume = π × radius^2 × length

where: **π = 3,142**

NOTE: 1 000 cm^3 = 1 litre (4)

3.2.6 Should Mr Masenya be happy with the new geyser based on the capacity? Provide a reason to support your answer. (2)

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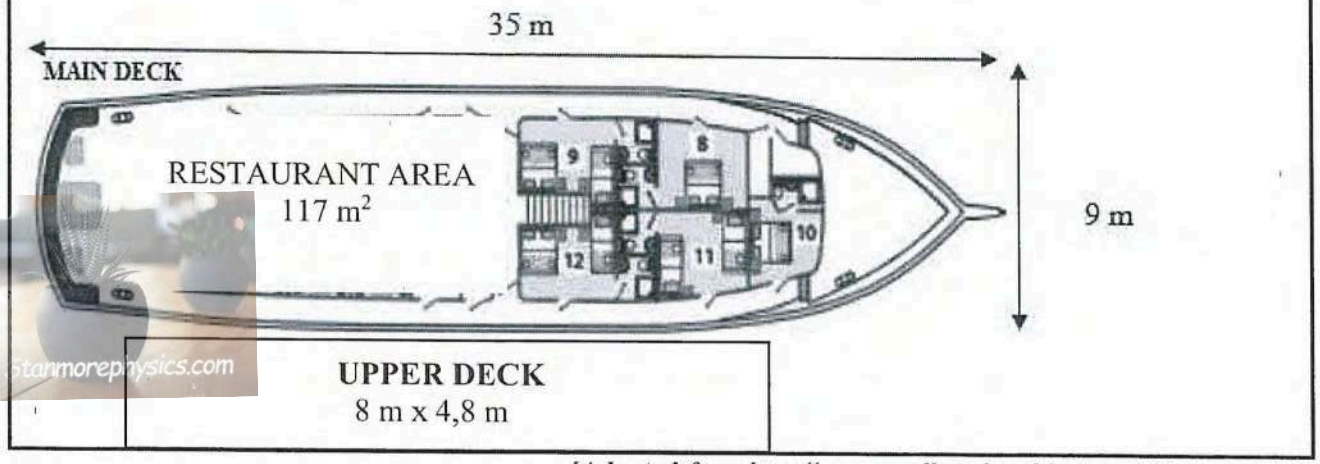
QUESTION 4

4.1 The diagram below shows the deck plan of the MS Eden sailing ship. The MS Eden is a 35-metre-long sailing ship. Refer to the deck plan and answer the questions that follow.

Ship's dimensions:

Dimensions	Area
Saloon: 13 m x 4,75 m	area = 61m^2
Platform: 4 m x 4,75 m	area = 19 m^2
Upper deck: 8 m x 4,8 m	area = 40 m^2



[Adapted *from https//www.small-cruise-ships.com/ship/ms-eden/*]

Use the information given above to answer the questions that follow.

4.1.1 The width of the restaurant area is 5,5 m. Determine the approximate length of the restaurant area.

You may use the following formula:

Area of a rectangle = Length × Width (3)

4.1.2 A stronger railing needs to be installed around the perimeter of the upper deck. 36 metres of railing was purchased. Determine, showing all calculations, whether the 36 metres of railing is enough.

You may use the following formula:

Perimeter = 2 (Length + Width) (3)

4.1.3 Study the deck plan and the ship's dimensions as provided in the diagram.

Identify TWO calculation errors made in the ship's dimensions and correct them. (3)

4.2 The upper deck needs to be packed with boxes of the following dimensions:

Length = 0,65 m

Width = 0,42 m

Height = 39,5 cm

The height of the upper deck is 0,9 m.

4.2.1 Determine the number of boxes that can be packed on the upper deck if the boxes are packed facing up, with length across the length and width across the width. (9)

4.2.2 One of the passengers on the sailing ship stated that more than 300 boxes can be packed on the upper deck if the boxes are packed facing up, with length across the width and width across the length.

Verify this claim using appropriate calculations. (6)

4.3 The total number of people on the sailing ship includes the following:

- 12 crew members made up of 5 males and 7 females
- 23 male passengers
- 31 female passengers

4.3.1 Write down the probability, as a percentage, that the passenger who commented in QUESTION 4.2.2, is a female. (3)

4.3.2 Determine the probability of randomly selecting a person on the sailing ship who is NOT a crew member. (3)

4.3.3 Explain the term *probability* in this context. (2)

[32]

QUESTION 5

5.1 Jongi travelled from Gqeberha to Polokwane on a vacation. ANNEXURE C shows the direct route from Gqeberha to Polokwane. Study the information given in ANNEXURE C and use it to answer the following questions.

5.1.1 The direct flight distance from Gqeberha to Polokwane is given as 1 186 km. Determine the scale, to the nearest million, of the map in the form of 1 : ... (5)

5.1.2 It takes about 13,5 hours of driving time to cover the road distance of 1 405 km from Gqeberha to Polokwane.

Determine the average speed for the trip. Round-off your answer to the nearest whole number.

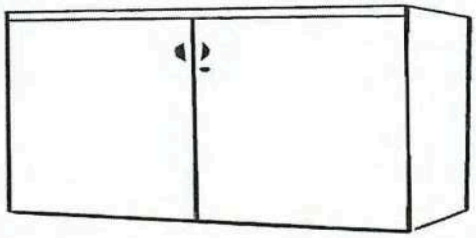
You may use the following formula: **Distance = Speed × Time** (4)

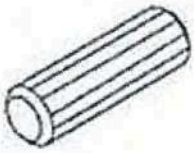
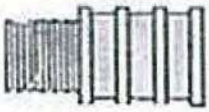
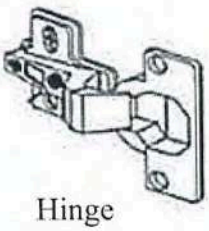
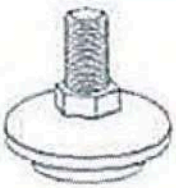
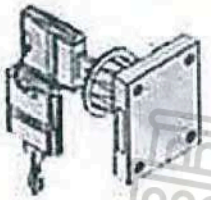
5.1.3 According to road safety regulations, a driver needs to rest for 15 minutes for every two hours of driving.

If Jongi rests as suggested, determine how long the journey will take him if the original estimated time of 13,5 hours did not include the resting time. (6)

5.2 The diagrams below show a 2-door book cabinet and a list of the hardware needed for its assembly. The steps for assembling the book cabinet are provided in ANNEXURE D.

2-door Book Cabinet Assembly Instructions



 Wood dowel	 Shelf Pin	 Hinge
 Cam pin	 Plunger lock	 Hinge plate
 Cam lock	 Leveling glide	 Lock/key
 Door pull	 Shallow cover	 Deep cover

Study the steps given in ANNEXURE D carefully as well as the diagrams above and use them to answer the questions that follow:

5.2.1 Instructions for steps 1 and 2 are as follows:

Step 1: Fasten the front and bottom panels with the cam pins and cam locks. Assemble it upside down.

Step 2: Fasten the back panel to the bottom panel with the cam pins and cam locks.

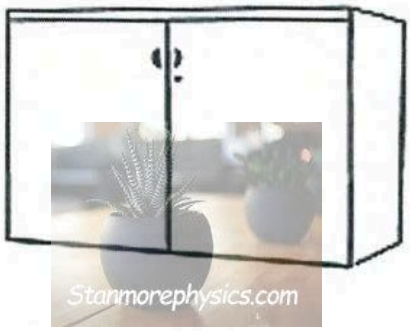
Write down a set of instructions to complete steps 3 to 5. (6)

5.2.2 Give ONE reason why a 'helper' is listed under 'Tools needed'. (2)

5.2.3 Identify a tool that can be used to turn the cam pins and cam locks. (2)

5.2.4 The diagram below shows a 3-D view of the cabinet.

Length = 700 mm
Width = 350 mm
Height = 690 mm



Use the information given above to calculate the total surface area (in cm^2) of the outside of the bookcase, including the bottom part.

You may use the following formula:
Total Surface Area
= 2(length × width) + 2(length × height) + 2(width × height) (4)
[29]

TOTAL: 150

END

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EDUCATION
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2024

10602

MATHEMATICAL LITERACY

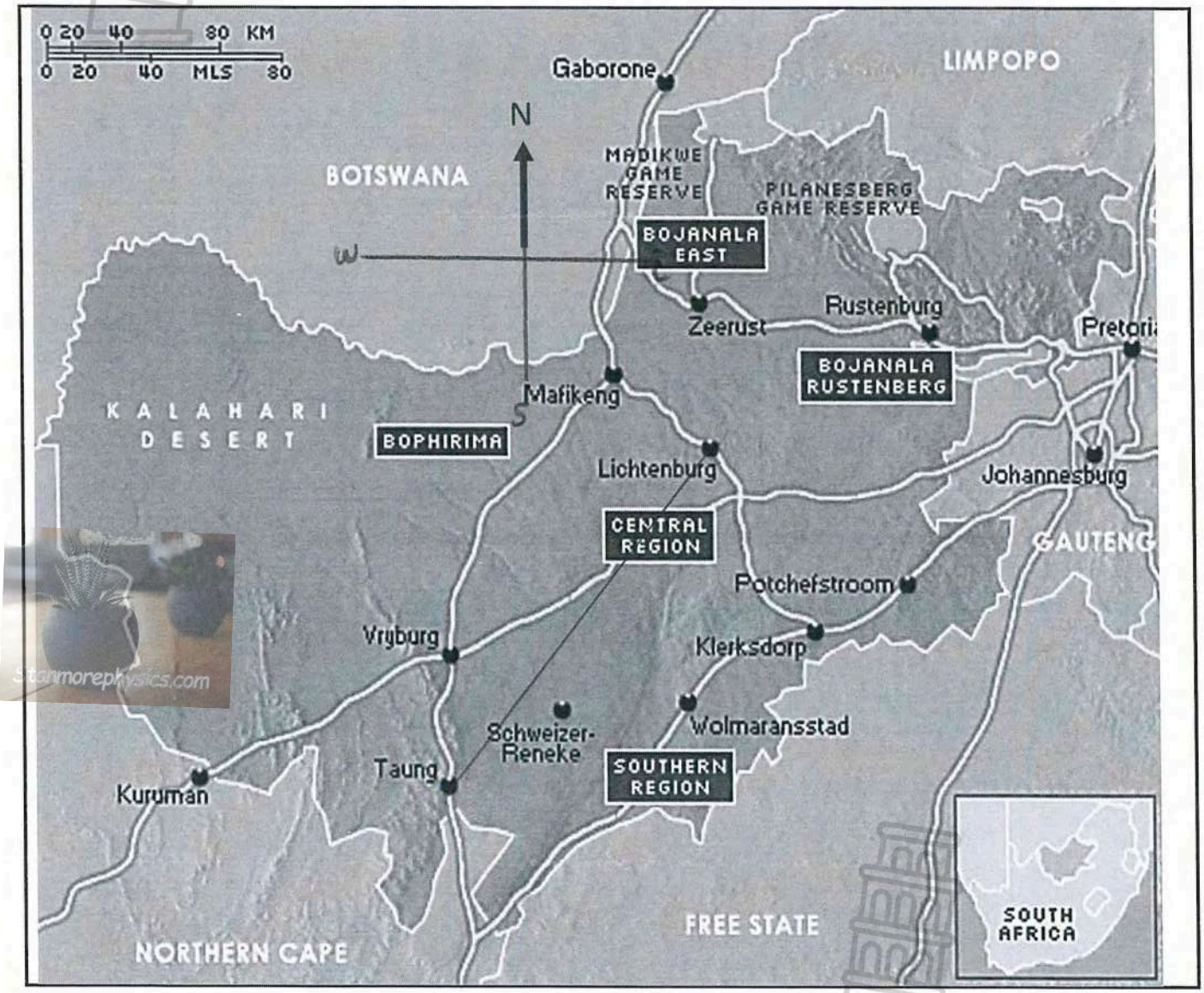
ADDENDUM

(PAPER 2)

5 pages

ANNEXURE A

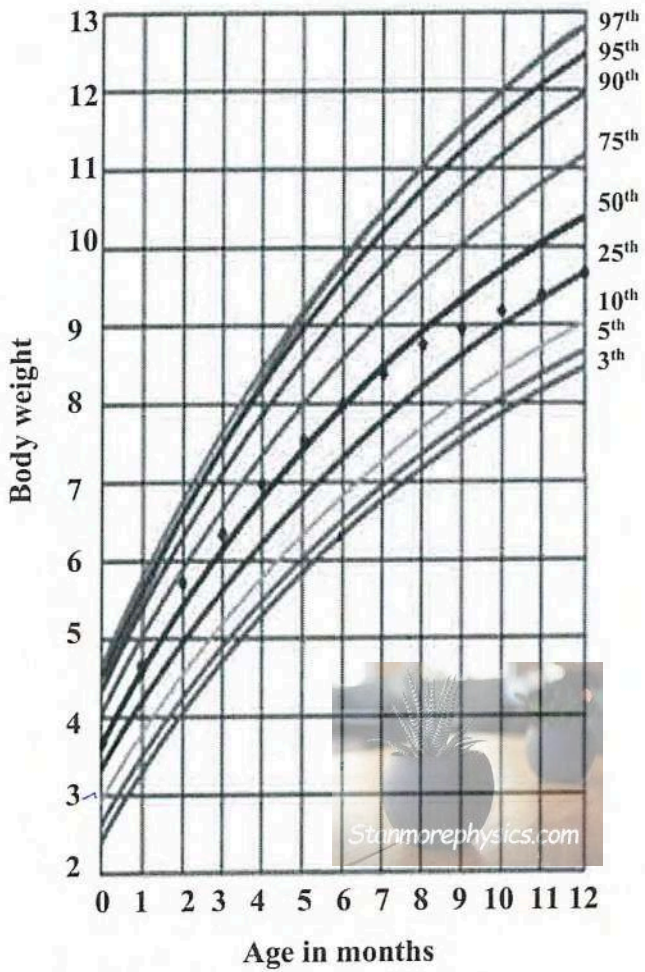
QUESTION 2.1



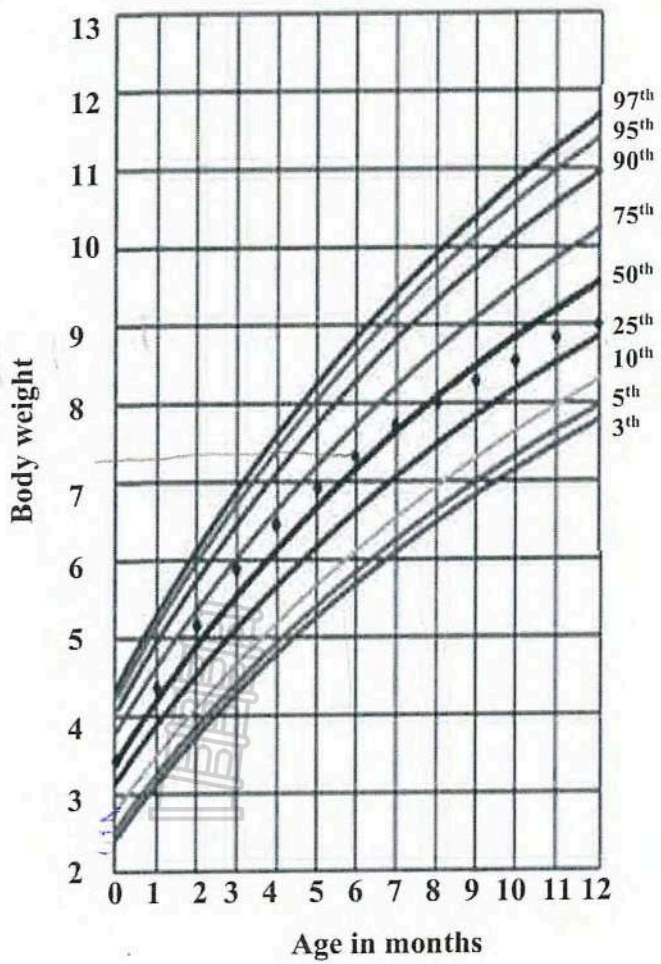
ANNEXURE B

QUESTION 3.1

Male infant



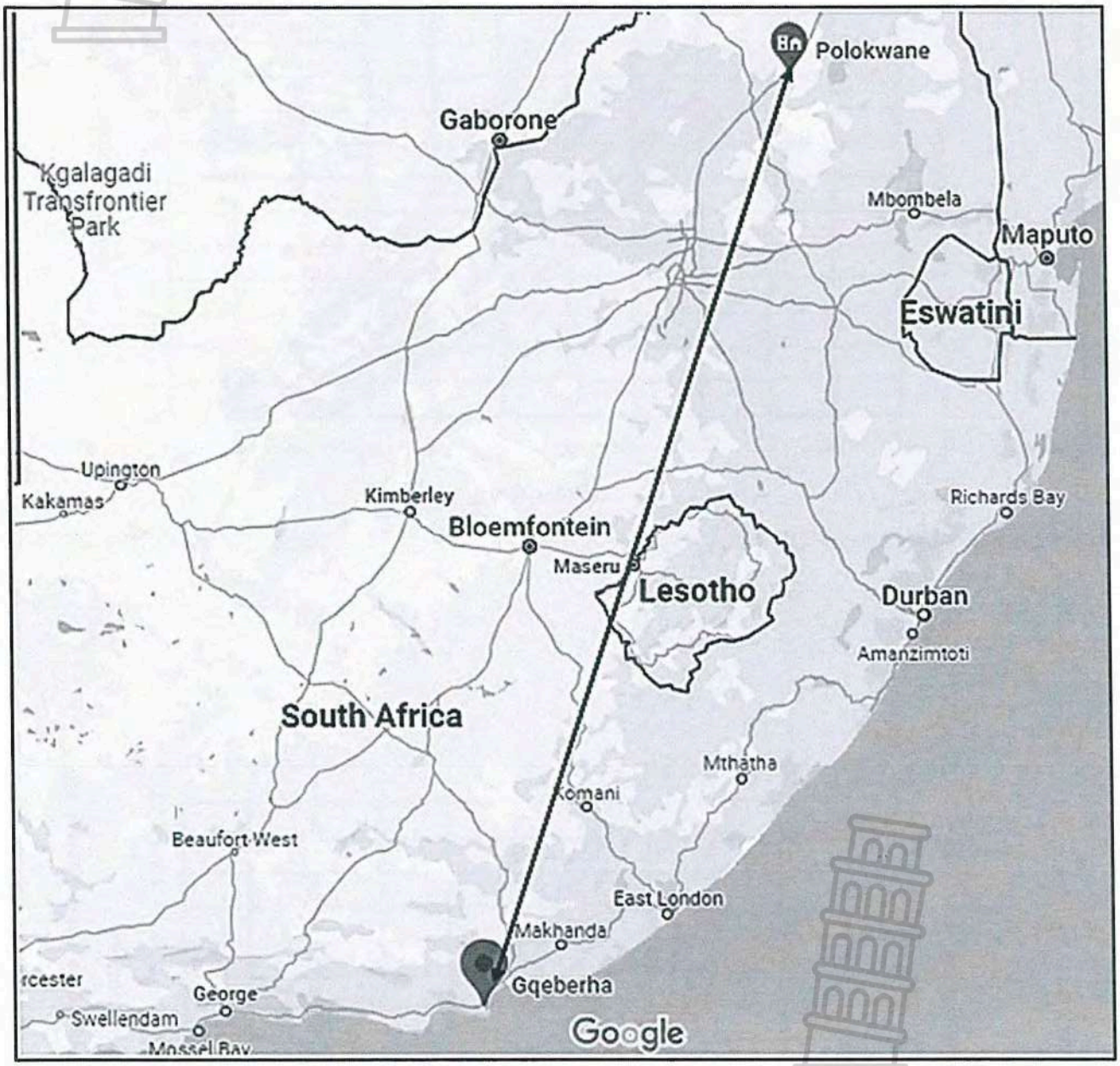
Female infant



NOTE: The dots represent an average growth rate.

ANNEXURE C

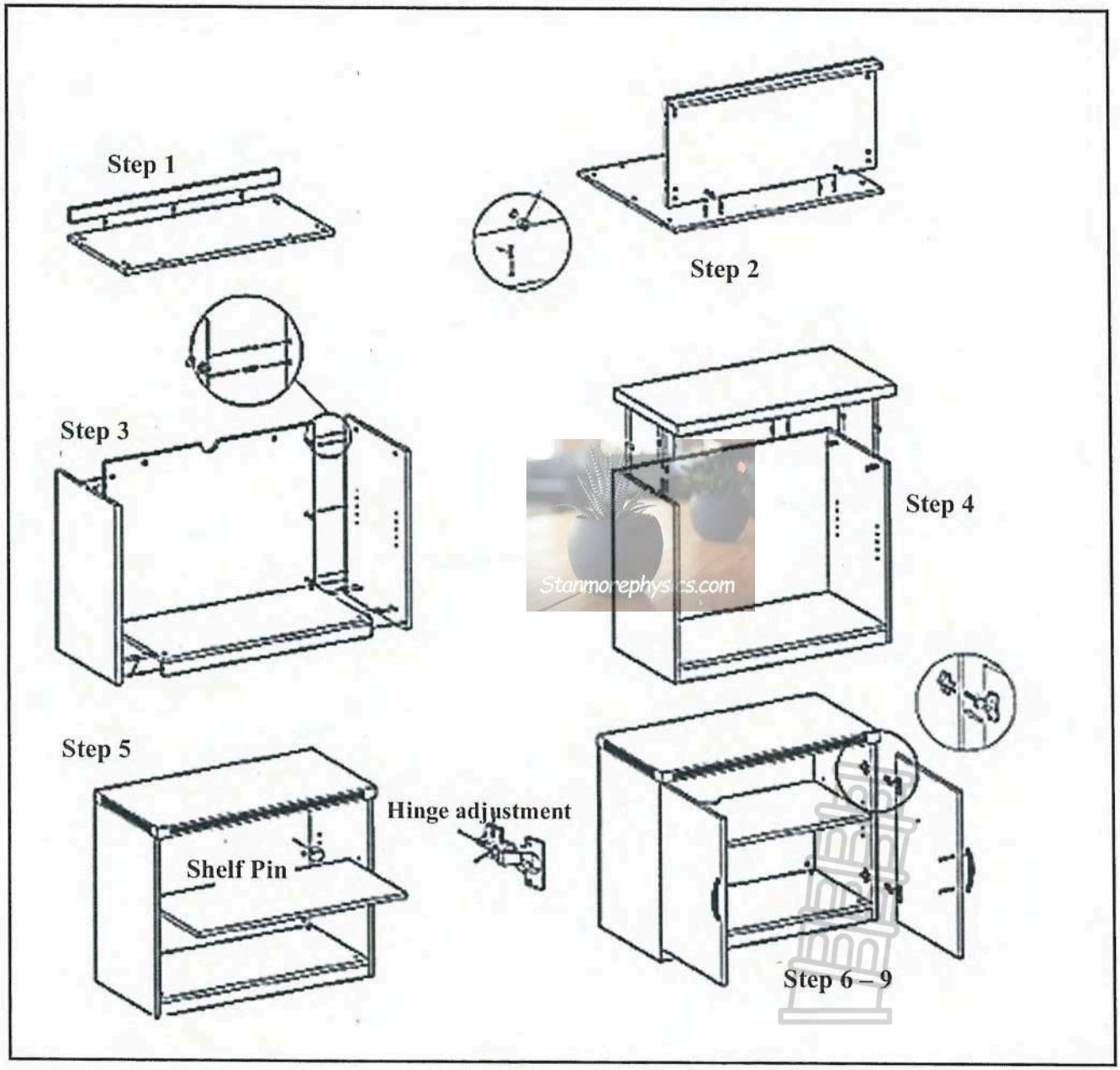
QUESTION 5.1



ANNEXURE D

QUESTION 5.2

Special note: Location number of cam pin, cam lock and dowel holes may vary.



[Source: file:///C:/Users/Henry/Downloads/10871Cherry-Modular-Wall-UnitAI.pdf]

Tools needed:

- A Phillips screwdriver
- A helper

END

GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

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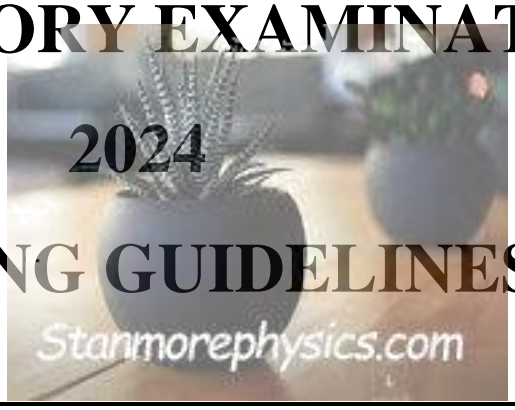
2024

MARKING GUIDELINES



MATHEMATICAL LITERACY (PAPER 2) (10602)

9 pages

CODES	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
D	Define
J	Justification/Reason/Explain
S	Simplification
RT/RD/RG	Reading from a table/graph/diagram/map/plan
F	Choosing the correct formula
SF	Correct substitution in a formula
O	Opinion
P	Penalty, e.g. for no units, incorrect rounding-off, etc.
R	Rounding-off
NP	No penalty for rounding-off/omitting units

KEY TO TOPIC SYMBOLS:

M = Measurement; MP = Maps, Plans and other representations; P = Probability

QUESTION 1		ANSWER ONLY FULL MARKS	(30 marks)		
Q	**Answer**		**Explanation**	**Topic Level**	**Mark**
1.1	1.1.1	R60 ✓✓ RG	2RG reading from the map	MP1	2
	1.1.2	West **OR** Westerly **OR** W ✓✓ RG	2RG reading from the map **Accept SW**	MP1	2
	1.1.3	Checkers Robertson ✓ RG Superspar Robertson ✓ RG	2RG reading from the map	MP1	2
	1.1.4	Robertson High School ✓✓ RG	2RG reading from the map	MP1	2
	1.1.5	Three minutes past/after eleven ✓✓ A	2A correct full answer	M1	2
	1.1.6	Street map /Road map✓✓ RG	2RG reading from the map	MP1	2
1.2	1.2.1	4 ✓✓ RD **OR** four	2RD reading from the diagram	MP1	2
	1.2.2	2 **OR** Two ✓✓ RD	2RD reading from the diagram	MP1	2
	1.2.3	Doors (Including sliding doors) : Windows 10 : 10 ✓ A 1 : 1 ✓ A	1A ratio in the correct order 1A simplifying **Accept** **Doors (excluding sliding doors) : Windows** **8 : 10** **4 : 5**	MP1	2
	1.2.4	Perimeter is the total length/distance around Mr Soetmelk's house/floorplan. ✓✓ A	2A explanation according to context	M1	2
	1.2.5	B ✓✓ A	2A correct option **Accept** **m^2**	M1	2
	1.3.1	240 g ✓✓ A	2A answer	M1	2
	1.3.2	55 ÷ 60 ✓ MA = 0,92 hours ✓ A	1MA dividing by 60 1A simplification **NPR**	M1	2

	1.3.3	Analogue ✓✓ A	2A correct type	M1	2
	1.3.4	16:30 ✓✓ A **OR** 04:30	2A correct time	M1	2
					[30]

QUESTION 2 **(27 marks)**

Q	Answer		Explanation	Topic Level	Mark
2.1	2.1.1	Kuruman ✓✓ RD	2RD correct town	MP1	2
	2.1.2	66 mm ✓✓ A	2A measurement Accept 64 mm – 66 mm	MP1	2
	2.1.3	Bar scale 80 km = 26 mm ✓ A Actual distance = $\frac{66 \text{ mm}}{26 \text{ mm}} \times 80$ km ✓ M ✓ M = 203,08 km ✓ CA	**CA from 2.1.2** 1A bar measurements 1M divide by 26 1M multiply by 80 1CA actual distance Accept 26 mm – 27 mm **NPR**	MP3	4
	2.1.4	Rural areas = 100% - 3,6% = 96,4% ✓ MA $\frac{96,4}{100}$ x 4 100 000 ✓ S = 3 952 400 people ✓ A **OR** $\frac{96,4}{100}$ x 4,1 million ✓✓ S = 3,9524 ✓ million people	1MA subtracting % 1S Simplification 1A number of people 2S Simplification 1A number of people	MP3	3
	2.1.5	$(1 \text{ km})^2 = (0,62137119 \text{ miles})^2$ $1 \text{ km}^2 = 0,38610216 \text{ miles}^2$ ✓ C Area of North-West in km^2 $= \frac{40\,495 \text{ miles}^2}{0,38610216 \text{ miles}^2}$ ✓ MCA = 104 881,5681 = 104 882 km^2 ✓ CA	1C to squares 1MCA dividing by conversation factor 1CA rounded area	M3	3

	2.1.6	Population of North-West = 4 100 000 Population density = 4 100 000 people ✓ SF 104 882 km^2 = 39,091 people/km^2 ✓ CA ≈ 39 people/km^2 ✓ R	**CA from 2.1.5** 1SF substituting values 1CA population density 1 Rounding	MP2	3

2.2	2.2.1	Number of trips = 30 ÷ 6 ✓M = 5 in the row ✓S Every 7 minutes = 5 × 7 minutes ✓M = 35 minutes ✓S Time to reach the top = 9:43 + 35 minutes ✓MA 10:18 am ✓CA	1M dividing values 1S simplifying 1M multiply 1S time 1MA adding 1CA arrival time	M3	6
	2.2.2	Time = 5 min × 60 = 3 00 sec ✓ C Distance = speed × time ✓ A = 5 m/s x 300 sec ✓ SF = 1 500 meters ✓ CA	1C conversion 1A changing the subject of the formula 1SF substituting values 1CA answer	M2	4
					[27]

QUESTION 3 **(32 marks)**

Q	Answer		Explanation	Topic Level	Mark
3.1	3.1.1	FALSE ✓ A, she lay on the 50th percentile. ✓ J	1A correct choice J reasoning	M4	2
	3.1.2	FALSE ✓ A, just about 50% were heavier than him. ✓ J	1A correct choice J reasoning	M4	2
	3.1.3	TRUE ✓✓ A	2O correct answer	M4	2
	3.1.4	TRUE ✓✓ A **OR** FALSE✓ A , the girl was closer to the 75th percentile curve while the boy was just above the 50th percentile curve. ✓ J	2J reasoning	M4	2
	3.1.5	FALSE ✓ A, the baby boy's mass increased just a little more than 122%. ✓ J	1A correct choice J reasoning	M4	2
3.2	3.2.1	550 mm x 840 mm ✓✓ A	2A correct dimensions	M1	2
	3.2.2	Circumference = 3,142 x 550 mm ✓ SF = 1 728,10 mm ✓ A	1SF substitution 1A answer **NPR**	M2	2

	3.2.3	<u>100 ℓ OLD GEYSER</u>: Surface area r = 550 mm ÷ 2 = 275 ✓ M = (2 × 3,142 × 275^2) + (2 × 3,142 × 275 × 840) ✓ M = 475 227,5 + 1 451 604 = 1 926 831,5 mm^2 ✓ CA <u>200 ℓ NEW GEYSER</u>: Surface area = 2 × π × r^2 + 2 × π × r × ℓ = (2 × 3,142 × 275^2) + (2 × 3,142 × 275 × 1470) ✓M = 475 227,5 + 2 540 307 = 3 015 534,5 mm^2 ✓ CA = <u>3 015 534,5 mm^2</u> ✓ MCA 2 = 1 507 767,25 mm^2 ✓ CA Therefore, Mr Masenya's claim is not correct ✓ O	1M for radius 1M substitution of values 1CA answer 1M substitution of values 1CA answer 1MCA dividing by 2 1CA correct answer 1O conclusion	M4	8
	3.2.4	**First error:** the diameter was used instead of dividing by 2 to get the radius. ✓✓ O **Second error:** the conversion from *mm*^{3} to *cm*^{3} was done incorrectly. Thus, it was divided by 10 instead of 10^3 or 1 000. ✓✓ O **OR** Did not use 3,142 value of pi in the calculation.	2O first error 2O second error	M4	4
	3.2.5	3,142 × 275^2 × 1 470 mm ✓ SF = 349 292 212,5 mm^3 ÷ 1 000 ✓ C = 349 292,2125 cm^3 ÷ 1 000 ✓ C = 349,292 ℓ ✓ CA	1SF substituting values 1C converting to cm^3 1C converting to litres 1CA correct answer	M3	4
	3.2.6	Yes. ✓ O because he is getting more than 200 litres. ✓ J. **OR** No, because he is getting more than 200 litres which would potentially increase his electricity bill.	1O Yes or No 1J reasoning	M4	2
					[32]

QUESTION 4					(32 marks)
Q	**Answer**		**Explanation**	**Topic Level**	**Mark**
4.1	4.1.1	$117\ m^2 = \ell \times 5,5\ m$ ✓ SF $\ell = \frac{117\ m^2}{5,5\ m}$ ✓ M $\ell = 21,27\ m$ ✓ A	1SF correct substitution 1M changing the subject of the formula 1A correct answer	M2	3
	4.1.2	8 + 4,8 + 8 + 4,8 ✓ MA = 25,6 m ✓ CA **OR** P = 2(8 + 4,8) = 25,6 m ∴ 36 m of railing will be enough ✓ O	1MA adding all four values 1CA correct length 1O conclusion	M4	3
	4.1.3	The areas are not all calculated correctly. ✓ J Saloon: 13 m x 4,75 m area = $61,75m^2$ ✓ A Upper deck: 8 m x 4,8 m area = $38,4m^2$ ✓ A	1J identifying errors 2A fixing errors	M4	3
4.2	4.2.1	Height B = 39,5 cm/100 = 0,395 m ✓ C Along the length of the deck Lengthwise = $\frac{8\ m}{0,65\ m}$ ✓ M = 12,3076 ✓ CA = 12 boxes ✓ R Widthwise = $\frac{4,8\ m}{0,42\ m}$ ✓ M = 11,4285 = 11 boxes ✓ CA Height = $\frac{0,9\ m}{0,395}$ = 2,278 = 2 boxes ✓ CA Total boxes to be packed = 12 x 11 x 2 ✓ MCA = 264 boxes ✓ CA	1C converting height 1M dividing lengths 1CA correct answer 1R rounding down 1M dividing width 1CA whole boxes 1CA whole boxes 1MCA multiplying values 1CA total number of boxes	MP3	9

	4.2.2	Length/widthwise = $\frac{8\text{ m}}{0{,}42\text{ m}}$ = 19,0476 = 19 boxes ✓ M Width/Lenghtwise = $\frac{4{,}8\text{ m}}{0{,}65\text{ m}}$ = 7,384615 = 7 boxes ✓ M Height = $\frac{0{,}9\text{ m}}{0{,}395}$ = 2,278 boxes = 2 boxes ✓ M Total boxes = 19 x 7 x 2 ✓ MCA = 266 boxes ✓ CA Therefore, the claim is invalid ✓ O	1M number of boxes 1M number of boxes 1M number of boxes 1MCA multiplying all three values 1CA answer 1O conclusion	MP3	6
4.3	4.3.1	Number of people on the cruise ship = 66 Probability of female passenger = $\frac{31}{66}$ ✓ A × 100 ✓ A = 46,97% ✓ CA	1A numerator 1A denominator 1CA answer **NPR**	P2	3
	4.3.2	Probability (not a crew member) = 66 – 12 = 54 ✓ M $\frac{54}{66}$ ✓ A ✓ A	1M total number of people 1A numerator 1A denominator **AO**	P2	3
	4.3.3	Probability is the chance of picking a particular person out of all the people on the sailing ship. ✓✓ J	2D explanation of probability	P1	2
					[32]

QUESTION 5					(26 marks)
Q	**Answer**		**Explanation**	**Topic Level**	**Mark**
5.1	5.1.1	NOTE: use measurements from the printed copy. 15 cm : 1 186 km ✓ M 15 cm : 118 600 000 ✓ C ~~15 cm~~ : 118 600 000 ~~cm~~ ✓ M ~~15 cm~~ 15 ~~cm~~ 1 : 7 906 666,667 ✓ CA ≅ 1 : 8 000 000 ✓ R	1M ratio format 1C converting to cm 1M simplifying 1CA scale in unit form 1R scale in rounded form	MP3	5
	5.1.2	Speed = 1 405 km ✓✓ M 13,5 h = 104,074 km/h ✓ A = 104 km/h ✓ R	2M substitution 1A answer 1R rounded answer	MP3	4
	5.1.3	13,5 ÷ 2 ✓ M = 6,75 = 6 rests ✓ A (not 7, because Jongi would have arrived at destination during the last rest). ✓ MCA ∴ 6 × 15 minutes = 90 minutes = 1 hour 30 minutes ✓ CA ✓ MCA ∴ Journey = 13 hours 30 minutes + 1 hour 30 minutes = 15 hours ✓ CA	1M dividing driving time 1A number of rests 1MCA calculating rest time 1CA total rest time 1MCA addition of time 1CA total travelling time	MP3	6
5.2	5.2.1	Step 3: Attach left and right side panels ✓✓ **A** Step 4: Attach the top surface with cam locks, cam pins, and dowels. Then insert the four leveling glides ✓✓ **A** Step 5: Insert shelf pins into holes along the interior sides. Place the shelf on top of the pins. ✓✓ **A** **NOTE: Read what the candidate has written and award marks if it makes sense**	2A step 3 instructions 2A step 4 instructions 2A step 5 instructions	MP2	6

	5.2.2	To assist with the assembling and lifting of parts. ✓✓ O	2A reasoning	MP4	2
	5.2.3	Screwdriver ✓✓ A	2A tool	MP1	2
	5.2.4	✓ M ✓ M Total surface area = 2(700 x 350) + 2(700 x 690) + 2(350 x 690) = 490 000 + 966 000 + 483 000 ✓ M = 19 390 1 939 000 mm^2 ÷ 10^2= 19 390 cm^2 ✓ CA	2M substitution 1M simplification 1CA answer in cm^2	M3	4
					[29]
				TOTAL:	**150**