Bergvliet High School

GRADE 11
Mathematical Literacy Paper 2
November 2023

MARKS: 100 **TIME: 2 HOURS**
EXAMINER: CR. STEVENS **MODERATOR: B. SILJEUR**

QUESTION		MARK
Q 1		18
Q 2		21
Q 3		20
Q 4		24
Q 5		17
Total		100

INSTRUCTIONS AND INFORMATION

1. This question paper consists of 11 pages (including addendum) and 5 questions.
2. Answer ALL questions.
3. Show ALL calculations clearly.
4. Round off ALL final answers to **two decimal places**, unless stated otherwise.
5. Indicate units of measurement where applicable
6. Write neatly and legibly.

QUESTION 1

1.1 **APPENDIX A** represents Palmiet Caravan Park and all its amenities

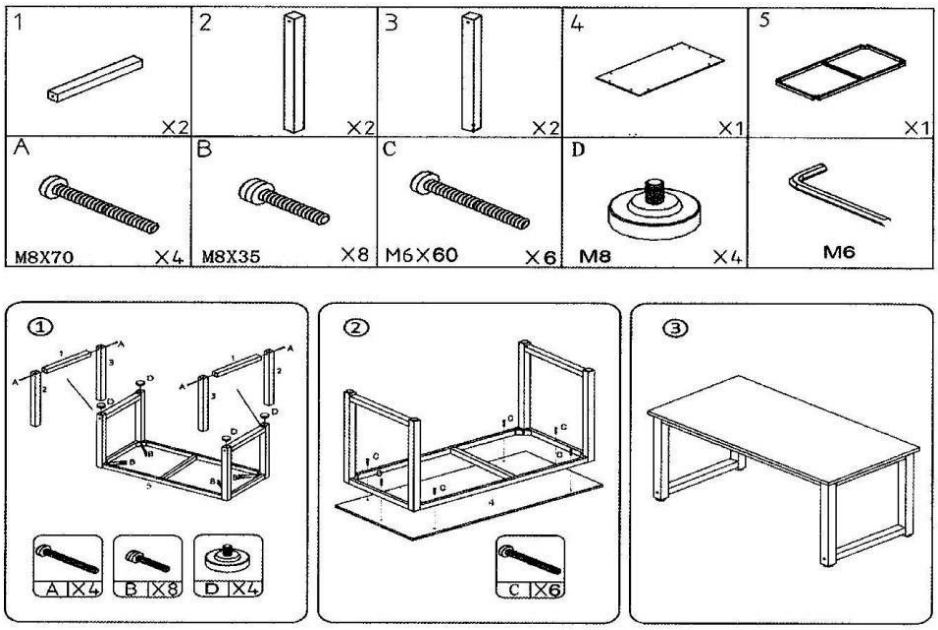
1.1.1 How many bathroom facilities are found at the campsite? (2)

1.1.2 Provide the contact details to make a booking. (2)

1.1.3 In which general direction is the pathway to the lagoon from the Entrance? (2)

1.1.4 What type of camp is stand C4? (2)

1.2 Below is a set of assembly instructions required for a piece of furniture.



1.2.1 Identify the piece of furniture being assembled. (2)

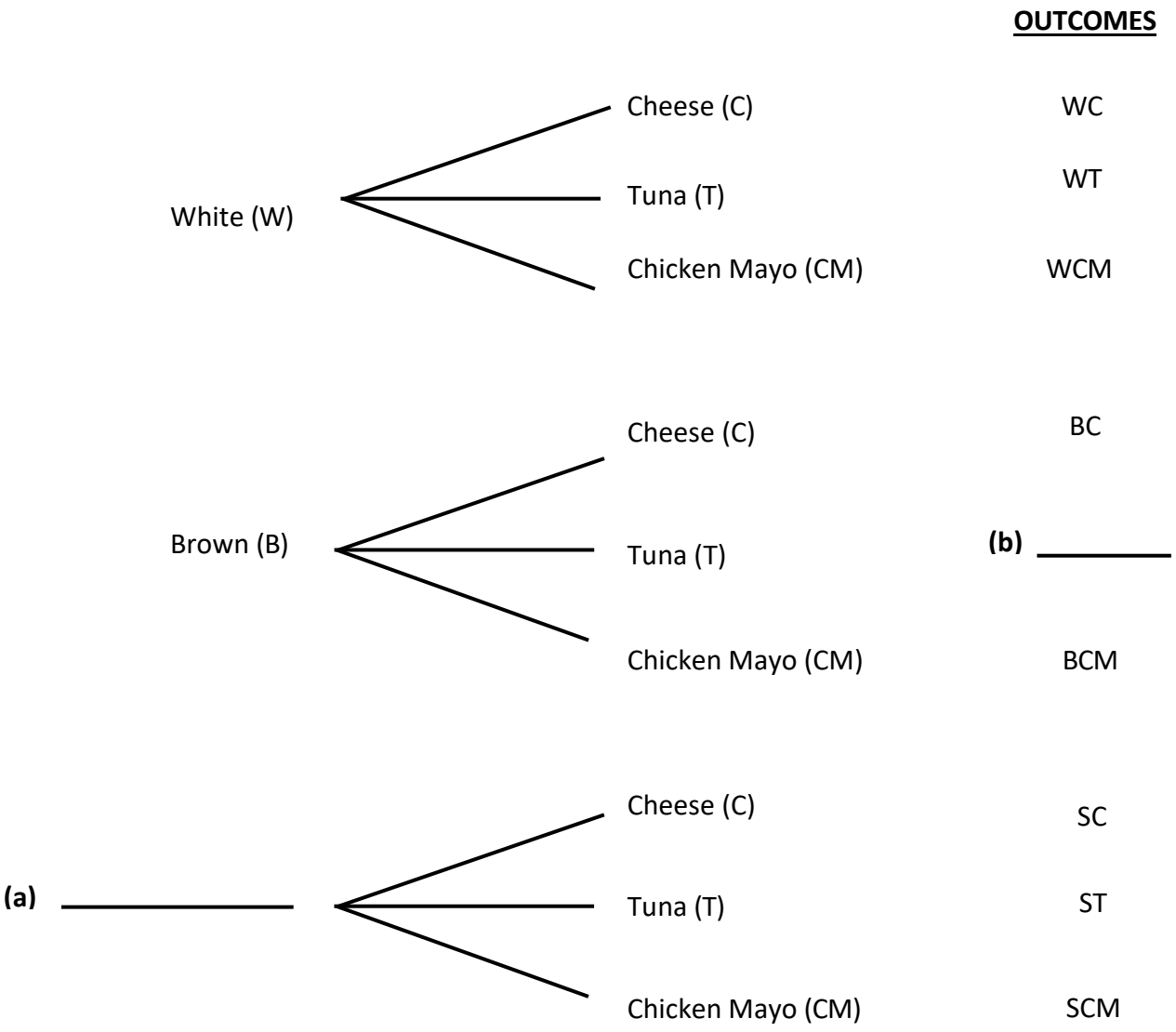
1.2.2 How many M6X60 bolts are needed? (2)

1.2.3 Write down the number of legs that this piece of furniture has. (2)

1.3 Tina's owns a sandwich shop and has the following options: White, brown or seed bread with either cheese, tuna or chicken mayonnaise filling. The diagram below illustrates the different options. Use the diagram to answer the following:

1.3.1 How many possible outcomes are there? (2)

1.3.2 Provide labels for **(a)** and **(b)**. (2)



[18]

QUESTION 2

Marco works for a road-running events company and must transport water to the refreshment station. The water will be transported in cylindrical plastic buckets as shown below:

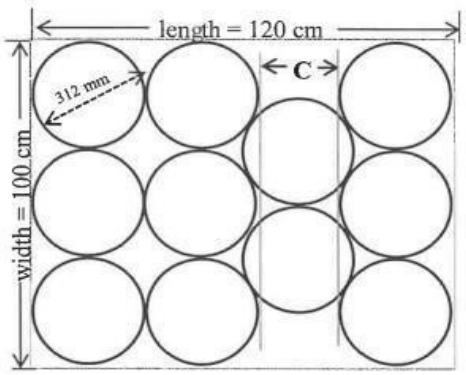
Picture of a bucket (20 ℓ capacity) with lid



Outside diameter of bucket = 31,2 cm

NOTE: Bucket walls are 2 mm thick.

Top view of buckets placed on a solid rectangular pallet



Use the information given above to answer the following questions:

2.1 Determine the radius of the bucket. (2)

2,2 How many litres of water can each bucket hold if the height of the bucket is 56,16cm? Round your answer to the nearest litre. (5)

Volume of a Cylinder = 3,142 x radius ^{2} x height

1000cm = 1 litre

2.3 **CALCULATE** how many buckets can be placed on one rectangular pallet. (3)

2.4 How much space is left over between the buckets on the pallet. (5)

Area of a Rectangle = Length x Breadth

Area of a Circle= 3,142 x radius ^{2}

2.5 Marco has to buy extra buckets from the local store. He checks the dimensions of the buckets to make sure they are roughly the same. The label on the bucket states that the diameter of the bucket is 7 inches. Marco thinks that the bucket looks like the same size as the original one. Validate his statement with calculations. **2,54 cm = 1 inch** (3)

2.6 Marco buys cups for the water at the local store. He buys 15 red cups and 25 blue cups. What is the probability of a runner randomly selecting a blue cup at the refreshment station? Give your answer as a decimal. (3)

[21]

QUESTION 3

3.1 Sandy, a medical student, has been offered a place to complete her community service at a hospital in Makanda. She will be staying at a shared flat in St Aidans Avenue close to the hospital.

Use **APPENDIX B,** a road map of Makanda, to answer the following questions:

3.1.1. Give the name of the hospital where Sandy will be doing her community service. (2)

3.1.2. Give the general direction from the flat to West Hill Train Station. (2)

3.1.3 Sandy wants to visit her cousin who is staying at Graeme Boys College. She measures a map distance of 7,5cm. Calculate, using the scale on the map, how far she needs to travel to get there (in **kilometres).** (4)

3.2 Sandy currently stays in Cape Town and will be driving to Gqeberha, formerly known as Port Elizabeth. Consider the map given on **APPENDIX C** and answer the questions below.

3.2.1 What is the total distance between Cape Town and Gqeberha? (2)

3.2.2. Sandy plans to stop 3 times to rest. She wants to stop twice for a half hour break and once for an hour break. Calculate how long it will take Sandy to reach her destination if she travels at an average speed of 120km/h.

Give your answer in hours and minutes.

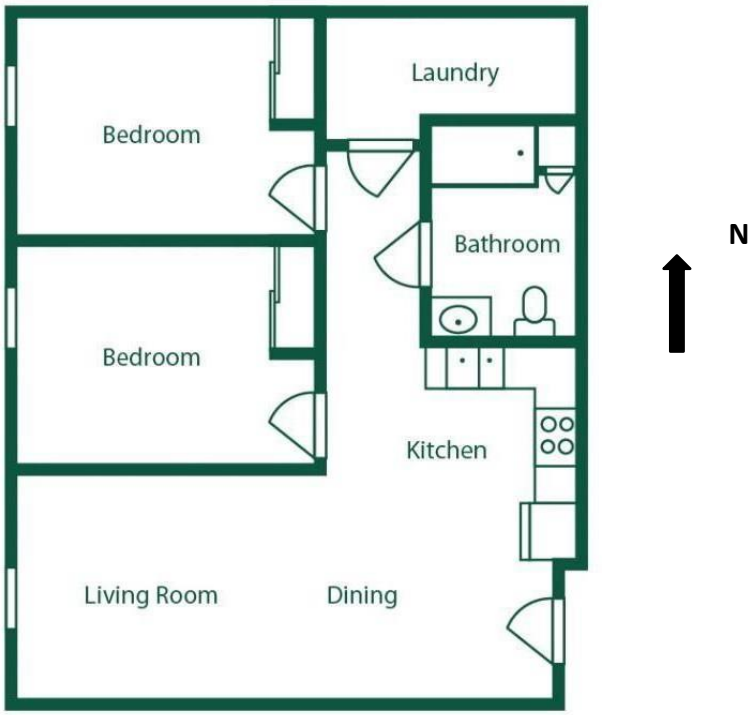
You may use the following formula: Time = $\frac{distance}{speed}$ (6)

3.2.3 If her vehicle has a fuel consumption of 20km/litre, how much will she pay for petrol if it costs R21,45 per litre? (4)

[20]

QUESTION 4

Linathi wants to rent out the spare bedroom in her home. She adds the following floor plan to the advertisement:



4.1 How many doors are in the flat? (2)

4.2 What fixtures are found in the bathroom? (3)

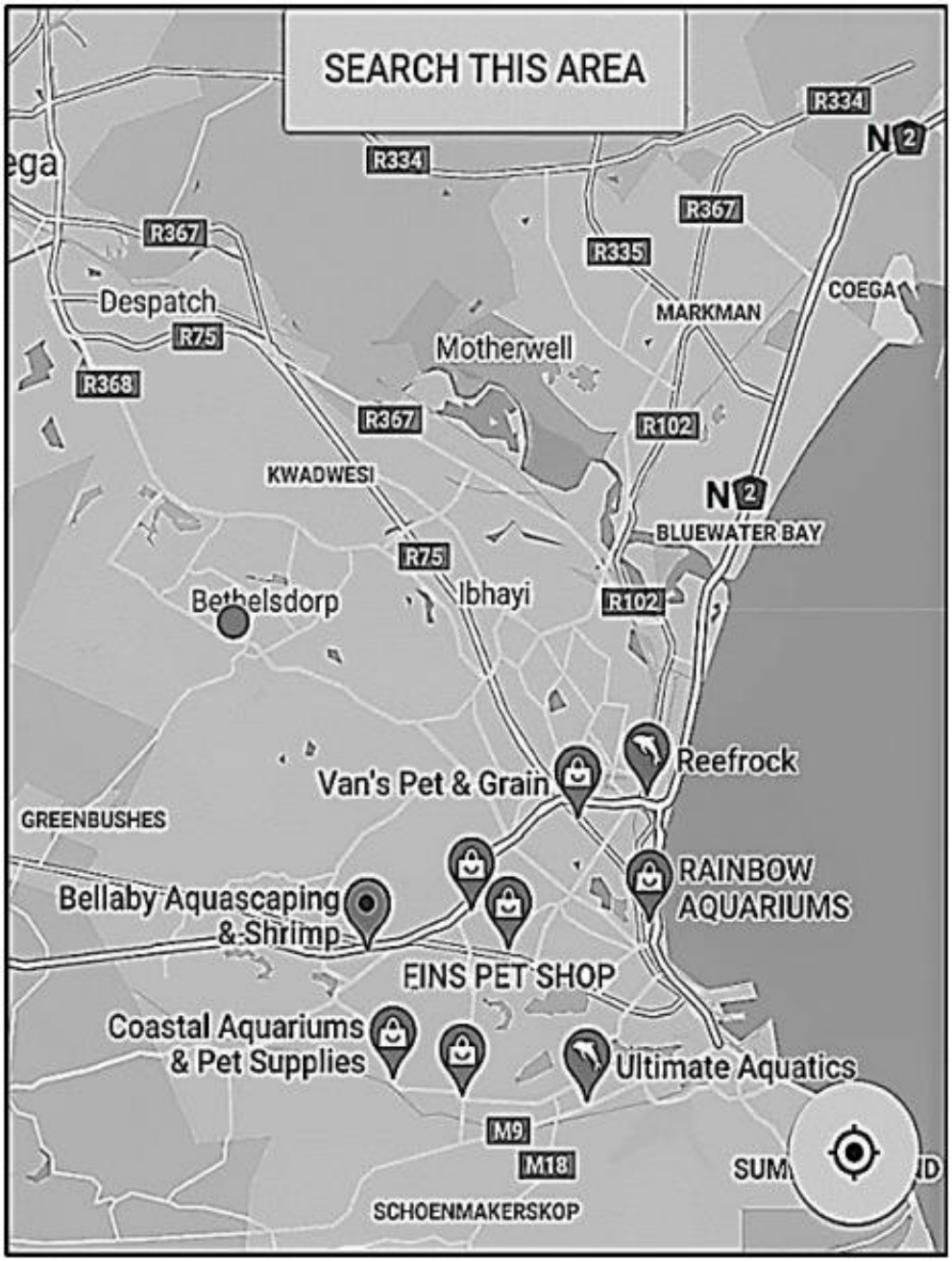
4.3 Linathi wants to re-carpet the bedrooms before the new tenant arrives.

4.3.1 Calculate the area that needs to be carpeted if EACH bedroom have the following dimensions: **3,7m × 2,9m.**

Round off your answer to the nearest whole number.

Area of a Rectangle = length x breadth (5)

4.4 Refer to the map below and answer the questions that follow.



4.4.1 Name the metropolitan roads found on the map. (2)

4.4.2 List the major national road that links Bluewater Bay to Coega. (2)

4.4.3 Identify the provincial (local) road between Ibhayi and Despatch. (2)

4.4.4 How many provincial roads are indicated on the map? (2)

4.4.5 Mr Thulani stated that the measured distance on the map from Motherwell to Bluewater Bay is 5 cm, and the actual distance is 13 km. He further said that the scale of the map is **1 : 260 000**.

Verify, with the necessary calculations, if his statements are valid. (6)

[24]

QUESTION 5

5.1 Study the weather forecast for Cape Town and Pretoria on the 20th May 2023

Forecast	Cape Town	Pretoria
Sunrise	07:35	06:40
Sunset	17:50	17:27
Humidity (%)	68	58
Visibility (miles)	6,0	12
Maximum Temperature (°C)	20	17
Precipitation	0	0

Visibility is a measure of the distance at which an object or light can be clearly seen.

5.1.1 Determine the visibility distance in kilometres for Pretoria. **(1 mile = 1,609 km)** (2)

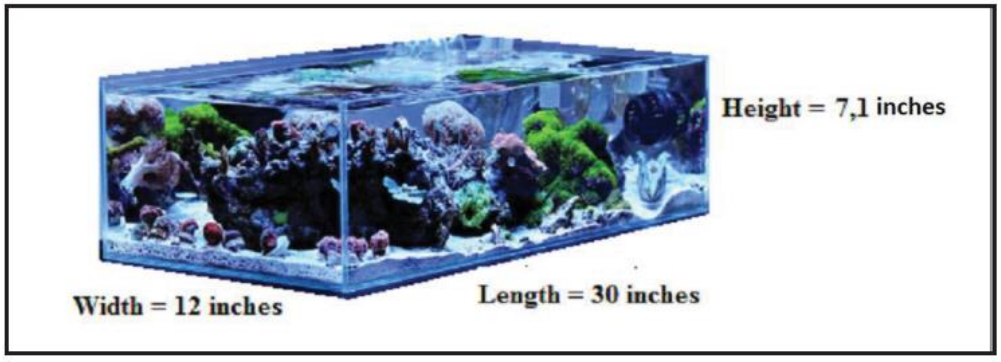
5.1.2 Write down Cape Town's humidity as a simplified common fraction. (2)

5.1.3 Express the sunset time in Cape Town in 12-hour format. (2)

5.1.4 Covert the maximum temperature for Pretoria to degrees Fahrenheit.
Give you final answer to the nearest whole number.

You may use the following formula:
$^{o}F = (^{o}C \times 1.8) + 32$ (3)

5.2 Study the fish tank below and answer the questions that follow.



5.2.1 Calculate the volume of the fish tank above in cubic inches (in^3).

You may use the following formula:
Volume = Length x Width x Height (3)

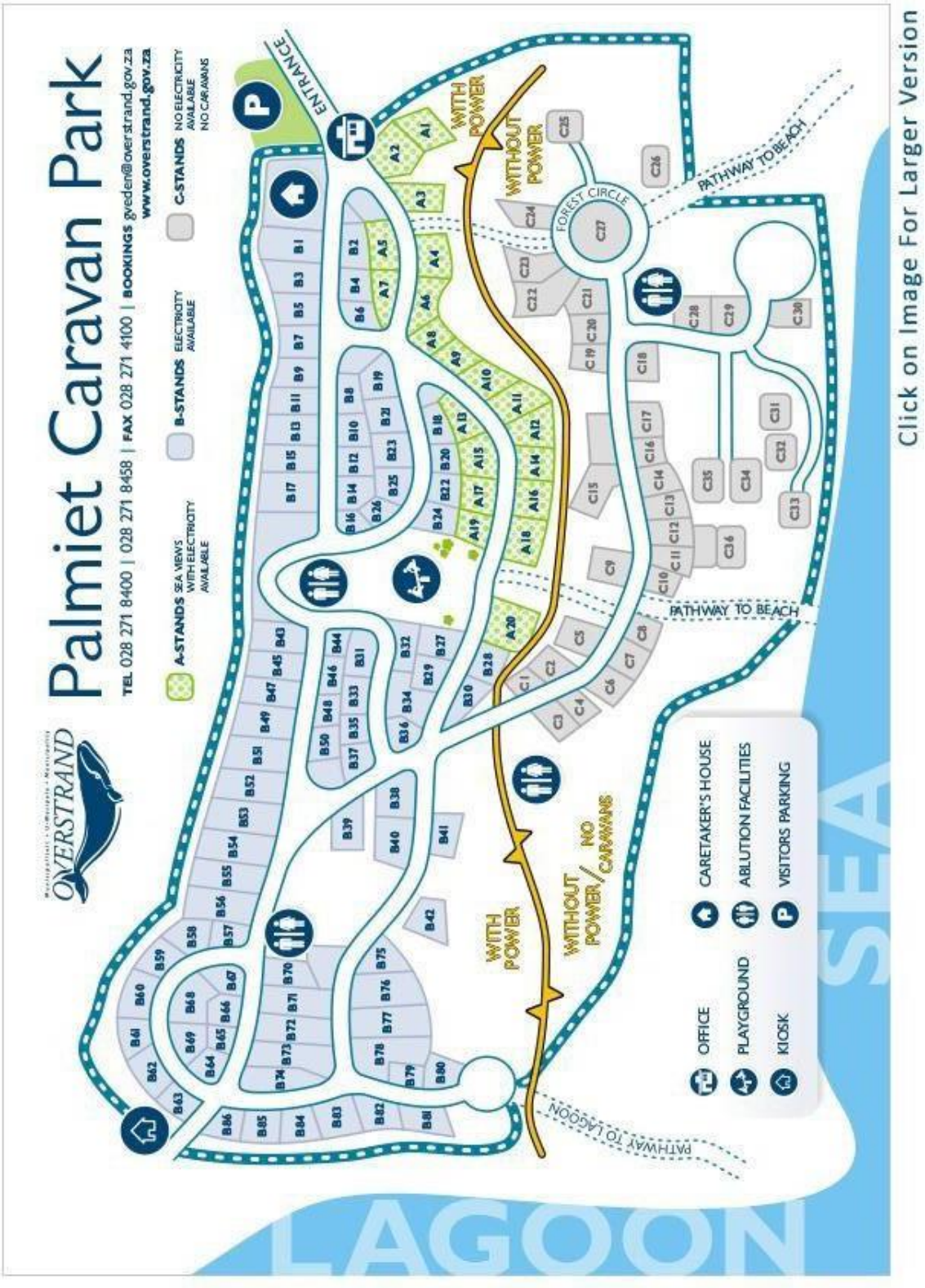
5.2.2 The fish tank is 85% full. After adding stones to the bottom of the fish tank, the fish tank is 97% full. Calculate the volume of the stones. (5)

[17]

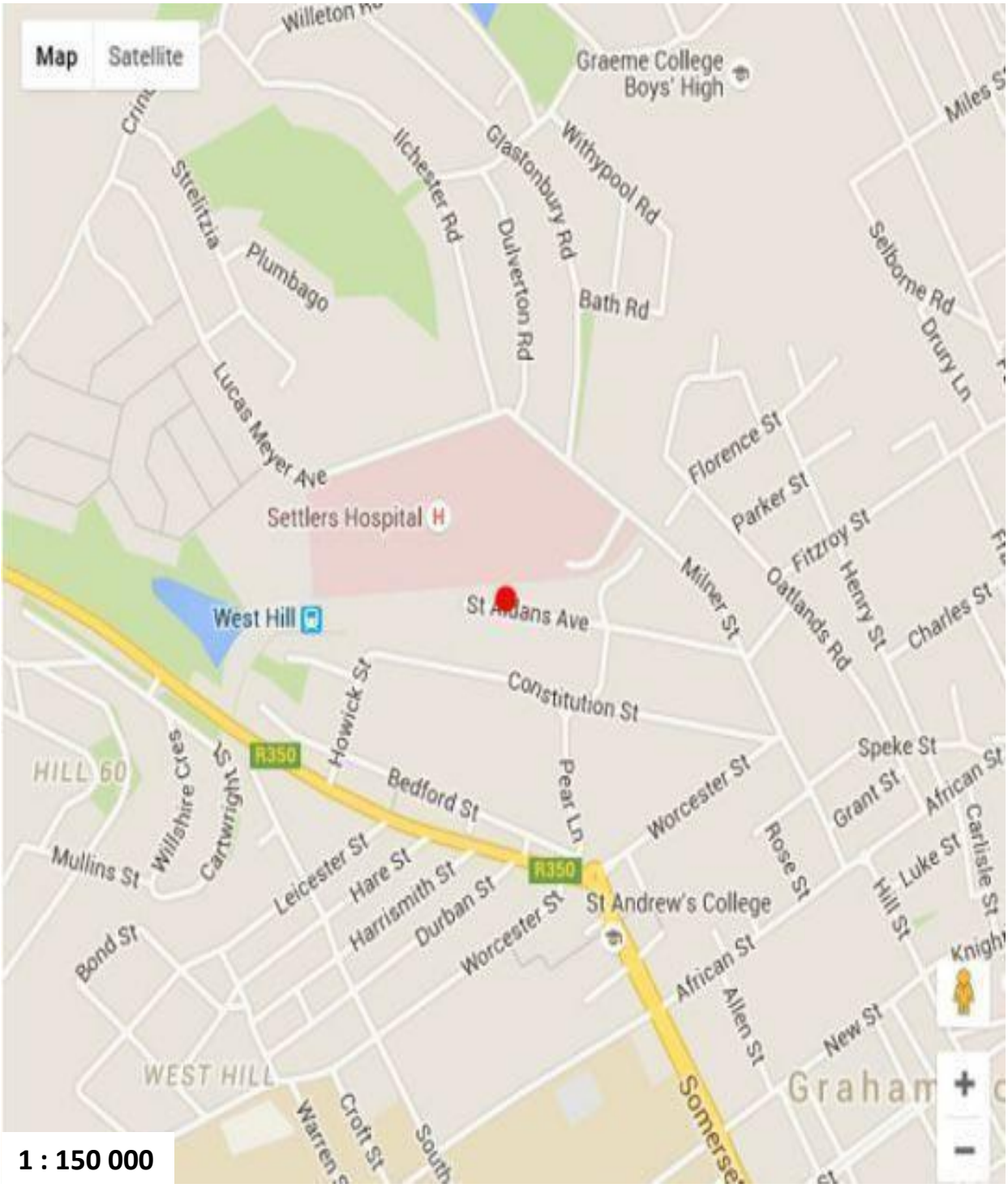
TOTAL: 100 MARKS

ADDENDUMS

APPENDIX A Palmiet Caravan Park Layout



APPENDIX B Road map of Makanda



APPENDIX C Strip Map - Cape Town to Gqeberha (Port Elizabeth)

