HILLCREST HIGH SCHOOL

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INTERNAL EXAM

GRADE 10

MATHEMATICAL LITERACY

TERM 4

NOVEMBER PAPER 2

Name: _____ **Teacher:** _____
Duration: 1½ Hours **Marks: 75**
Examiner: Ms G Stow **Moderator: Mrs A Jugmohan-Chonnoolal**

This question paper consists of 12 pages.

QUESTION	1	2	3	4	TOTAL
MARK	16	28	20	11	75

INSTRUCTIONS AND INFORMATION

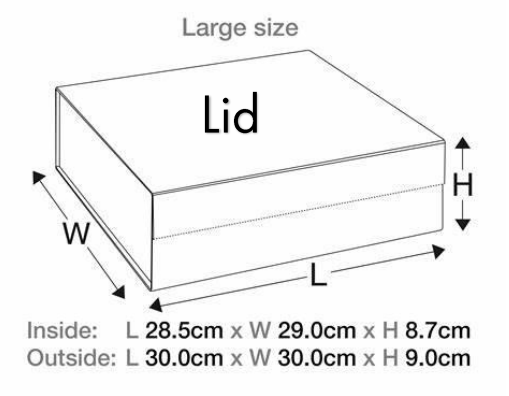
Read the following instructions carefully before answering the questions.

1. This exam consists of 4 questions.
2. Answer ALL the questions in the space provided.
3. Clearly show ALL calculations, diagrams, graphs, etc. which you have used in determining your answers.
4. Answers only will NOT necessarily be awarded full marks.
5. You may use an approved scientific calculator (non-programmable and non-graphical), unless stated otherwise.
6. If necessary, round off answers correct to TWO decimal places, unless stated otherwise.
7. Write neatly and legibly.

Question 1 (16 marks)

A flower delivery company has decided to open a new service where they deliver gift boxes.

Below is a photograph and a diagram of the Large Size option of a gift box.



1.1 Give the length of the outside of the box in millimetres. (2)

_____

_____

1.2 Calculate the difference in the height of the inside of the box to the height of the outside of the box. (2)

_____

_____

1.3 Calculate the area of the lid of the box. (2)

_____

_____

_____

1.4 When the box is being advertised in a catalogue the image is made 5 times smaller. (2)

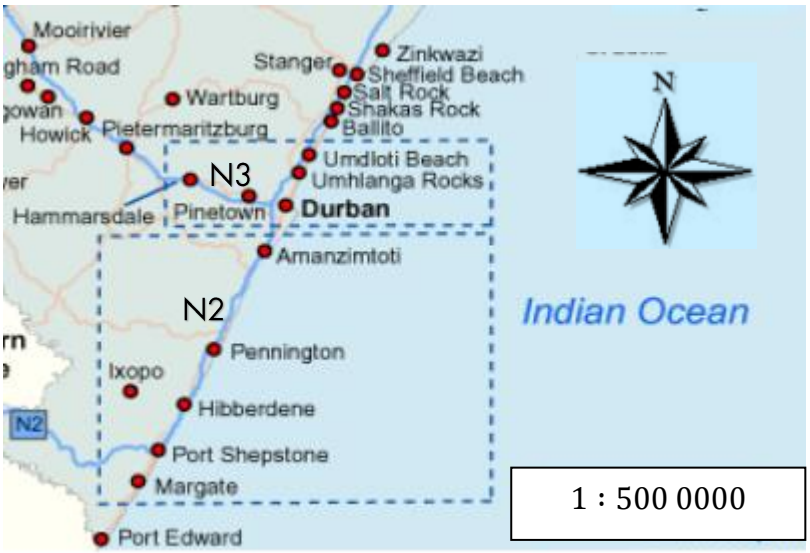
Give the ratio of this image in the form of 1 : ____

1.5 One of the orders had 14,6 oz of chocolates in the box. (2)

Calculate the weight of the chocolates in grams.

$$1\ oz = 28{,}35g$$

1.6 The gift boxes are sourced from Pietermaritzburg; and a delivery needs to be made in Margate.



Correct the format of the number in the scale ratio. (2)

1.7 On which two national roads must the person transporting the gift boxes travel? (2)

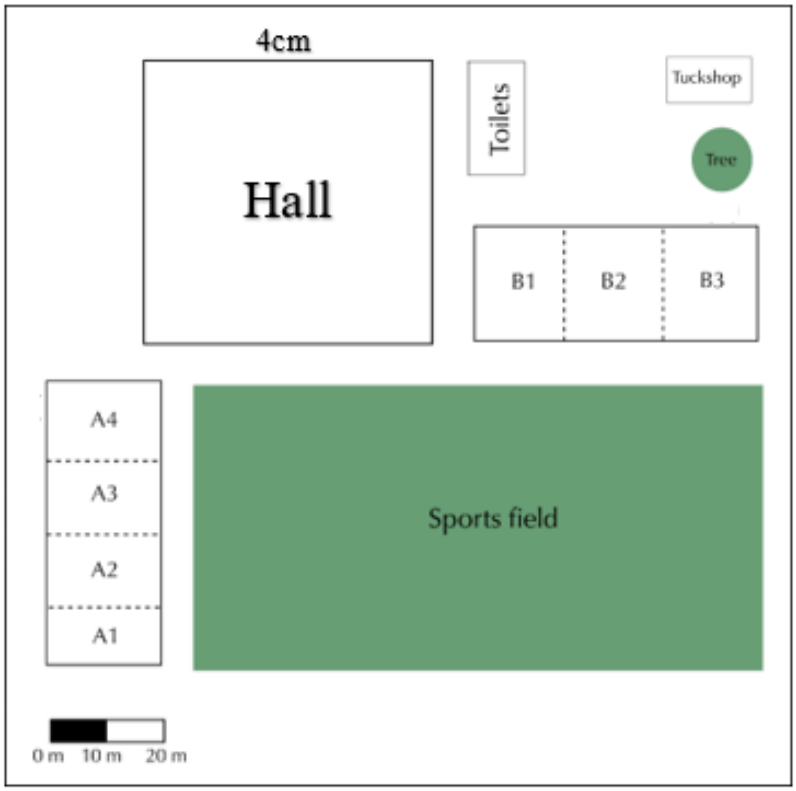
1.8 What is the general direction of Durban from Margate? (2)

[16]

Question 2 (28 marks)

Below is the plan of a local sports facility in Nosipho's area.

Use the diagram to answer the questions that follow:



2.1 Give the perimeter of the Hall in the image, if the measurement on the plan is 4cm, and the hall is square in shape. (2)

2.2 Using the bar scale given, calculate the area of the hall in m^2. (4)

2.3 Calculate the circumference of the tree in metres. (3)

$$Circumfernce = 2\pi r \ \ and \ \pi = 3{,}142$$

2.4 Verify, by calculations, that the area of the hall is $\frac{1}{2}$ the area of the sports field. (4)

2.5 Block A and Block B are empty rooms. Give one use of these rooms. (2)

2.6 A water bottle is displayed online. Use the information below to answer the questions which follow:

1 Litre Tritan Water Bottle

Size :	Diameter	7,1 cm
	Height	28 cm
Capacity:	1 litre	

$$Area = \ \pi \times r^2$$

$$Volume = \pi \times r^2 \times h$$

$$\pi = 3{,}142$$

$$1000cm^3 = 1\ l$$

2.6.1 Calculate the radius of the water bottle. (2)

2.6.2 Calculate the diameter of the bottle as a percentage of the height of the bottle. (3)

2.6.3 Calculate the area of the base of the bottle. Give your answer in cm^2 (4)

2.6.4 Using calculations, verify that the bottle can indeed hold 1 litre of liquid. (4)

[28]

Question 3 (20 marks)

Below is a map of the Wychall area.

Use the diagram to answer the questions that follow.

3.1 Give the address of Caravan Park. Use street names to answer this question. (2)

_____

_____

_____

3.2 A Bed and Breakfast is situated on the corner of Middle Field Rd and Oddingley Rd. (3)

Explain to a guest how to get from the Bed and Breakfast to the Caravan Park.

_____

_____

_____

_____

3.3 The region is well known for their extreme weather systems.

The table below gives the weather forecast for the next few days:

3.3.1 Convert the maximum temperature, rounded to the nearest degree, for Thursday into °F using the following formula: (3)

$$°F = 1{,}8 \times °C + 32$$

3.3.2 The difference between the maximum temperature for Thursday and Friday is 1°.

Verify whether this is a 1% increase or not. Show all calculations. (4)

3.3.3 What is the probability of choosing a day listed above where the minimum temperature is above 20°C? (2)

3.3.4 A couple are visiting the region for a 3 day long weekend (Friday – Sunday). What is the probability that they will experience a temperature higher than 30℃? Give your answer to 3 decimal places. (2)

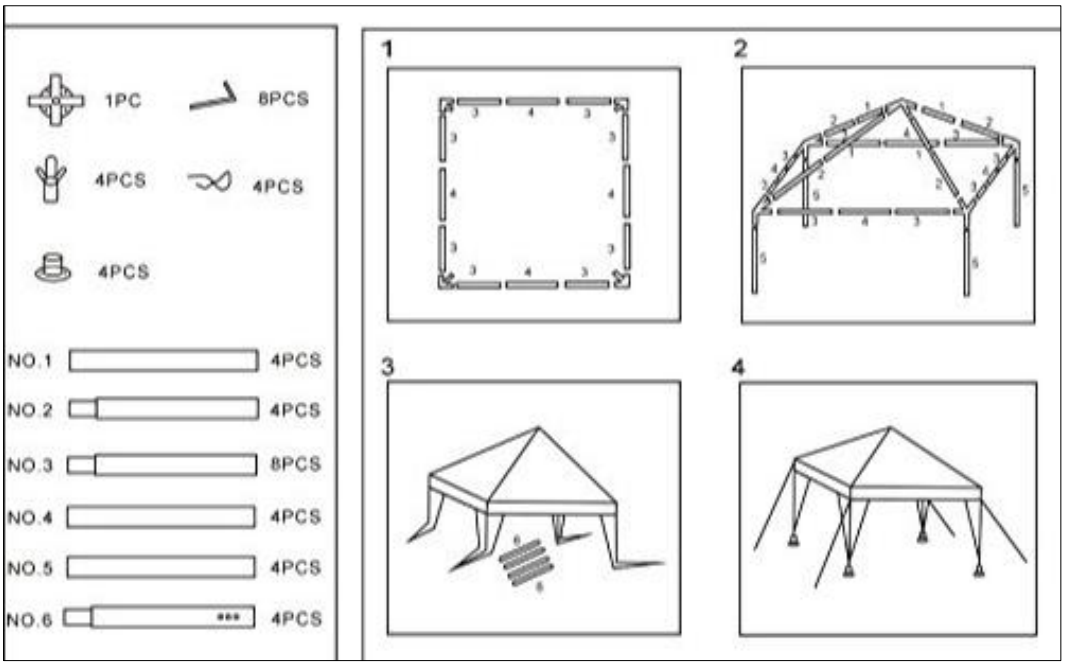
3.4 The car trip for the couple to reach their destination took 5 hours and 20 minutes. The distance was 520 km and the average speed limit was 90 km per hour. (4)
Verify, by use of calculations, that the couple exceeded the speed limit.

[20]

Question 4 (11 marks)

A soccer team purchased a 3m x 3m marque to use at their soccer games.

Below is an assembly instruction on how to set up the marque:



4.1 How many pieces are included in the bag for the marque (excluding the fabric / tent) (2)

4.2 How many steps are there to set up the marque? (2)

4.3 If the diagram in Step 1 has a length of 2cm; and the marque is 3m long. Give the scale of the diagram as a ratio in the form of 1 : ____ (3)

4.4 What has happened between Step 2 and Step 3? (2)

4.5 A screen is attached to the side of the marque to protect the people from rain and on the screen is the soccer club's logo. (2)
The logo had to be made 30 times bigger for it to be printed.
If the logo was 8cm in diameter, give the diameter of the printed logo in metres.

[11]