KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL
SENIOR CERTIFICATE

GRADE 10

MATHEMATICAL LITERACY

COMMON TEST

MARCH 2023

MARKS: 75

TIME: 1 ½ hours

This question paper consists of 7 pages.

INSTRUCTIONS AND INFORMATION

1.   This question paper consists of FOUR questions. Answer ALL the questions.

2.   Number the answers correctly according to the numbering system used in this question paper.

3.   Start EACH question on a NEW page.

4.   You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.

5.   Show ALL calculations clearly.

6.   Round off ALL final answers to two decimal places.

7.   Indicate units of measurement, where applicable.

8.   Diagrams are NOT necessarily drawn to scale, unless stated otherwise.

9.   Write neatly and legibly.
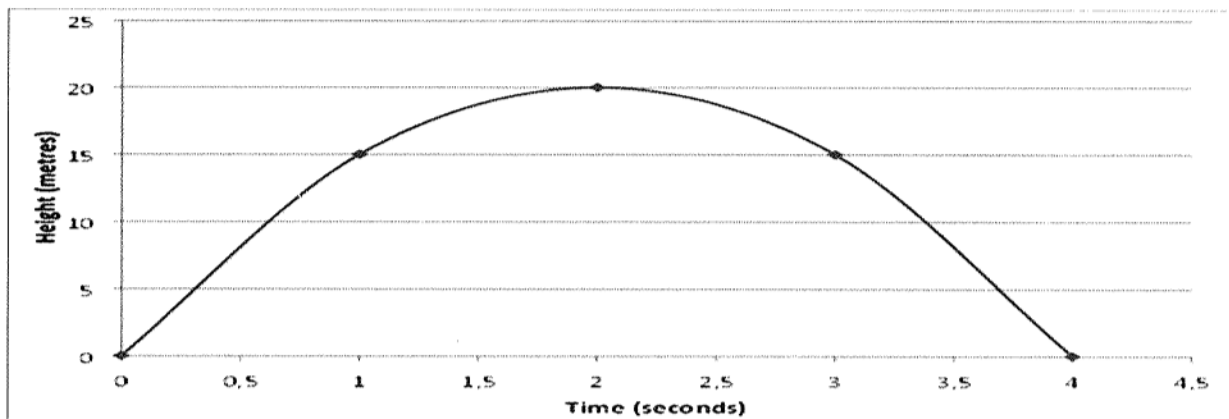
QUESTION 1

1.1

Melokuhle is a long jump athlete as shown on the picture. The records of her height and time taken are on the graph.

A picture of Melokuhle long jump.

The graph showing the records of the height and the time taken by Melokuhle.

[Adapted from www.bing.com]

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

1.1.1	Write down the maximum height jumped by Melokuhle.	(2)
1.1.2	Determine the height at which Melokuhle after 3 seconds.	(2)
1.1.3	Calculate the range of time where Melokuhle's height was 15 metres.	(2)
1.1.4	Convert 15 metres to centimetres.	(2)
1.1.5	Identify the dependent and the independent variables of the graph.	(2)
1.1.6	Is time discrete or continuous?	(2)

1.2

Melokuhle drinks 2 litres of water per day to stay healthy. She drinks 500 millilitres of water every 2 hours to make up for the 2 litres per day. Her daily practise consists of 20 jumps with 40 push ups.

A picture of a water bottle.

DEER PARK

NOTE: 1 litre = 1000milliliters

[Adapted from www.restockit.com]

Use the information above to answer the questions that follow.

1.2.1   Convert 2 litres to millilitres. (2)

1.2.2   Determine the number of 500 millilitres, Melokuhle has to drink per day. (2)

1.2.3   State whether 20 jumps per day is a rate or a ratio. (2)

1.2.4   On Wednesday 20 July, Melokuhle managed to do 50% of her normal jumps.
Determine the number of jumps she made on this day. (2)

[20]

QUESTION 2

2.1

> Siyanda Secondary school wants to hire a bus to transport learners to a sport event. The total distance of their return trip is 200km. The school sports organizer received two quotations from different companies.
>
> | Company A charges R150 per learner. | Company B charges R40 per kilometer. |
> |---|---|
> | | |
>
> The school governing body (SGB) offered to give the learners an amount of R6 450 for food.
>
> [Adapted from www.bing.com]

Use the information above to answer the questions that follow.

2.1.1   Write the amount the school governing body will give for food in words   (2)

2.1.2   Construct the cost formula for **Company A**.   (2)

2.2

> Below is the table that shows the cost of the bus per learner when using **Company A**.
>
> **Table 1: Cost of Company A bus**
>
> | Number of children | 10 | 20 | A | 30 | C |
> |---|---|---|---|---|---|
> | Cost of bus (R) | 1500 | 3000 | 3750 | B | 9000 |

Use the information above to answer the questions that follow.

2.2.1   Calculate the values of **A, B** and **C**.   (6)

2.2.2   One learner stated that the cost of 20 learners in company A would be the same as the cost of 75km in company B. Verify using calculations if the learner's statement is valid   (3)

2.2.3   Write the ratio of Company A's number of children to the cost of the bus for 10 children in simplest form.   (2)

2.3   Show by calculations which company will be the cheapest if the school trip will have 60 children.   (5)

[20]

QUESTION 3

3.

> The Department of Education requires subject analysis per level at the end of every term. Below is the Mathematical Literacy grade 12 term 1 test results of one of the schools in KwaZulu-Natal. In order to pass Mathematical Literacy, a learner must obtain level 2 or higher.
>
> **TABLE 2: Mathematical Literacy grade 12 term 1 test Analyses.**
>
> | Subject | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 | Level 7 |
> |---|---|---|---|---|---|---|---|
> | Mathematical Literacy | 61 | 26 | 1 | 13 | 0 | 0 | 0 |

Use TABLE 2 and the information above to answer the questions that follow.

3.1   Name the data collection method that was used to collect the information above.   (2)

3.2   Determine the mode of the test analysis.   (2)

3.3   Calculate the total number of learners who wrote the test.   (2)

3.4   Arrange the test analysis in a descending order.   (2)

3.5   Determine the median level of the above data.   (2)

3.6   The Departmental Head of the school above stated that the number of learners achieved at level 1 is more than 50%. Verify by calculations if this statement is correct.   (4)

3.7   Show that the percentage number of the learners who are at level 1 is 60,40%.   (2)

3.8   One of the department officials suggested that the school needs support. Give ONE reason to support the official and suggest the type of support that can be given to improve the schools results.   (4)
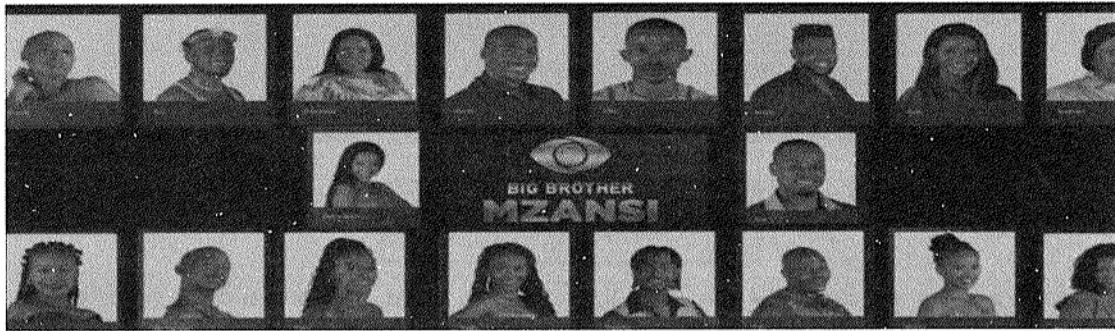
[20]

QUESTION 4

4.

> Mphowabodimo won an amount of R2 million in an Mzansi Big brother competition show held in 2022. In an interview show that was broadcasted on the 20th of June at 9:30 in evening, she stated that she was going to invest 50% and divide the 20% of the remaining money to her mother and her son at a ratio of 2:1.
>
> **A picture of 2022 Big Brother Mzansi contestants**
>
>
>
> [Adapted www.atinkanews.net]

Use the information above to answer the questions that follow.

4.1	Write the time she was interviewed in 24-hour format.	(2)
4.2	Calculate the amount to be invested.	(2)
4.3	Calculate the amount she will be left with after the investment and sharing with her family.	(3)
4.4	Calculate the amount that Mphowabodimo's mother and son will each receive.	(6)
4.5	Give one reason why it important for Mphowabodimo to invest some of her money.	(2)

[15]

GRAND TOTAL: 75