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KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 10

MATHEMATICAL LITERACY

COMMON TEST

JUNE 2022

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MARKS: 100

TIME: 2 hours

This question paper consists of 9 pages and an addendum with 1 annexure.

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Use ANNEXURE A in the addendum to answer QUESTION 4.
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 two decimal places.
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.

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QUESTION 1

1.1

Mr. Mkhonza a security officer in one of the schools in KZN collected the following information about the number and types of cars that teachers from his school are driving.

TABLE 1: Record of cars in Mr. Mkhonza's school.

Type of car	Number of cars
Jeep	2
Dodge	1
VW Polo	7
Ford Ranger	1
Rav 4	1
Corsa Utility	1
Toyota Fortuner	1
Mazda	1
Hyundai	2
Toyota Hilux	1
Audi	1

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

1.1.1 Define the term *mode* in the given context. (2)

1.1.2 Write down the data collection method used to collect the data above. (2)

1.1.3 State whether the number of cars in Mr. Mkhonza's school represent discrete or continuous data. (2)

1.1.4 Arrange the number of cars in an ascending order. (2)

1.1.5 Write the number of Audi to Jeep cars as a ratio. (2)

1.1.6 Calculate the total number of cars in Mr. Mkhonza's school. (2)

1.1.7 Write down the probability of having a Dodge car in Mr. Mkhonza's school. (2)

1.1.8 Mr. Mkhonza washes teachers' cars during his spare time at a cost of R50,00 per car. Calculate the amount he receives from washing all the VW polo cars. (2)

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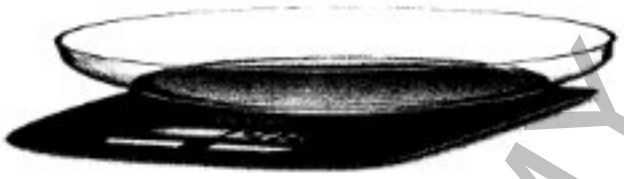
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1.2

Miss Radebe recently bought a kitchen scale to assist her when cooking or baking.

TABLE 1: PICTURE OF BEURER KITCHEN SCALE KS 25



Details:

- With blue illuminated display
- Bowl with 1,2 litre capacity
- Maximum weight or capacity: 3kg
- Size 22 × 15 × 5 cm
- Automatic switch –off overload indicator
- 5-year warranty

[Adapted from www.makro.co.za]

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

1.2.1 Give the name of the scale shown in TABLE 1. (2)

1.2.2 Write down the units in which the mass of the bowl is measured. (2)

1.2.3 Write the maximum weight or capacity of the scale in grams. (2)

1.2.4 Convert the 5 year warranty to months. (2)

1.2.5 The probability of randomly selecting a feature that talks about the weight in all features is $\frac{1}{7}$.
Write this probability in a decimal form rounded to TWO decimal places. (2)

1.2.6 Miss Radebe requests her friend to buy her the table that has a scale of 1:10.
Name the type of a scale given above (2)

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QUESTION 2

2.1 Miss Nkala has decided that she needs to start saving money to go on a holiday in December, She decided that the best way to do this would be to draw up a budget and work out how much money she will be able to save for the holiday. She saved all the money left over after her expenses into her monthly holiday.

TABLE 2: Miss Nkala's budget for June 2022 to November 2022

MONTHLY INCOME		MONTHLY EXPENDITURE	
Salary after deductions	R 27 800	Pension	R 1 260
Rent Income	R 4 350	Medical aid	R 5 600
		Insurance	R 2 320
		Rates and Taxes	R 1 420
		Water and refuse	R 340
		Electricity	R 1 150
		Car repayment	R 2 950
		School fees	R 1 400
		Food	R 2 900
		Clothing	R 850
		Petrol	R 1 250
		Entertainment	R 900
		Cell phone	R 800
		Maintenance on rental unit	R 750
		Saving (9 % of total income)	**A**
TOTAL	**R 32 150**	**TOTAL**	
		Holiday budget	

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

2.1.1 Define the term *monthly income* in the given context. (2)

2.1.2 Calculate the amount of money (**A**) that Miss Nkala put into savings every month. (3)

2.1.3 Calculate the total expenditure of the Nkala household. (3)

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2.1.4

Miss Nkala's family of three (herself, husband and son) found 2 different accommodation options for their holiday. The family has decided they will stay over for 3 nights and they have found out that the cost of a dinner meal for 3 people will be a minimum of R 400. The family will pack sandwiches for lunch.

OPTION 1

KZN Bed and Breakfast offers accommodation for R 750/day for the entire family. This cost includes only breakfast.

OPTION 2

3105 Hotel offers accommodation for R 1400/day for the entire family, this includes all meals and access to many entertainment facilities.

Use the information above to answer the questions that follow.

a) Show by calculations which option will be the cheapest. (5)

b) Give a reason why the family might choose the expensive option. (2)

2.2

3105 Hotel offers parking at rates showed below. They offer prepaid and postpaid payment option.

TABLE 3: 3105 Hotel parking tariffs.

	Shaded Parking	**Open Parking**
Duration	**Rand (R)**	**Rand (R)**
0- 5 min	Free	Free
5 min – 1 hour	17	12
1 – 2 hours	23	14
2 – 4 hours	31	17
4 – 12 hours	45	31
12 – 24 hours	100	67
After 24 hours	100 × number of days	67 × number of days

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

2.2.1 Determine the amount that a person pays for parking 6 hours 30 minutes on a shaded parking. (2)

2.2.2 One of the hotel workers claims that you pay less for a lost ticket than the cost of parking for 6 days using the shaded parking. Verify, by showing ALL calculations, if his claim is valid. (5)

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QUESTION 3

3.

Mr Mntambo, a History educator at Pongola Secondary analysed test that he gave to his learners in two classes. He selected 5 top learners in each class. The test was out of 50 marks.

TABLE 4: Mr Mntambo's History test results

Grade	Learner 1	Learner 2	Learner 3	Learner 4	Learners 5
10 A	30	30	44	35	32
10 B	31	33	36	36	44

Use TABLE 4 above to answer the questions that follow.

3.1 Determine the mode of 10A. (2)

3.2 Arrange grade 10A marks in a descending order. (2)

3.3 If the top 5 learners in grade 10A are only 10% of the class. What is the total number of learners in 10A? (4)

3.4 Which grade performed better and why? (3)

3.5 Calculate the range of 10B. (2)

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QUESTION 4

4.1

ANNEXURE A shows the map with regions of KwaZulu Natal.

Mr Bill of Zwelonke is planning to drive to Swaziland from Ulundi in KwaZulu Natal for a holiday. He uses the Map in ANNEXURE A to decide other places to visit.

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

4.1.1 The distance between Zwelonke and Ulundi is 15 000 metres. Write the distance in kilometres. (2)

4.1.2 Give the general direction of Ulundi from Swaziland. (2)

4.1.3 Give the name of the province that is South of Swaziland. (2)

4.1.4 The distance from Ulundi to Swaziland is 330km. It takes 1 hour to travel a distance of 120km. Calculate the number of hours it takes to travel to Swaziland. (3)

4.2

Mr Bill will travel from Ulundi to Richards Bay to pick his son. His car travels 19.62 km per litre and the cost of petrol is R19,80 per litre.

Use the information above to answer the questions that follow.

4.2.1 Name the towns Mr Bill will pass on his way to his son, including his destination. (2)

4.2.2 How many litres of petrol will Mr Bill need for the return trip from Ulundi to Swaziland? (3)

4.2.3 Hence calculate the amount that Mr Bill will need for petrol? (2)

4.2.4 Give a reason why there is a bold line between Swaziland and South Africa? (2)

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QUESTION 5

5

Miss Nxumalo sells scones. She uses the ingredients below to bake her scones.

Picture of Magic 3 ingredient scones (Serving 6 people)



Magic 3 ingredient scones

- 4 cup self-raising flour
- 300*ml* lemonade
- 300*ml* cream

Cook and bake original non-stick spray

Preparation time: 5min
Cooking: 15 min
Temperature : 356^{0}F
1 cup = 236, 59 milliliters

[Adapted from: www.food24.com]

Use the information above to answer the questions that follow.

5.1 How many people can the ingredients above serve? (2)

5.2 Convert 4 cups to millilitres. (2)

5.3 Calculate the total cooking time in hours. Round off your answer to TWO decimal places. (3)

5.4 Convert the temperate of 356^{0}F to degrees Celsius.
You may use the following formula:
$^0C = (^0F - 32) \div 1,8$ (3)

5.5 Miss Nxumalo claims that she will need a minimum of 2 hours to prepare and bake scones enough for 36 people. Verify, by showing ALL calculations if her claim is valid? (4)

5.6 Give one reason why do you think scones ingredients have sugar. (2)

5.7 How much lemonade will be needed to make scones for 36 people? (2)

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TOTAL: 100

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