KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 11

MATHEMATICAL LITERACY

COMMON TEST

APRIL 2021

MARKS: 100

TIME: 2 Hours

This question paper consists of 10 pages, an addendum with 1 Annexure and 1 answer sheet.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. 2.1 Use ANNEXURE A to answer QUESTION 3.1.

   2.2 Answer QUESTION 4.1.4 on the attached ANSWER SHEET.

   2.3 Write your surname and name in the spaces provided on the ANSWER SHEET. Hand in the ANSWER SHEET with your ANSWER BOOK.
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 the calculation clearly.
7. Round off ALL the final answers appropriately according to the given context, unless stated otherwise.
8. Indicate units of measurements, where applicable.
9. Maps and diagrams are NOT necessary drawn to scale, unless stated otherwise.
10. Write neatly and legibly.

QUESTION 1

1.1

Dean's Athletics Club printed T-Shirts to raise awareness and prevent the spread of COVID-19. The picture below is a scaled drawing of a T-Shirt for Deans Athletics Club.

Front of T-shirt **Back of T-shirt**

Scale 1:20 **Source:http//www.google.com/pictures**

Study the diagram above and answer the questions that follow.

1.1.1 Write down the time shown on the T-Shirt using the 24-hour format if it represents the time in the afternoon. (2)

1.1.2 Calculate the number of letters needed to print the logo on the back of the T-Shirt. (2)

1.1.3 Explain the meaning of the scale in the above drawing. (2)

1.1.4 Convert 6 feet to metres. NOTE: **1 foot = 0.3048m.** (2)

1.2 Stencil Crafts paint T-Shirts at a cost of R3.50 per letter and per digit with a spread rate of 2.4m ℓ of paint per THREE letters.

1.2.1 Determine the cost of painting 15 letters. (2)

1.2.2 Calculate how many millilitres of paint is required to print 800 letters. (2)

1.3

The century city athletic club is hosting a Virtual Run or Walk due to the COVID-19 Pandemic. Table 1 below shows the summary of the events. Some information has been omitted.

TABLE 1: CENTURY CITY ATHLETIC ROAD RUNNING/WALKING EVENT

Event	Event A	Event B
Date	27-28 February 2021	27 -28 February 2021
Race Distance	15km Road run	5 000m run/walk
Time	06:00 start – 23:00 cut-off	06:00 start – 23:00 cut-off
Minimum age entry	14 years	9 years
Race fee	R229	R129,60

NOTE:

- virtual race – athletes run at any location at their own pace/start, with their friends/ group and upload the results using track running apps

Study the table and the information above and answer the questions that follow.

1.3.1 Identify the event that caters for both running and walking. (2)

1.3.2 How many hours is the virtual run or walk? (2)

1.3.3 Determine the difference between the race fees for Event A and B. (2)

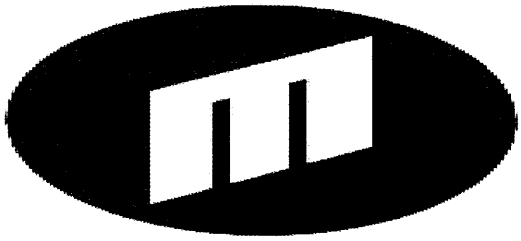
1.3.4 State the number of days the athlete is allowed to submit their results. (2)
[20]

QUESTION 2

2.1

Study the Payslip for Mr Rajesh Gowda below and answer the questions that follow.

MONTHLY PAYSLIP FOR RAJESH GOWDA

ELS Electronics and security **17 Doom Street** **Grants town** **5287** **Tel:** 030 598 157 **cell:**077 815 1025 **Fax/mail**: elselectronics@security.co.za	

Payslip for January 2021

Employee Name: Rajesh Gowda **Gender:** Male **Occupation:** Installer	**Paid Days:** 30 **Leave :** 00 Payslip NO. 48

Earnings	**Amount**		**Deductions**	**Amount**
Basic		R10 000	Salary advance	R1 000
Overtime hours	50		PAYE	R1 290
Overtime Rate	R75		UIF : 1%of Total Earnings	R137.50
Overtime Payment		R3 750	Other deductions	-
Total payment		**R13 750**	**Total deductions**	**A**
Net pay		**R11 322.50**		

2.1.1 What is the difference between an employer and employee? (4)

2.1.2 Calculate the value of **A**, total deductions. (2)

2.1.3 Show by calculations how the overtime payment amount of R3 750 was calculated. (2)

2.1.4 Define the term "net pay" according to the given context. (2)

2.1.5 Calculate the PAYE amount as a percentage of the total payment amount. Round off your answer to the nearest percentage. (4)

2.1.6 State ONE benefit of contributing towards UIF. (2)

2.2

Mbali and Rajesh owns a small bakery. Mbali bakes circular birthday cakes.
She uses the recipe below.

Recipe: 23cm round carrot cake

Serving :8 **Preparation**:25 min

cooking :1hour 30 min

Pre heat oven to 170°C

Source:https://www.food24.com

Ingredients

340g flour	200ml sunflower oil
10ml cinnamon	225g brown sugar
5ml sugar	125ml golden syrup
2,5ml nutmeg	500g carrot grated
5ml Bicarbonate	60g pecan nuts
10ml baking powder	100g icing butter and
5ml salts	125g cream cheese
4 eggs	500ml icing sugar
	5ml lemon juice

Study the recipe and the information above and answer the questions that follow.

2.2.1 Convert the total mass of flour, brown sugar and carrot to kilograms (kg). (3)

2.2.2 Write down the simplified ratio of golden syrup to lemon juice. (2)

2.2.3 Mbali shares the recipe with her sister who lives in Australia.
Her sister uses the oven that only has degree Fahrenheit readings.

Convert 170°C to degree Fahrenheit

You may use the following formula : $°F = °C \times 1,8 + 32°$ (3)

2.2.4 Mbali starts preparing to bake at 09:10. At what time will the cake be ready for serving? (3)

2.2.5 Mbali used FIVE dozen eggs. Determine the maximum number of cakes she baked. (4)

2.2.6 The cost price of ONE cake is R450. To determine the selling price Mbali and Rajesh increases the cost price by 45%. Determine the profit made from selling FIVE cakes. (3)

[33]

QUESTION 3

3.1

John lives in Brakpan and works at Braamfontein from Monday to Friday. John travels from Brakpan to work using N17, N12 route via Turffontein in the morning and afternoon.

The Maps on ANNEXURE A show part of Gauteng and John's route to work

Use ANNEXURE A in the addendum to answer the questions that follow.

3.1.1 Refer to FIGURE 1. Determine the number of national roads shown on the map. (2)

3.1.2 Give the general direction of Soweto from the airport. (2)

3.1.3 Use the bar scale on the map to determine the actual distance in kilometres from Soweto to Midrand. (4)

3.1.4 Give TWO possible reasons why John choose to travel on the national roads. (4)

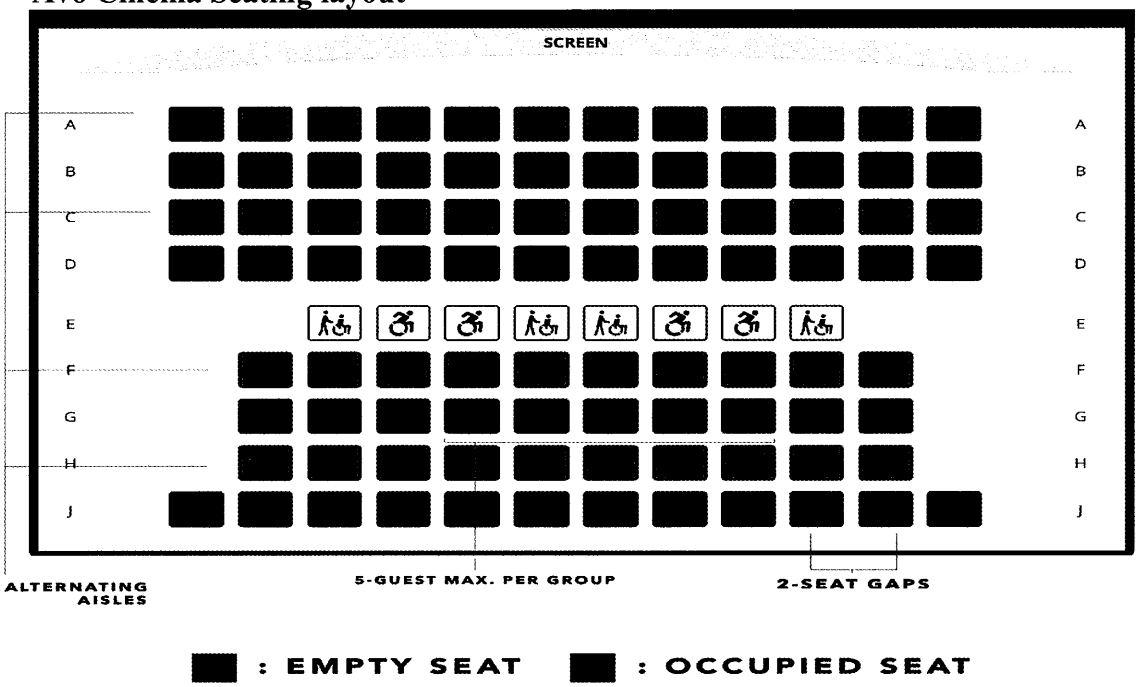
3.1.5 Refer to FIGURE 2. Calculate John's average speed in kilometres per hour (km/h), if he uses the longest route to work via Bedfordview.

You may use the formula: $\textbf{Speed} = \frac{\textbf{Distance}}{\textbf{Time}}$ (3)

3.2

Below is the Avo cinema seating layout during covid-19 alert level 1.

Avo Cinema Seating layout



NOTE:

Cinema can ONLY take a maximum of 25% venue capacity and 5- guest max. per group

Use the layout and the information to answer the questions that follow.

3.2.1 Determine the total number of seats in the cinema. (2)

3.2.2 Verify showing calculations that the seats occupied are 25% of the venue capacity. (4)

3.2.3 Determine the maximum number of 5-guest group that can be occupied in the front block of the cinema. (2)

3.2.4 Calculate the total amount the cinema will receive from the occupied seats, if one movie ticket costs R88,50 (2)

[25]

QUESTION 4

4.1

Mr Ndlovu makes custom furniture from plywood. The material costs R200 to make ONE complete stand and he sells them for R250 each. He pays R1500 per month for rent.

Picture of a stand in use

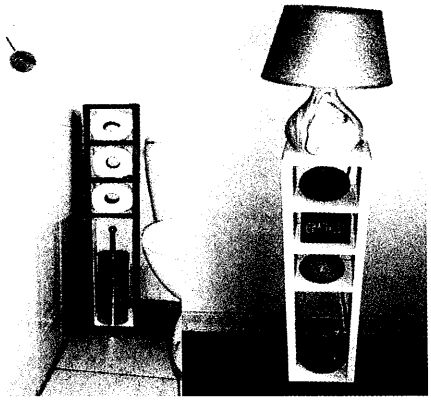
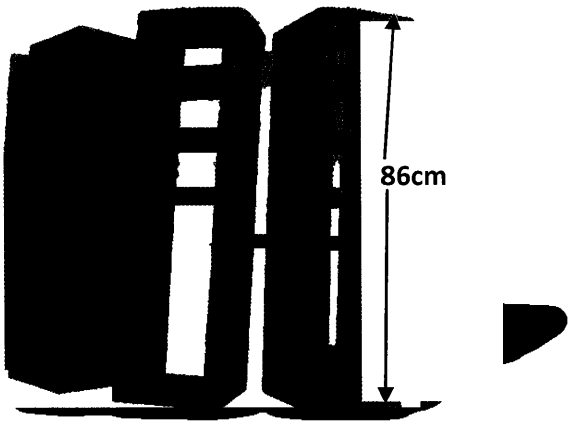


Diagram of a Stand



Source:http//www.facebook.com/images.

NOTE:

- Stand is a multi-purpose holder for household items

Table 2: Total Income and Total Expenses

No. of Stands	**0**	**10**	**20**	**30**	**40**	**...**	**C**	**90**	**100**
Total income(R)	0	2500	5000	**B**	10000	...	15000	22500	25000
Total expenses(R)	**A**	3500	5500	7500	9500	...	13500	19500	21500

Total expenses = R1 500 + R200 × number of Stands sold

Use the information above to answer the questions that follow.

4.1.1 Write down the formula Mr Ndlovu will use to calculate his total income.
Income = ... × ... (2)

4.1.2 Calculate the missing values **A**, **B** and **C** (6)

4.1.3 Explain the meaning of the term break even according to the given context. (2)

4.1.4 The graph drawn on the ANSWER SHEET shows the total expenses.
On the same set of axes, draw the graph showing the total income for the number of stands sold. (5)

4.1.5 What type of relationship is represented by the graphs in 4.1.4?
Give a reason for your answer. (3)

4.2 The measured length on the picture of the Stand is 30mm.

4.2.1 Determine the scale used to draw the diagram of the stand, if the actual length is 86cm. Round off your answer to the nearest 10 units. (4)
[22]

TOTAL: [100]

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ADDENDUM

APRIL 2021

This addendum consists of 2 pages with 1 annexure.

ANNEXURE A

Question 3.1

FIGURE 1

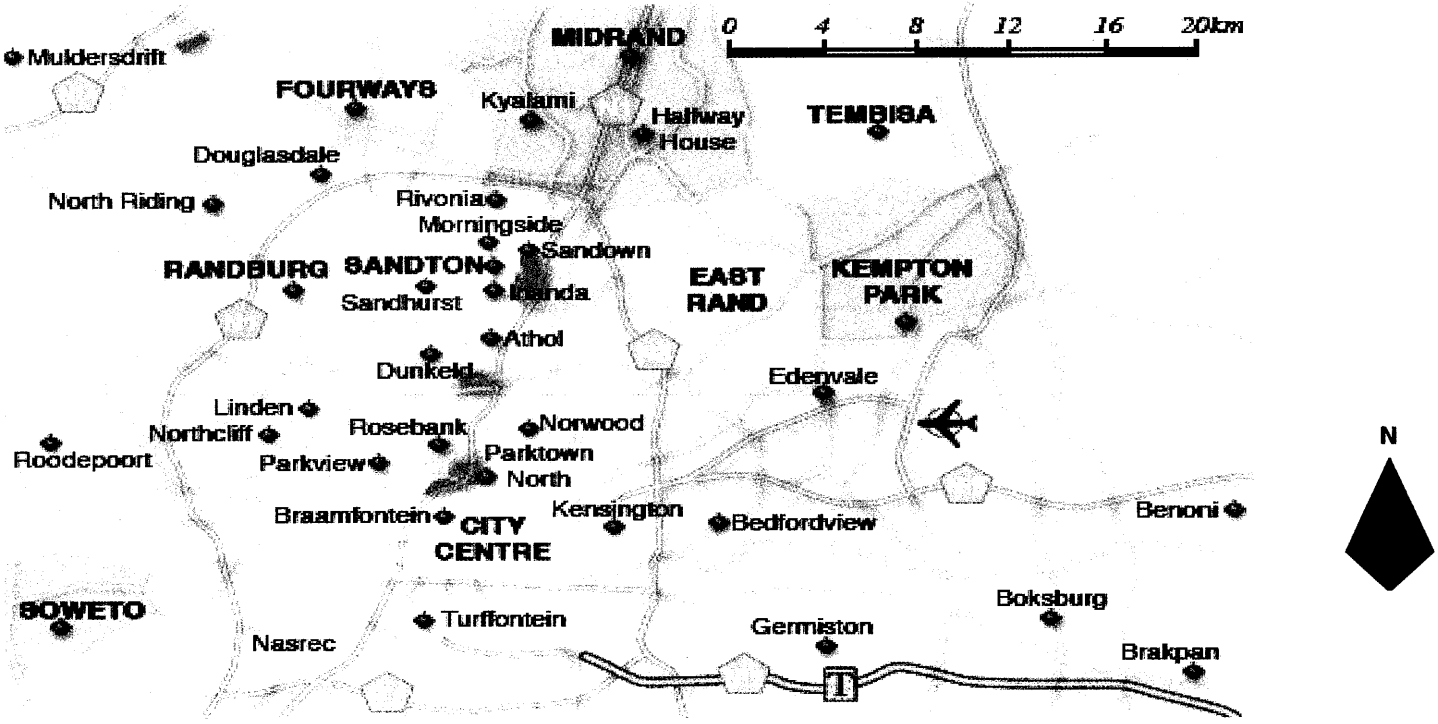
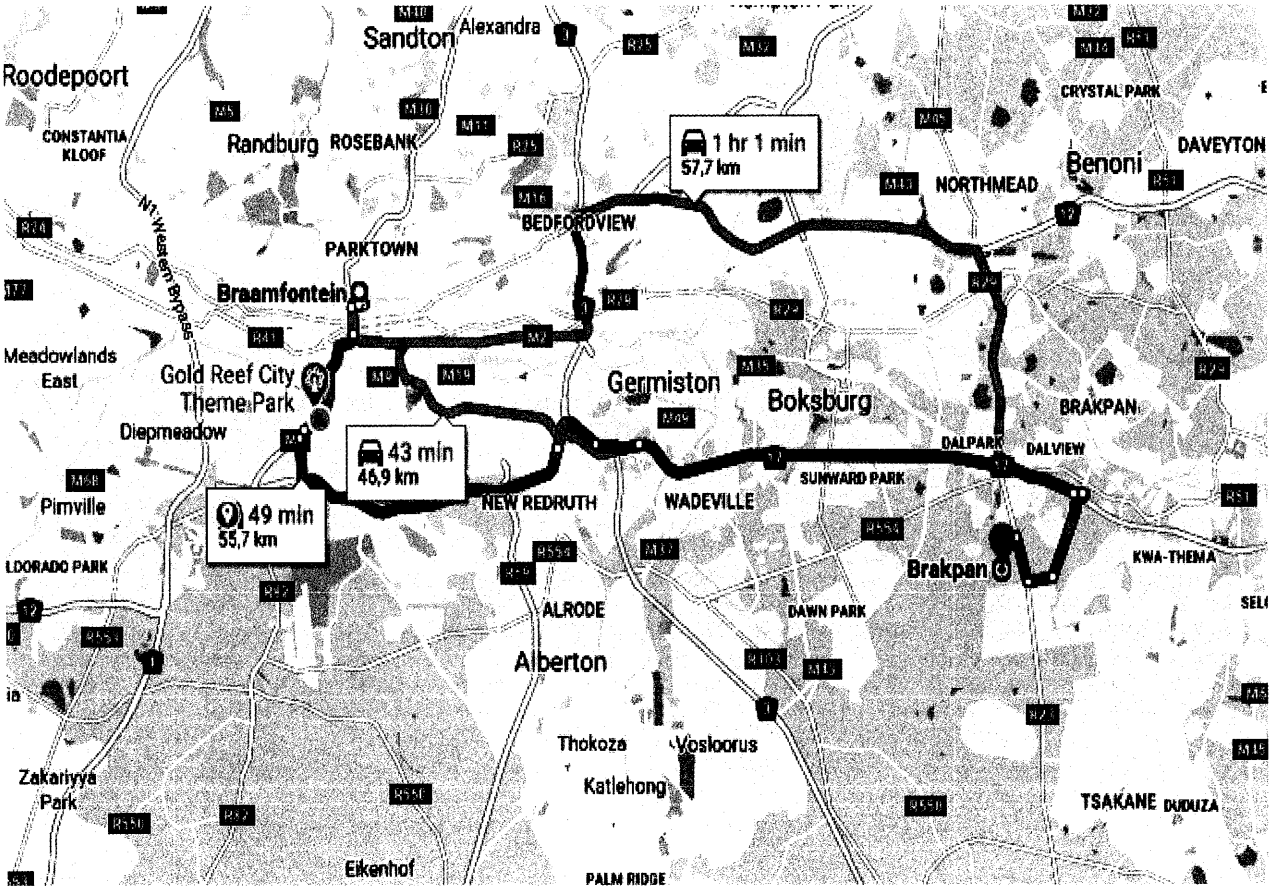


FIGURE 2



ANSWER SHEET

QUESTION 4.1.4

NAME AND SURNAME: _____

GRADE 11:_____

Table 2: Showing total income and total expenses

No. of Stands	0	10	20	30	40	…	C	90	100
Total income(R)	0	2500	5000	B	10000	…	15000	22500	25000
Total expenses(R)	A	3500	5500	7500	9500	…	13500	19500	21500