LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

MOPANI WEST DISTRICT

MATHEMATICAL LITERACY

## GRADE 11

INVESTIGATION

DATE: 23 FEBRUARY 2024

DURATION: 2 HOURS

MARKS: 100

INSTRUCTIONS AND INFORMATION:

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

2. Number the questions correctly according to the numbering system used in this questionpaper.

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 ALL the final answers appropriately according to the context, unless stated otherwise.

7. Indicate units of measurement, where applicable.

8. Maps and diagrams are NOT necessary drawn to scale, unless stated otherwise.

9. Write neatly and legibly.
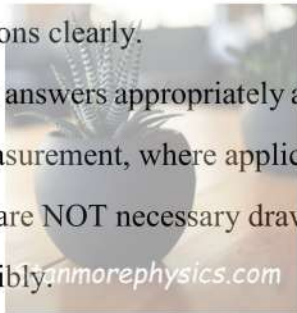
Question 1

1.1

> Mr Mxhaka is a business man who resides at extension 7. He has a landline telephone which he uses to contact his clients on a daily basis. A service provider has offered him a choice of two different call packages.
>
> | CALL PACKAGE 1 | CALL PACKAGE 2 |
> |---|---|
> | • Monthly rental: R150 | • Monthly rental of R300 |
> | • First 100 minutes are free | • First 500 minutes are free |
> | • Calls cost R0.50 per minute | • Calls cost R0.50 per minute |
>
> The total cost for call package 1 is given by the following formula:
>
> **Total cost(rand) = R150 + R0.50 × (number of minutes more than 100)**

Use the information above to answer the questions that follow.

1.1.1 Write down a formula which can be used to calculate the total (in a rand) for call package 2. (2)

1.1.2 If call package 2 is used, determine the total cost, in rand if Mr Mxhaka made calls with a total duration of 510 minutes. (4)

1.1.3 Determine which call package would you recommend for Mr Mxhaka to purchase,If he makes 700 minutes worth of calls per month? (Show all calculations) (5)

1.1.4 (a) Draw the graph using annexure A provided to represent the call packages for up to 800 minutes. (8)

(b) Use the graph to explain the meaning of the horizontal line at the beginning of the graph. (2)

(c) Identify the type of proportion displayed by the horizontal part of the graph (2)

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Question 2

2.1

Linda has just been admitted to a new school a bit far from where she stays, she has to decide on the cost effective transport to use to school by comparing the costs of travelling by a bus, taxi or train.

• A bus trip from home to where the school is at costs R20,40 0ne way.

• A taxi costs R9,50 half way plus R5,80 for another taxi to take her the whole way.

• A return fare by train costs R25,00

Use the information above to answer the questions that follow.

2.1.1   Determine the mode of transport which is the cheapest for a single trip. Show all your calculations.   (4)

2.1.2   If Linda attends school 5 times in a week, determine the total amount in rands that she's going to pay at the end of the month if she uses the bus as her mode of transport.   (5)

2.1.3   Use the table below and the ANSWER SHEET provided on annexure B
        to draw a graph that illustrates the cost per trip, using the 3 different
        mode of transport,
        Calculate for 5 trips.   (10)

No.of trips	1	2	3	4	5
Cost for Bus	R20,40	R40,80	R61.20	R81.60	R102,00
Cost for taxi	R15,30	R30.60	R45.90	R61.20	R76.50
Cost for train	R12,50	R25.00	R37.50	R50,00	R62.50

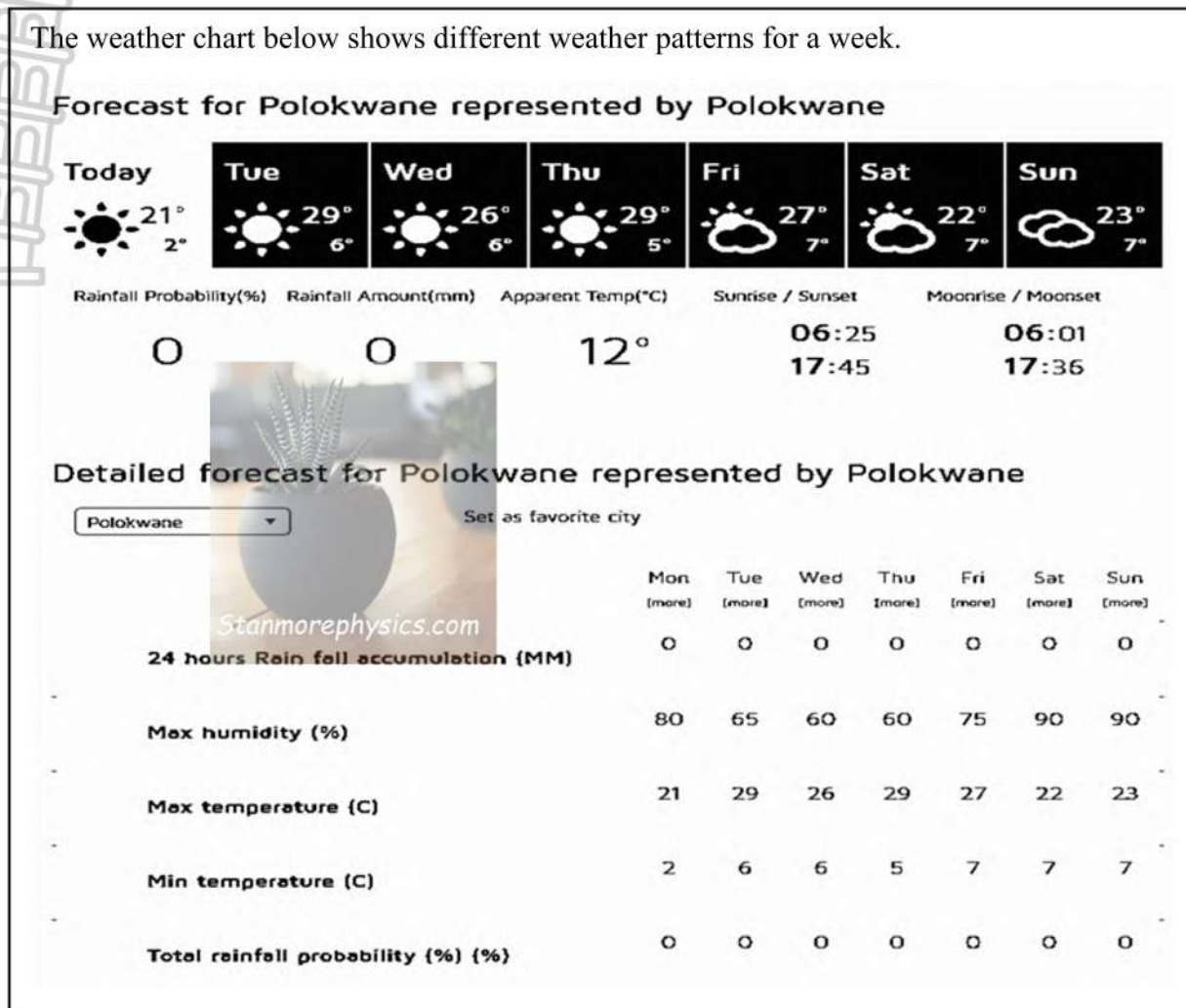Use the graph on drawn on 2.1.3 to answer the questions that follow.

(a) Write down the independent and the dependent variables   (4)
(b) Determine the type of relationship shown by the graphs   (2)
(c) Identify the mode of transport that you will advise Linda to use as
    a school transport. Provide a reason for your advise.   (3)

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Question 3

3.1 The weather chart below shows different weather patterns for a week.

Forecast for Polokwane represented by Polokwane

Today	Tue	Wed	Thu	Fri	Sat	Sun
21° 2°	29° 6°	26° 6°	29° 5°	27° 7°	22° 7°	23° 7°

Rainfall Probability(%)	Rainfall Amount(mm)	Apparent Temp(°C)	Sunrise / Sunset	Moonrise / Moonset
O	O	12°	06:25 17:45	06:01 17:36

Detailed forecast for Polokwane represented by Polokwane

Polokwane ▼   Set as favorite city

	Mon [more]	Tue [more]	Wed [more]	Thu [more]	Fri [more]	Sat [more]	Sun [more]
24 hours Rain fall accumulation (MM)	O	O	O	O	O	O	O
Max humidity (%)	80	65	60	60	75	90	90
Max temperature (C)	21	29	26	29	27	22	23
Min temperature (C)	2	6	6	5	7	7	7
Total rainfall probability (%) (%)	O	O	O	O	O	O	O

Study the chart above and answer the following questions.

3.1.1   Determine unit of measurement is used to express temperature in

South Africa.   (2)

3.1.2   Write down the day(s) with the modal maximum temperature.   (2)

3.1.3   Calculate the range of temperatures on a Friday.   (3)

3.1.4   Convert 29°C to °F, Round your answer to the nearest degrees °F.

You may use the formula   °F = (°C × 1, 8) + 32   (3)

3.2 Thando is a member of a stokvel group who resides 47,5km away from the nearest supermarket. Below is depiction of items they frequently buy for their stokvel.

10 kg Tastic rice
Cost Price: R174,99

5 kg Iwisa Samp
Cost Price: R53.49

155 g of Lucky Star pilchards
Cost Price: R12,99

[Adapted from www.google.com]

Use the information above to answer the questions that follow.

3.2.1 Convert 5kg to grams. (2)

3.2.2 Thando loves to give food to the less fortunate in smaller quantities of 125g.

Determine how many packets of 125g Thando will be able to get from one pack

of 10kg Tastic rice. (3)

3.2.3 Thando stated that the return trip from the supermarket to her house is 105 km.

Verify, if her claim is correct. (3)

3.2.4 Thando will leave home at 07:55 to reach the supermarket at 08:20. Determine the speed at which she will be driving to the supermarket. You may use the following formula (5)

$$Speed = \frac{Distance}{Time}$$

3.3 Thando is going to be hosting members of the stokvel. Below are the ingredients of fennel and pomegranate salads that she plans to make which serves 6 people.

- 4 large fresh fennel bulbs
- 3 tbsp. olive oil
- 50g pine nuts
- 200g feta cheese
- Pomegranate pips from 1 fruit (approximately 50g)
- 2 tbsp. fresh fennel tips
- 2 tbsp. fresh mint

Use the information above to answer the questions that follow.

3.3.1 Express the amount of feta cheese (in ounces) required for the salad for the above recipe if 1ounce (oz) = 28,35g   (2)

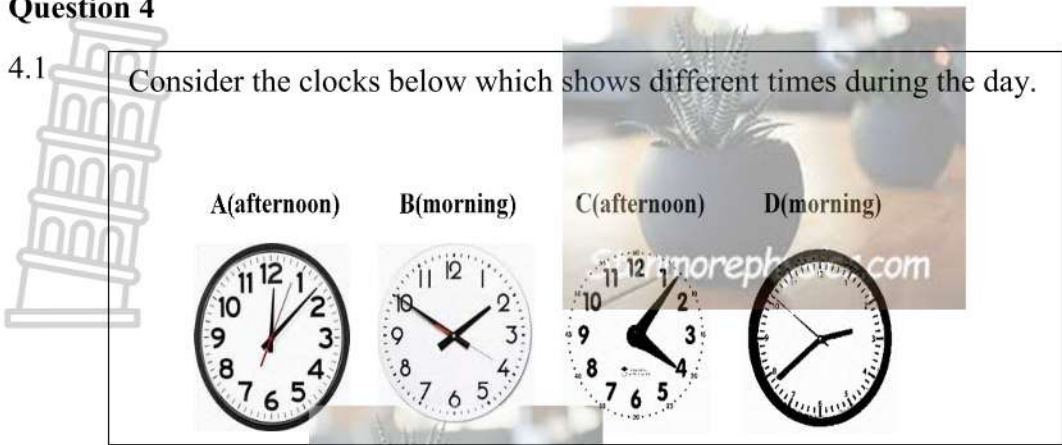3.3.2 If 10 tbsp. = 150 ml, determine how many litres of olive oil are required for the above recipe.   (3)

3.3.3 Thando claims that she requires 100g of peanuts for 9 people.

Verify with Calculations whether her statement correct.   (3)

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Question 4

4.1

Consider the clocks below which shows different times during the day.

A(afternoon)   B(morning)   C(afternoon)   D(morning)

Study the clocks above to answer the following questions.

4.1.1   Determine the time format used in the above clocks and give a reason.   (2)

4.1.2   Write down the time shown on clock D in words.   (2)

4.1.3   Express the time shown on clock C in the 24-hour format.   (2)

4.1.4   Mr Mac and his family embarked on the ROAD-TRIP and left home at
the time shown on clock B and arrived home at the time shown on clock A.

a)   Determine the duration of the road-trip   (2)

b)   If they were driving at a speed of 80km/h, calculate how far did
travelled. Round your answer to the nearest 10 km

You may use the formula   : $$speed = \frac{distance}{time}$$ (4)

c)   His wife claims that R2 500 will be enough for a return trip.
The car's fuel consumption rate is 2.2 litre per 100km and
the cost of fuel is R21,50 per litre.
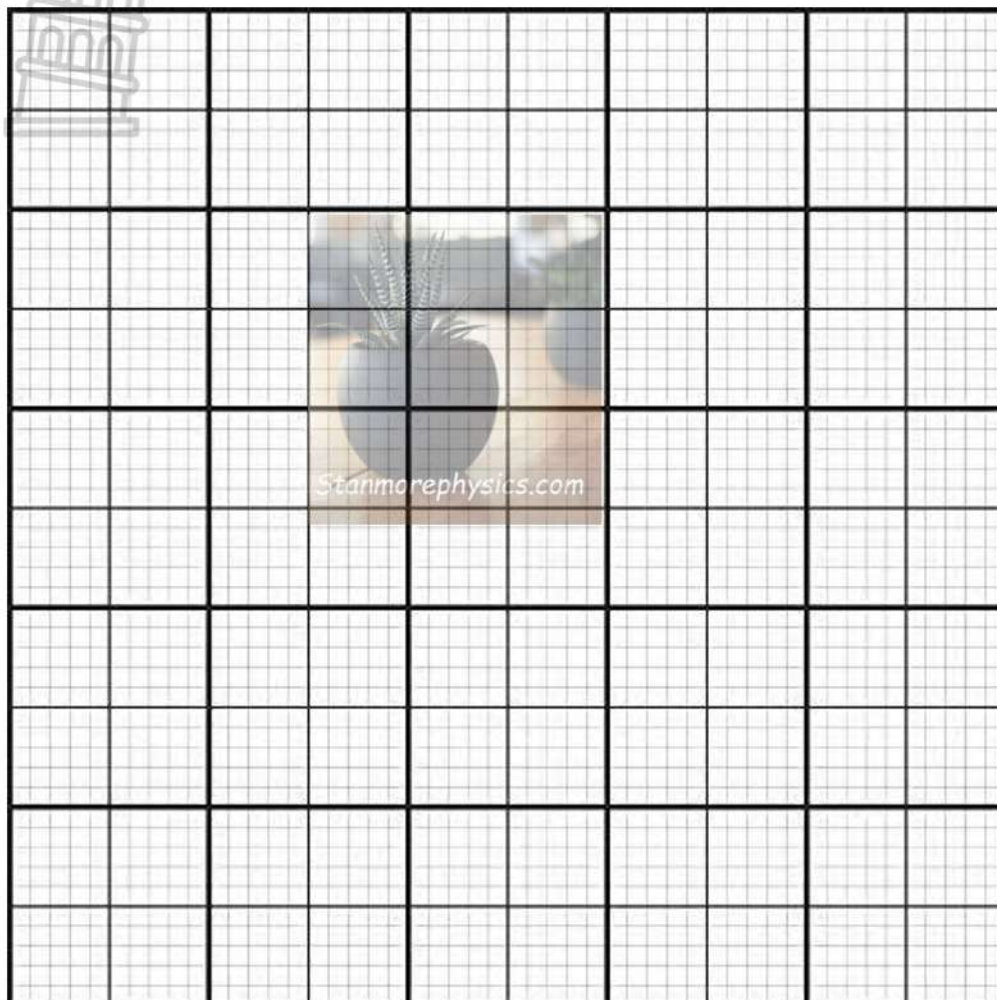Verify with calculations whether her claim is valid.   (6)

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TOTAL: 100 MARKS

ADDENDUM

1.1.4. ANNEXURE A

NAME OF A LEARNER:...

2.1.3 ANNEXURE B

NAME OF A LEARNER:...