



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION



CAPRICORN SOUTH DISTRICT

MATHEMATICAL LITERACY

GRADE 11

ASSIGNMENT NO 1

DATE: 17 February 2022

ACTUAL WRITING DATE: 21 February 2022

DURATION: 2 HOURS

MARKS: 100

This question paper consists of 12 pages including Annexure A.

INSTRUCTIONS AND INFORMATION

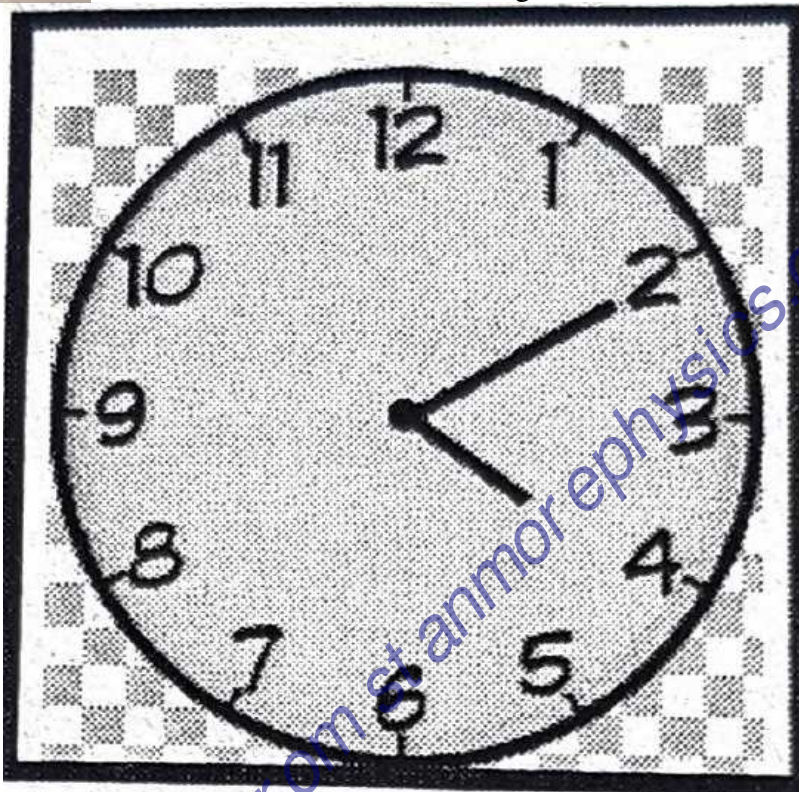
1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Number the questions correctly according to the numbering system used in this question paper.
3. Start EACH question on a NEW page.
4. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
5. Show ALL calculations clearly.
6. Round 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

Piet and Lesedi are driving to Thohoyandou. Piet will depart from Mankweng and pick-up Lesedi who stays at Tzaneen. The car will be driven at an average speed of 100 km/h from Mankweng to Tzaneen and to Thohoyandou.

The clock below shows the time at which Piet left Mankweng.



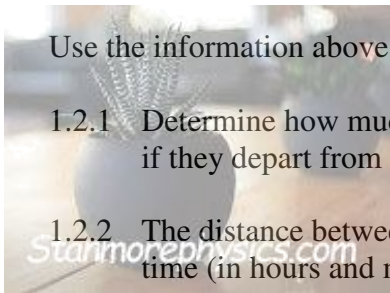
Use the information above to answer the questions that follow.

- 1.1.1 What time did Piet leave home? (2)
- 1.1.2 Piet arrived at Lesedi's place at 05:05. How long in hours did he take to get to Tzaneen? (3)
- 1.1.3 Calculate the distance between Mankweng and Tzaneen.

You may use the formula: **Distance = Speed x Time** (3)

1.2

Piet and Lesedi are expected to be in Thohoyandou by 09:15am.



Use the information above to answer the questions that follow.

1.2.1 Determine how much time they have to drive from Tzaneen to Thohoyandou (2)
 if they depart from Tzaneen at 05:27am.

1.2.2 The distance between Tzaneen and Thohoyandou is 173km. Determine the (4)
 time (in hours and minutes) Piet and Lesedi will spend on the road.

You may use the following formula: $\text{Time} = \frac{\text{Distance}}{\text{Speed}}$

1.2.3 Given the average speed Piet and Lesedi will be driving at; Do you think they (3)
 need to increase their average speed or not? Explain your answer

1.3

Chriseldah bakes sponge cakes with the intention of selling them during the valentine's ball. She buys the ingredients according to the following recipe which she inherited from her grandmother.

Study the recipe below and answer the questions that follows:

RECIPE (Makes 18 cakes)	METHOD
2 cups of flour	Beat eggs, vanilla essence and sugar together
1 cup of sugar	Sift dry ingredients
2 teaspoons (tsp) of baking powder	Heat milk and margarine together for 2 minutes
1 cup of milk	Mix all the above ingredients
1 cup of oil /125 margarine	Pour into prepared cake pans
6 eggs	Bake for 25 minutes at 180 °C
1 teaspoon vanilla essence	

Chriseldah uses the following conversions for the above recipe.

- 1 cup = 250 ml**
- 1 teaspoon = 5ml**
- 3g = 5ml**

Use the information above to answer the questions that follow.

1.3.1 Convert 2 cups of flour to millilitres (2)

1.3.2 Convert the answer in **1.2.1** to grams (2)

1.3.3 Write the ratio of baking powder to eggs in the above recipe in the simplest form. (2)

1.3.4 Calculate how many dozen of eggs are needed by Chriseldah to make 72 sponge cakes? (3)

1.3.5 The time for baking is 25 minutes. Convert 25 minutes to hours. (2)

1.3.6 Convert 180 °C to degrees Fahrenheit. (2)

You may use the formula: $^{\circ}\text{F} = (1,8 \times ^{\circ}\text{C}) + 32^{\circ}$

[30]

QUESTION 2

2.1

Hassim started a business of selling Tea and Milo in cups. It costs him R9,50 to make a cup of Milo. His daily fixed cost is R90, 00 and he will be able to sell 100 cups of Milo per day. He sells the Milo at R12, 50 per cup.

The table below shows the income from the sale of cups of Milo.

No.of cups of Milo (n)	0	20	30	40	80	100
Income in Rand	0	250	375	P	1 000	1 250

Use the information above to answer the questions that follow.

- 2.1.1 Determine the value of P in the table above (2)
- 2.1.2 Write down an equation that can be used to calculate the income. (2)
- 2.1.3 Identify the independent variable in the table above (2)

2.2

Hassim uses the following formula to determine the cost price of the cups of Milo.

$$\text{Cost price} = \text{R}90, 00 + \text{R}9, 50 \times n$$

The table below shows the cost price for a number of cups of Milo.

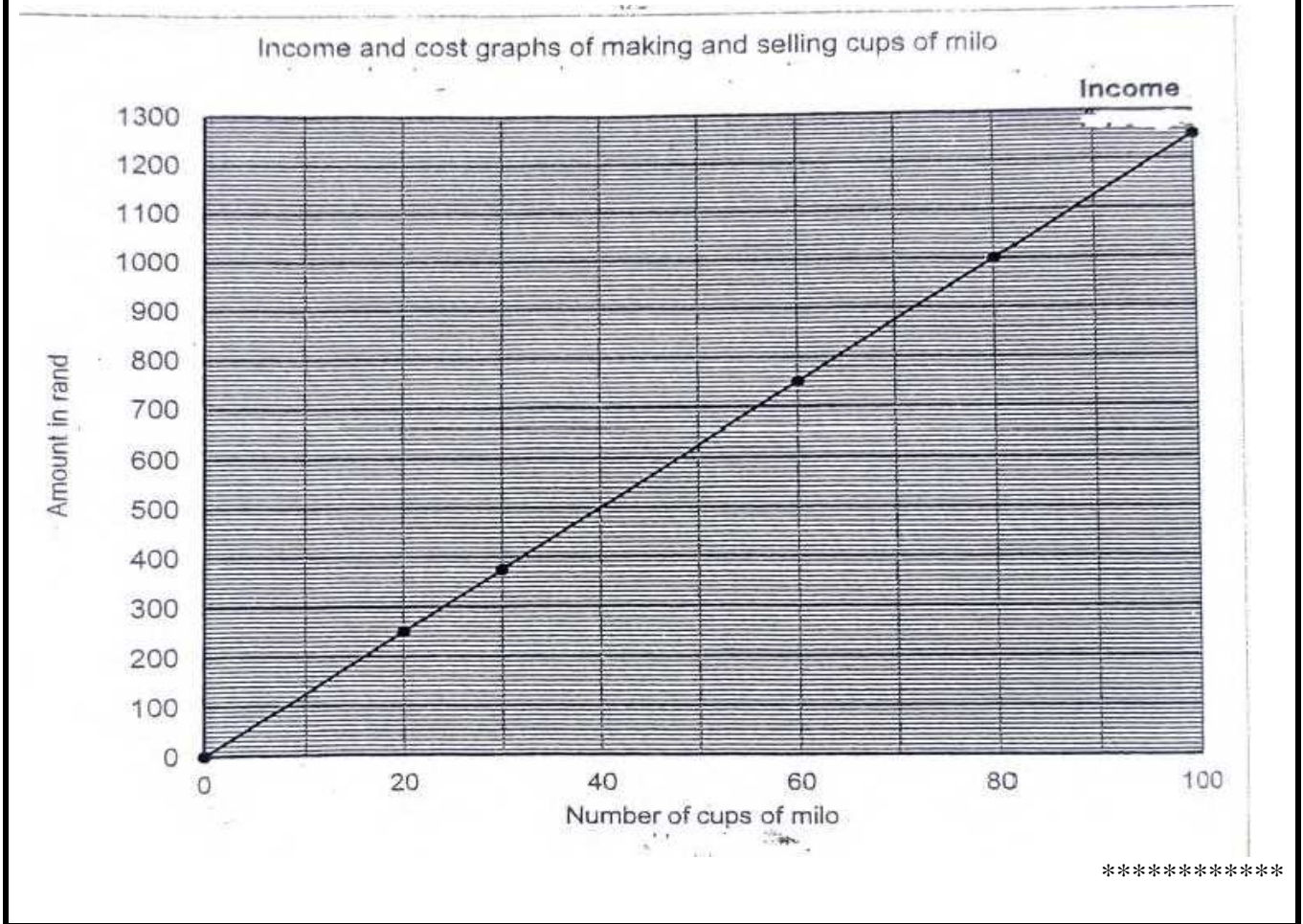
No. of cups of Milo	0	20	30	Q	80	100
Cost in Rand	90	280	375	612,50	850	1000

Use the information above to answer the questions that follow.

- Calculate the value of **Q** in the table above. (3)

2.3

The graph below shows the income for making up to 100 cups of Milo. Use the information in the table to draw another graph representing the cost of making 100 cups Of Milo.



Use the information above to answer the questions that follow.

- 2.3.1 Draw another graph representing the cost of making 100 cups Of Milo. (4)
- 2.3.2 Explain the meaning of the word break-even in the context of the question. (2)
- 2.3.3 Determine the number of cups of Milo at the break-even point (2)

[17]

QUESTION 3

3.1

Jabulani has a landline telephone. A service provider has offered him a choice of two different call packages Jabulani has a landline telephone. A service provider has offered him a choice of two different call packages

CALL PACKAGE 1	CALL PACKAGE 2
<ul style="list-style-type: none"> • Monthly rental of R150 	<ul style="list-style-type: none"> • Monthly rental of R300
<ul style="list-style-type: none"> • First 100 minutes are free 	<ul style="list-style-type: none"> • First 500 minutes are free
<ul style="list-style-type: none"> • Calls cost R0.50 per minute 	<ul style="list-style-type: none"> • Calls cost R0.50 per minute

Use the information above to answer the questions that follow.

3.1.1 Write down a formula that can be used to calculate the total cost(in Rand) for the following:

(a) Call Package 1 (2)
 Total cost (in Rand) =

(b) Call Package 2 (2)
 Total cost(in Rand) =

3.1.2 Using the formula for call package 2, calculate the total cost (in Rand) if Jabulani made calls for a total duration of 510 minutes. (4)

3.1.3 Determine with calculations, the call package that will be cost effective for Jabulani if he makes only 300 minutes of calls per month. (6)

3.2

The Polokwane Municipality has introduced the electricity tariff system.

Household (all tariffs exclude 15% VAT)		
Tariff blocks		c/kwh
Block 1	0 - 350 kwh	169,99
Block 2	351 - 500 kwh	194,65
Block 3	501 - 600 kwh	221,80
Block 4	Over 600 kwh	250,79

Use the table above to answer the questions that follow.

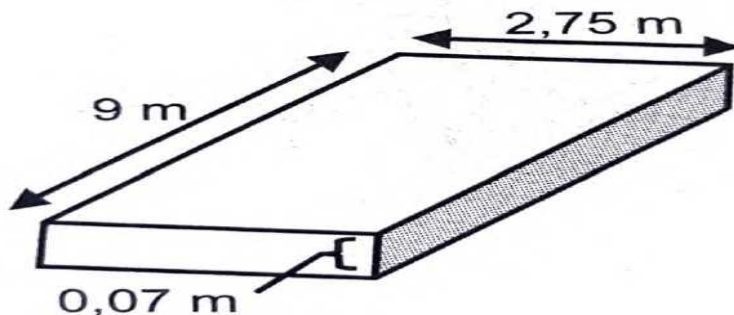
- 3.2.1 Define the tariff. (2)
- 3.2.2 Write down the tariff per kwh in block 3 in Rand. (2)
- 3.2.3 Determine the amount to be paid for 578 kwh of electricity in rand including VAT. (6)
- 3.2.4 Determine the number of units in kwh of electricity that a household would get for R809,08 (4)

[28]

QUESTION 4

4.1

The rectangular long jump pit at the school is 2.75 m wide and 9 m long and is filled with sand. The inside walls of the pit should be painted.



Use the information above to answer the questions that follow.

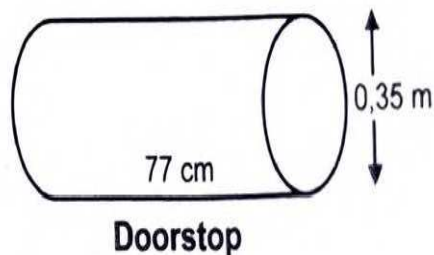
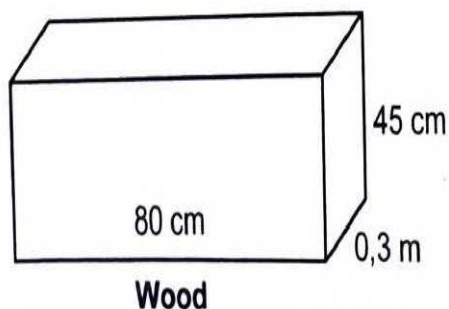
- 4.1.1 Calculate the volume of sand needed to fill the long jump pit to a depth of 0,07 m (2)
- 4.1.2 Calculate the cost of filling the sand pit to 95% of its volume, if sand costs R129.95/bag and bags are sold in volumes of 0.75 m^3 /bag. (6)
- 4.1.3 George wants to paint the inside walls of the pit using a paint with the spread rate of 2.4 ml of paint per 0.5 m^2 . Calculate to the nearest millilitres, the paint required to paint the inside walls of the pit.

You may use the following formulas: **Area of rectangle = L x B**

$$\text{Total area of the inside walls} = 2(L \times H) + 2(B \times H) \quad (6)$$

4.2

The rectangular long jump pit at the school is 2.75 m wide and 9 m long and is filled with sand. The inside walls of the pit should be painted.



You may use the following formulas:

Volume of the rectangular prism = $L \times B \times H$

Volume of cylinder = $\pi \times r^2 \times H$, where $\pi = 3.142$

Use the information above to answer the questions that follow.

4.2.1 Calculate the volume of wood (in cm^3) that would remain, after carving the doorstop. (7)

4.2.2 Would Lazarus have enough wood left over to compress it into ten wooden blocks for his child, with dimensions of 12 cm x 50 cm x 6 cm? (4)

[25]

TOTAL - 100

ANNEXURE A

QUESTION 2.3

SURNAME AND NAMES OF A LEARNER:

GRADE:

DATE:

Income and cost graphs of making and selling cups of milo

