



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

VHEMBE WEST DISTRICT

MATHEMATICAL LITERACY

JUNE TEST

GRADE 11

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MARKS: 100

TIME: 2 HOURS

This question paper consists of 9 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Show ALL calculations.
3. Number the answers correctly according to the numbering system used in this question paper.
4. Start EACH question on a NEW page.
5. Round off all final answers appropriately according to the context unless stated otherwise.
6. An approved calculator (non-programmable and non-graphical) may be used, unless stated otherwise.
7. Indicate units of measurement where applicable.
8. Maps and diagrams are not necessarily drawn according to scale, unless stated otherwise.
9. Write neatly and legibly.



QUESTION 1

Study the ingredients and instructions for baking classic peanut butter cookies as prepared by Martha Stewart. Then answer the questions that follow:



Ingredients:

- * 2.5 cups of all-purpose flour
- * 1.5 teaspoons baking soda
- * Half a teaspoon salt
- * 1 cup unsalted butter, softened
- * 1 cup granulated sugar
- * 1 cup packed light-brown sugar
- * 2 large eggs
- * 1.5 cups smooth peanut butter.

Instructions:

- * Bake at 350°F.
- * Yield: makes about 4 dozen
- * Preparations: 20 minutes
- * Baking time: 25 minutes

NOTE: 1 cup= 250 ml

Teaspoon= 5 ml

1 cup= 224 g

Ingredients: any of the food or substance that are combined to make a particular dish.

- 1.1 Who prepared the recipe for the peanut butter cookies? (2)
- 1.2 Determine the number of eggs that will be required to bake 8 dozen cookies. (2)
- 1.3 Write down the ratio of salt to baking soda in the recipe in its simple form as 1: (4)
- 1.4 Determine the temperature (in °C) at which the cookies should be baked. (3)
You may use the following formula: $^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32^{\circ}$.
- 1.5 Determine the flour in grams that will be needed to bake 8 dozen of cookies. (3)
- 1.6 Determine the time at which one will finish baking the cookies if preparation started at 11:28. (2)

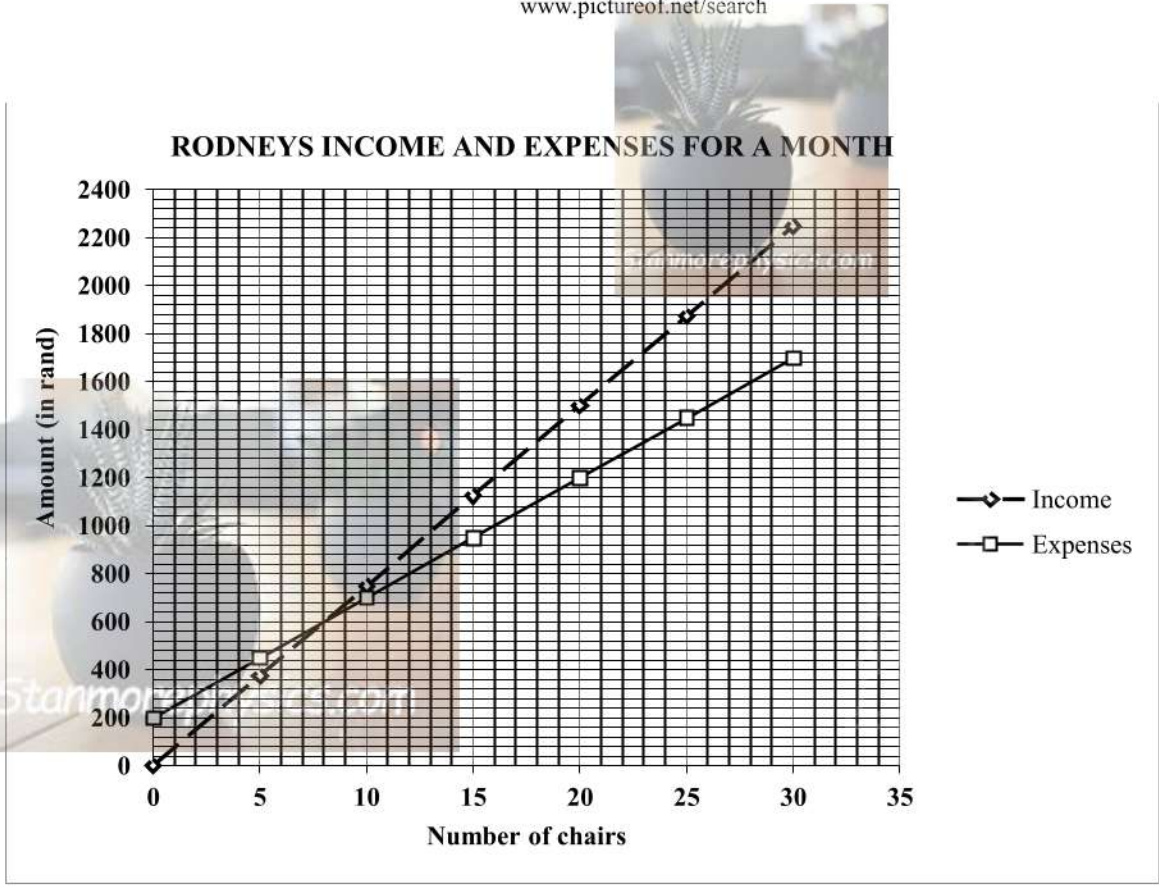
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QUESTION 2

2.1 Rodney makes wooden chairs for a living. Study the graphs below that show his income and expenses for a month. Answer the questions on the next page



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- 2.1.1 Determine the amount Rodney has to pay for fixed expenses. (2)
- 2.1.2 Give an example of an expense Rodney may have. (2)
- 2.1.3 Determine the income per chair. (3)
- 2.1.4 Determine the number of chairs Rodney must sell to make a profit (2)
- 2.1.5 Explain the break -even point in the context of this question. (2)

2.2 Rodney's son Mark, earns R8 400 per month. His contract is coming to an end after 48 months. Since he will not get any benefits from the company, Mark can claim from the UIF (Unemployment Insurance Fund). The UIF grants him a benefit of 6 months of pay at a rate of 40% of his monthly salary.

- 2.2.1 Calculate the total amount Mark will receive from the UIF. (3)
- 2.2.2 Mark made contributions of 1% of his salary per month to the UIF for 48 months. Determine his total contributions made to the UIF. (3)
- 2.2.3 Explain why the UIF contributions had been to Marks advantage. (2)

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QUESTION 3

3.1 The marks for learners in a gr 11 test are given below.

61 45 61 **A** 53 32 28 44 15 **B** 92 87 28 72

- 3.1.1 Determine the modal marks without considering **A** and **B**. (2)
- 3.1.2 The range of the learners' marks is 73. Determine the value of **A**, the lowest mark. **B** is not the highest mark (3)
- 3.1.3 The mean (average) is 48. Determine the value of **B**. (4)
- 3.1.4 Determine the median mark. (3)

3.2 Below is a map of South Africa divided in grid blocks. Study the map and answer the questions that follow.



- 3.2.1 Name grid reference for Springbok. (2)
- 3.2.2 Name the two neighboring countries (border countries) of South Africa. (2)
- 3.2.3 Describe a route you can take from Johannesburg to Beaufort West. (2)
- 3.2.4 Name a town on the left of Kimberley. (2)
- 3.2.5 Give the compass direction of Clanwilliam from Bloemfontein (2)
- 3.2.6 The actual distance from Cape Town to De Aar on the map is 6 cm. Use the scale to determine the actual distance on the map in kilometres. (3)

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QUESTION 4

4.1 Study the picture of Tebogo's vegetable garden below and then answer the questions that follow:



4.1.1 Determine the perimeter (in metres) of the garden above if its length is = 500 cm and the width is = 25 m. You may use the formula: **Perimeter of a rectangle = 2 (L+ B)** (3)

4.1.2 Tebogo wants to add another tank to water his vegetables. Study the tanks below and then answer the questions that follow:

FIGURE A

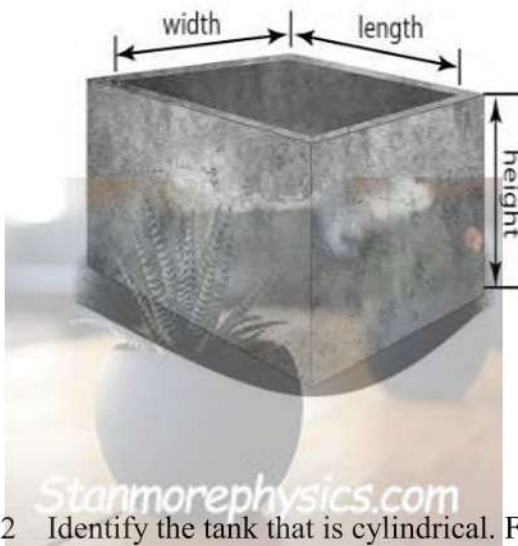
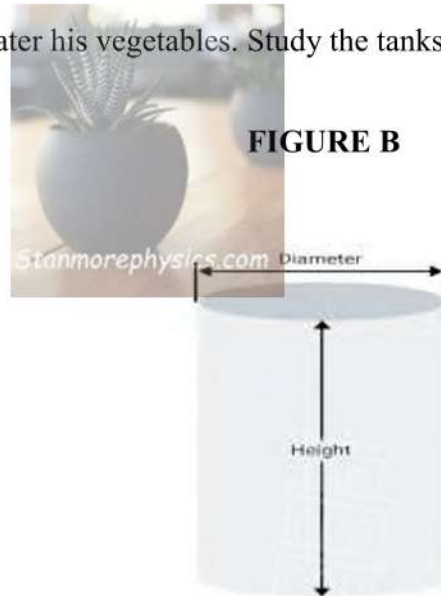


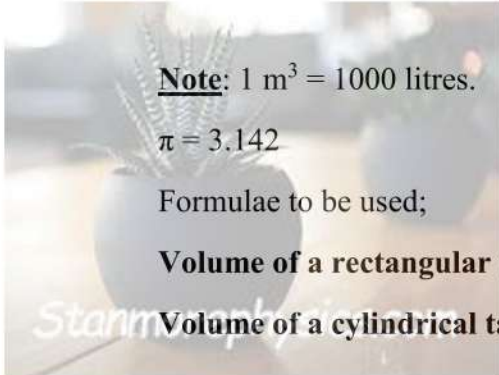
FIGURE B



4.1.2 Identify the tank that is cylindrical. Figure A or B? (2)

4.1.3 Determine the radius (in metres) of the tank (figure B) if its diameter is 400 cm. (2)

- Determine the amount of water (in litres) that each tank can hold. Verify, through thorough calculations which tank holds a lot of water. (8)
- Given the dimensions of a rectangular tank :** Length = 400 cm
 Width = 3 m
 Height = 3.2 m
- Given the dimensions of a cylindrical tank:** Diameter = 4 m
 Height = 3 m



Note: $1 \text{ m}^3 = 1000 \text{ litres}$.
 $\pi = 3.142$
 Formulae to be used;
Volume of a rectangular tank: $L \times W \times H$
Volume of a cylindrical tank: $\pi \times r^2 \times \text{height}$



4.2 Tina sells tomatoes on the side of the road every day of the week. She spends R120.00 per day buying fresh tomatoes from Tebogo. She repacks the tomatoes in the plastic bags and sell them for R21.00 per bag.

- 4.2.1 Each bag contains 8 tomatoes. Calculate the average selling price per tomato. (2)
- 4.2.2 How many bags of tomatoes must Tina sell per day to break even? (3)
- 4.2.3 Tina sells on average 10 bags of tomatoes per day. Determine her weekly income. (3)
- 4.2.4 Determine Tina's profit per week. (4)
- You may use the formula : **Profit = Income - Expenses**

4.3

Tebogo received a water bill from the local municipality. Table 1 below shows the information that was extracted from the municipality account statement.

TABLE 1: TEBOGO'S WATER BILL STATEMENT

Date	Service	Details of meter readings	Charge (Excl.VAT)	VAT	Charge (Incl.VAT)
19/05/2016	Water	Reading 1 (09/04/2016): 2 384 Reading 2 (08/03/2016): 2 368	R184.66	R210.51

WATER	DEBT COLLECTION ACTION
WA 0100: 6 kl @ 9.941230 WA 0100: 4 kl @ 10.136180 WA 0100: 10 kl @ 14.077830 WA 0100: 20 kl @ 18.249050 WA 0100: 22 kl @ 22.901530	The supply of service may be discontinued if any amount is unpaid after due date and deposit may be reviewed simultaneously. Please note that due date does not apply to overdue accounts

Study Table 1 above and answer the questions that follow.

- 4.3.1 Determine the volume of water used from 8 March to 9 April. (3)
- 4.3.2 What is the cost per litre if you use 5 kl water for the month? (2)
- 4.3.3 Calculate the amount of Value Added Tax (VAT) charged for the water tariff given in the table. **NOTE: South African VAT in 2016 was 14% of the cost price.** (2)
- 4.3.4 Show all your calculations on how the total amount R184,66 was calculated. (4)

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TOTAL 100