DEPARTMENT OF EDUCATION

DEPARTEMENT VAN ONDERWYS

LEFAPHA LA THUTO

ISEBE LEZEMFUNDO

PROVINSIALE VOORBEREIDINGSEKSAMEN/ PROVINCIAL PREPARATORY EXAMINATION

GRAAD/GRADE 12

WISKUNDIGE GELETTERDHEID V2/ MATHEMATICAL LITERACY P2

SEPTEMBER 2023

Stanmorephysics

PUNTE/MARKS: 150

TYD/TIME: 3 uur/hours

Hierdie vraestel bestaan uit 9 bladsye en 'n addendum met 5 bylaes./
This question paper consists of 9 pages and an addendum with 5 annexures.

Blaai om asseblief/Please turn over

INSTRUCTIONS AND INFORMATION

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

2. Use the ANNEXURES in the ADDENDUM to answer the following questions:

    ANNEXURE A for QUESTION 1.2
    ANNEXURE B for QUESTION 2.1
    ANNEXURE C for QUESTION 3
    ANNEXURE D for QUESTION 4.1
    ANNEXURE E for QUESTION 5.1

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 the given context, unless stated otherwise.

8. Indicate units of measurement, where applicable.

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

10. Write neatly and legibly.

QUESTION 1

1.1   Angel Soft is a brand of Mega toilet rolls. They are called Mega rolls because they have more sheets per roll. TABLE 1 shows the packaging and information regarding these toilet rolls.

TABLE 1: ADVERTISEMENT OF MEGA TOILET ROLLS

	Angel Soft Mega Toilet rolls. Two ply toilet rolls Packed: 6 × 3 Sheets: 320 sheets per roll Roll weight: 33gsm (gram per m^2) Package weight: +/- 6,38 kg per pack 18 Mega toilet rolls = 72 regular rolls Special Price: R392.00
	Dimensions of one toilet roll Width: 100 mm Outside Diameter: 140 mm Thickness: 29 mm Length of a toilet roll 23 500 mm A = Cardboard Centre piece One sheet of paper: 100 mm × 110 mm

[Adapted from https://www.ubuy.za.com]

Use the information above to answer the questions that follow.

1.1.1   Write down the number of rolls per pack.   (2)

1.1.2   Convert the length of the toilet paper on one roll to metre.   (2)

1.1.3   Calculate the minimum height, in mm, of the packaged rolls.   (2)

1.1.4   Write the ratio of the Mega toilet rolls to the regular toilet rolls as a ratio in its simplest form.   (2)

1.1.5   Determine the diameter (A) of the cardboard centre piece.   (2)

1.1.6   Calculate the cost per roll.   (2)

1.1.7   Name the geometrical shape of one sheet of paper.   (2)

1.1.8   Determine how many sheets will be left on the roll if $\frac{1}{2}$ of the roll was used.   (2)

1.2 | Panel doors always provide a decorative look to homes. ANNEXURE A shows the assembly diagram as well as the completed view of a 6 panel wooden door. All the measurements on the completed view are in centimetres

Use the information on ANNEXURE A to answer the questions that follow.

1.2.1 Name the piece in the assembly diagram which represents the length of the door. (2)

1.2.2 Calculate the values of **A** and **B** in the assembly diagram. (4)

1.2.3 Which panels in the completed view are the largest? (2)

1.2.4 Write down the number of wooden dowels required to assemble the panel door. (2)

1.2.5 Round the width of the bottom rail to a whole number. (2)

1.2.6 Calculate the length of wood needed to make all the mullions. (2)

[30]

QUESTION 2

2.1 | Mr Kowalski, his wife and 16-year-old child are from South Africa who yearly travels to Poland to attend the Jagiellonian Fair in Lublin.

ANNEXURE B shows a train travel map with the cost in dollars ($) between the cities as well as the distances between towns. Children younger than 18 years pay 50% less. |

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

2.1.1   They arrived in a city where the travel costs in any 6 directions to another city are exactly the same. Write down the name of the city.   (2)

2.1.2   Friends of the Kowalksi's lives in Rzepin on the Border between Poland and Germany. In which general direction are Rzepin from Lublin?   (2)

2.1.3   Calculate how many dollars it will cost the family for a one-way trip from Poznań to Lubin via Toruń.   (4)

2.1.4   Write down to how many places outside of Poland the family can travel by train.   (2)

2.1.5   Name the city that has the most train connections to other towns.   (2)

2.1.6   After the Jagiellonian Fair in Lublin the family travelled to a holiday resort. They took the following directions:
a) Travel in a north-westerly direction to the nearest town.
b) Turn in south westerly direction to the nearest town
c) Travel in a south easterly direction to their destination.

Identify the city name where the resort is situated.   (3)

2.1.7   Give a possible reason why between Katowice, Kraków and Oświecim the cost is only $5.   (2)

2.1.8   Two different sources indicated the distance between Kraków and Białystok as follows:
Source A: 408 km – 254 miles
Source B: 408 km – 253 miles

Compare, to 5 decimal places. and decide which source is closest to the conversion rate of 1 mile = 1,60934 km   (6)

[23]

QUESTION 3

Ms Harper wanted to enhance her garden by building a fish pond in the centre of her garden. The area surrounding the pond will be decorated by flowers and a gravel walkway.

ANNEXURE C shows a designer concept of how she could construct her project.

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

3.1   Calculate the radius (E) of the pond and its surrounding flower bed.   (2)

3.2   The water in the pond is 65°F. Covert it to °C.

You may use the following formula:
$$^0C = (^0F - 32) \div 1,8$$
       (2)

3.3   The biggest part of the walkway forms a rectangle. Determine the area of this part.

You may use the following formula:
Area of a rectangle = length × width
       (4)

3.4   Calculate the number of the bricks she will be needing to construct the outer wall of the fish pond if the volume of one brick is 0,0024 m³.

You may use the following formula

Volume of a cylinder =   3,142 × radius² × height
       (8)

3.5   Ms Harper wants to plant flowers on the flower bed surrounding the fish pond. Calculate the area that will be covered in compost.

You may use the following formula:
Area = 3,142 × radius²
       (5)

3.6   The pond is filled to 80% of the volume. Ms Harper stated that it will take less than 1 hour to fill the pond if the flowrate of the water is 39,6 litres per minute. Show by means of calculations if she is correct if 1 m³ = 1 000 litre.   (7)
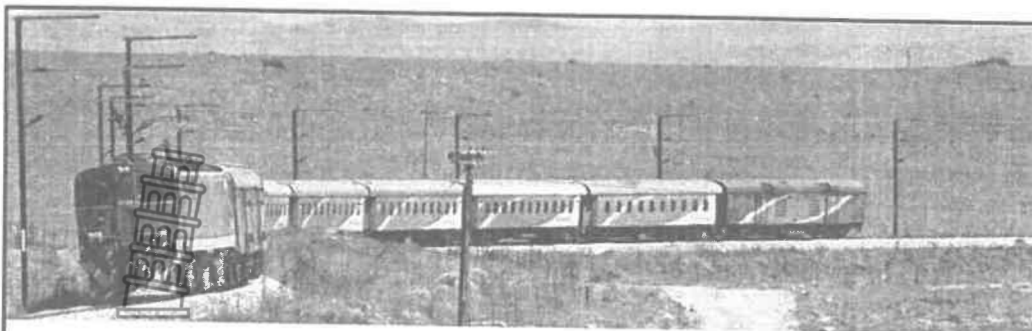
3.7   Mr Harper stated that he will need less than 70 bricks to put along the 3 sides of the walkway that connects to the circular flower bed. Verify showing ALL calculations if he is correct if the length of a standard brick is 230 mm.   (7)

                                                        [35]

QUESTION 4

4.1

The Cloete family lives in Van Rhynsdorp and consist of 2 adults and two children. They decided to travel to Pretoria on the Shosholoza Meyl to visit relatives during January. The Shosholoza Meyl is a train that travels once a week from Johannesburg to Cape town.

ANNEXURE D shows the travel times and cost for the Shosholoza Meyl. The Shosholoza Meyl consist of 1 locomotive, 1 restaurant car, 6 passenger carriages and 1 goods car.

[Adapted from www.shosholoza meyl.co.za]

Use the information in ANNEXURE D to answer the questions that follow.

4.1.1   On which day does the train leave Cape town station?   (2)

4.1.2   The train left Johannesburg station on the 24th of Augustus 2023. Write down the date and time it will be arriving at Beaufort West.   (2)

4.1.3   The stopping time of the train in Kimberley is the same for both directions the train travels in. Calculate the departure time of A in the table.   (3)

4.1.4   Calculate the difference between the time taken from Cape town to Beaufort West compared to from Beaufort West to Cape town.   (4)

4.1.5   Write down the probability, as a fraction, that in one of the carriages they will be serving food during the trip.   (2)

4.1.6   Calculate how much money the family could have saved if they decided to travel during the month February   (4)

4.1.7   The Cloete family wants to be at the station 1 hour before the departure time. At which time should the family start driving to Cape town if the kilometre distance between the 2 towns are 304 km and Mr Cloete maintain an average speed of 110 km/h without stopping anywhere.

You may use the following formula.

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

(5)

4.1.8   On their return trip Mrs Cloete stated that the train is travelling at an average speed of more than 70 km/h since the distance between Johannesburg and Kimberley is 556 km. Verify by showing all calculations whether she is correct.

(5)

4.2   The Cloete family attended a music show in the Atterbury theatre. The floorplan of the Atterbury theatre is shown below.

[Adapted from https://atterburytheatre.co.za]
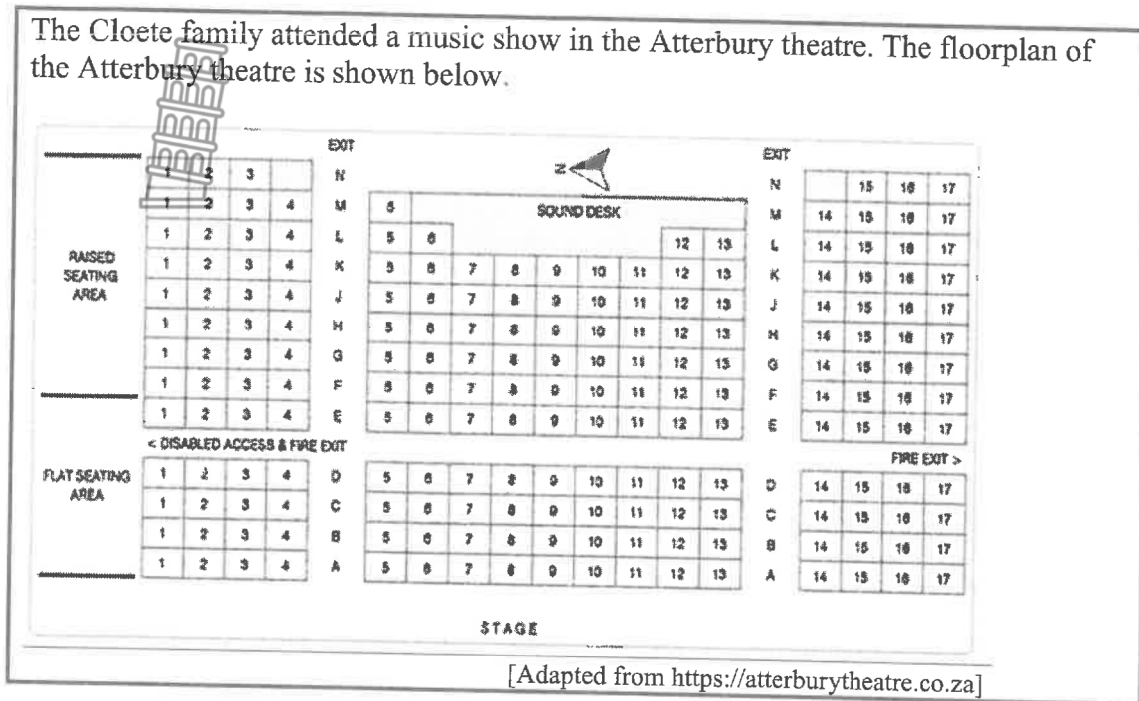
Use the information in TABEL 4 to answer the questions that follow.

4.2.1   How many people can be accommodated inside the Atterbury theatre?   (2)

4.2.2   Explain the meaning of the term floorplan.   (2)

4.2.3   Mr Cloete is seated in the J row on the first seat from the North wall. His friend Susan is seated in the second row from the stage on the fourth seat from the south wall. Describe the shortest directions that Mr Cloete should take to get to his friend if he stood up and turned left.   (4)

4.2.4   Calculate the probability, as a percentage, to be seated the furthest from the stage next to the eastern wall.   (3)

[38]

QUESTION 5

Candice wants to build a house and received a drawn plan from a local architect. ANNEXURE E shows the floor plan and elevation of one side of the house. The thickness of all the walls is 129 mm. All measurements on the plan are in millimetres.

A foldable glass door consists out of three glass panels mounted is an aluminium doorframe. TABLE 3 shows the advertisement of paint as advertised in a local hardware store.

TABLE 3 ADVERTISEMENT OF PAINT

	1 ℓ cost R99,00 **2,5 ℓ cost R230,00** **5 ℓ cost R399.00** Spread rate of paint: **1 ℓ covers 5,6 m²**

[Adapted from https://www.buildit.co.za]

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

5.1   Write down the letter of the biggest bedroom in this house.   (2)

5.2   Referring to compass directions, which elevation of the house is represented by K?   (2)

5.3   How many foldable doors are shown on the plan?   (2)

5.4   Calculate the length of L.   (3)

5.5   Measure the width of the stoep and calculate the scale of this house plan. Round your answer to the nearest 100.   (5)

5.6   Candice wants to paint one of the wooden doors. Write down, as a decimal fraction the probability that it is not the exterior door.   (3)

5.7   The stoep needs to be painted with a double coat of paint. Calculate the most economical way to buy the paint needed to paint the floor if the spread rate of the paint is 1 ℓ for 5,6 m².   (7)

                                                                                                                                                    [24]

                                                                                                                    TOTAL: 150

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SEPTEMBER 2023

ADDENDUM

Hierdie addendum bestaan uit 6 bladsye met 5 bylaes./
This addendum consists of 6 pages with 5 annexures.

ANNEXURE A
QUESTION 1.2
ASSEMBLY DIAGRAM OF A PANEL DOOR

Top rail
Mullion
Panel
Cross rail
Stile
Mullion
Panel
Lock rail
Wooden dowels
Mullion
Panel
Bottom rail

KEY

Wooden dowels
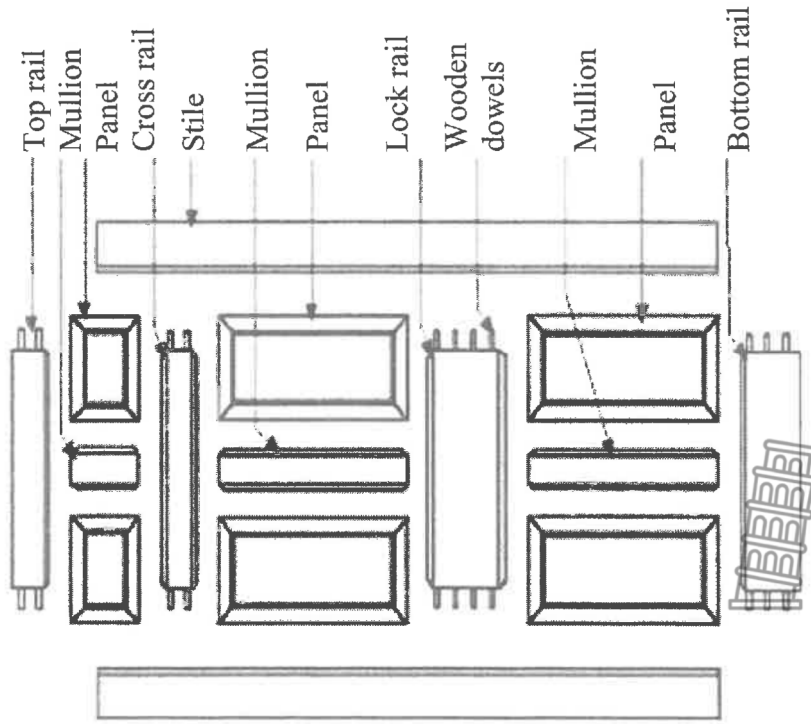
THE COMPLETED ASSEMBLY OF A PANEL DOOR

202.9

12.7 20.3 8.8 61.5 16.5 60.3 22.8

91.89
65.89
28.5 A 28.5
B 28.5 B

P2 P4 P6
P1 P3 P5
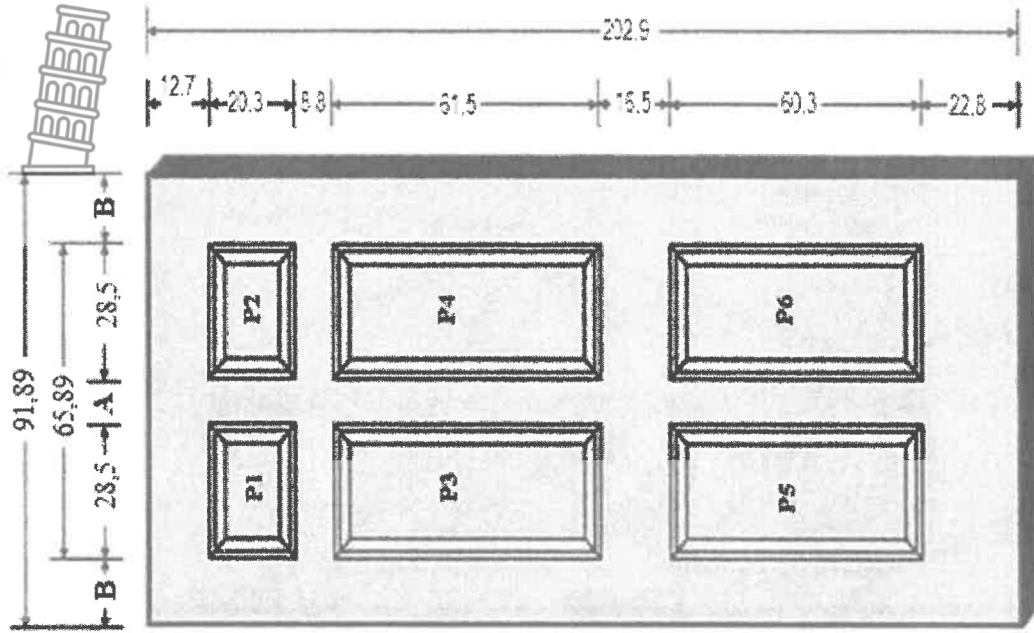
ANNEXURE B
QUESTION 2.1

TRAIN TRAVEL MAP FOR POLAND SHOWING COST AND DISTANCES

To Ystad

To Karlskrona

To Rostock

To Berlin

To Dresden

To Prague

N

Świnoujście

Gdynia

Gdańsk
10/168

Szczecin
10/196

Toruń
10/185

Białystok

To Grodno

Rzepin
10/142

Poznań

15/250

Warsaw

Terespol

To Minsk

10/206   10/182

Wrocław
10/124

Łódź

10/173

Lublin

Chełm

To Kiev

Görlitz
10/142

10/195

Częst.

40/372

Zamość

10/141

Katowice

5/91

Kraków

15/257

Medyka

5/38

5/68

To Lviv

Lichkov

Oświęcim

To Ostrava & Prague

Zakopane

To Poprad-Tatry

Key to Map / Sleutel tot Kaart	
10/132	$10
	132 km

[Adapted from https:// www.rickstevens.com/travel.]

Addendum

ANNEXURE C
QUESTION 3

TABLE 2: A DESIGNER'S CONCEPT OF A STANDARD FISH POND

A- Fish Pond

B- Wall surrounding the fish pond

C- Gravel walk way

D- Flower bed surrounding the fish pond.

E - Radius of the structure

F- This length is 0,5% of the length of C

Volume of A = 3,142 m³

Thickness of the wall (B) is 0,1 m.
Width of flower bed surrounding the pond
is 0,5 m.
Diameter of water pond is 2 m
The gravel walkway is 3 m × 600 cm.
The height of the pond is 1 metre.

[Adapted from https://forums.gardenweb.com]

ANNEXURE D
QUESTION 4.1

Train trip : 25 hours	Days : once p/week					

| JNB - CPTWN: Thursday | **CPTWN - JNB:** Tuesday | **Normal Fee:** R 690,00 | **Season time:** R 830,00 |

	Johannesburg » Cape Town			Cape Town » Johannesburg		
Travel days	Thursdays once a week			Tuesdays once a week		
Train station	Arrival	Departure	Train station	Arrival	Departure
Johannesburg		15:00 day 1	**Cape Town**		09:05 day 1
Kimberley	22:43 day 1	23:03 day 1	Beaufort Wes	18:25 day 1	18:45 day 1
Beaufort Wes	07:00 day 2	07:20 day 2	Kimberley	02:40 day 2	**A**
Cape Town	16:15 day 2		**Johannesburg**	11:03 day 2	

Month	Feb/Mar	Apr/May/Jun	Jul/Aug	Sep/Oct/Nov	Dec/Jan
Tariff	R690,00	R690,00	R690,00	R690,00	R830,00

Fees per passenger one way.
Season time: December and January

ANNEXURE E
QUESTION 5.1

FLOORPLAN

Key	
〰	Foldable glass door with 3 panels
⌐	Wooden door
▭	Window
R1	Roof 1
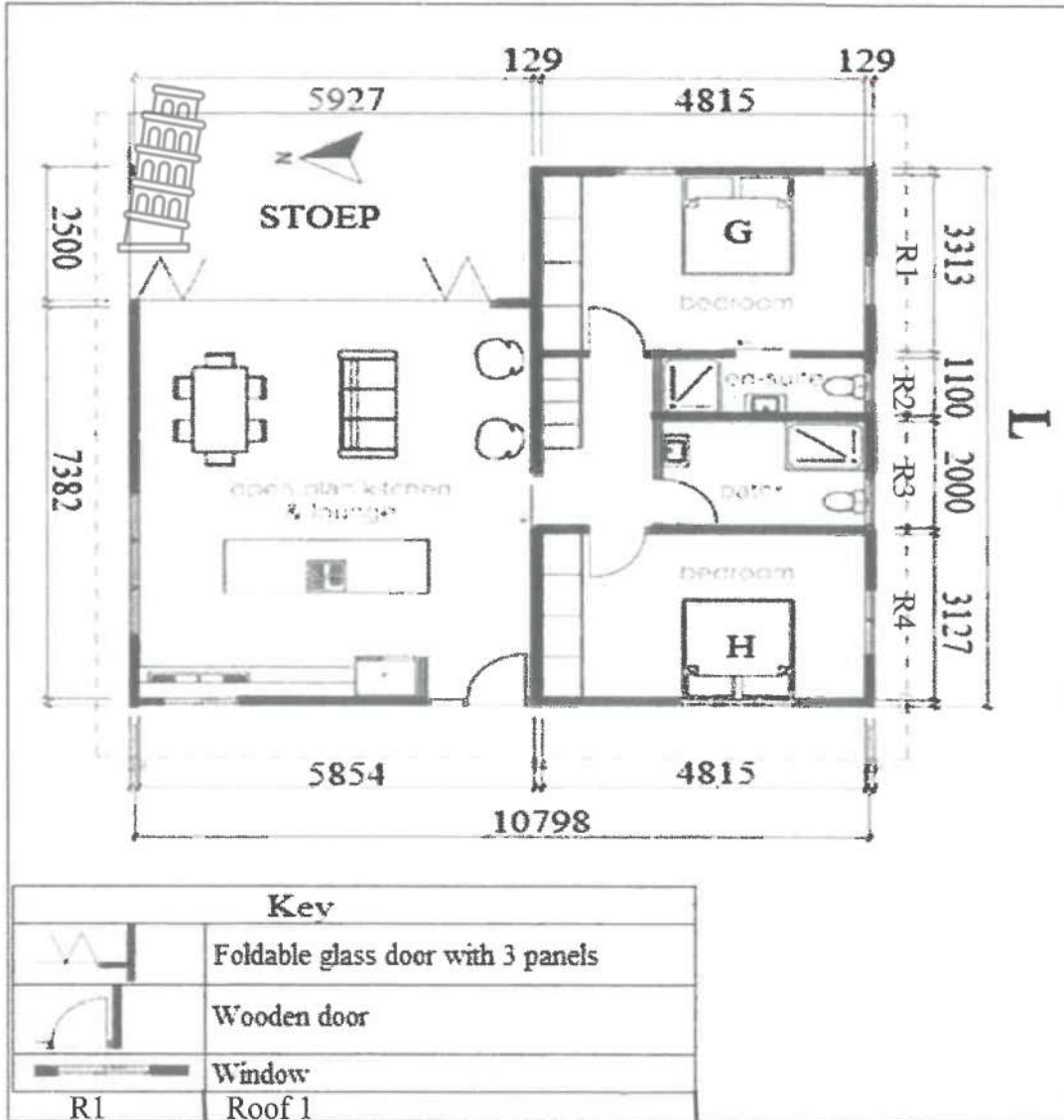
ELEVATION OF A SIDE OF THE HOUSE
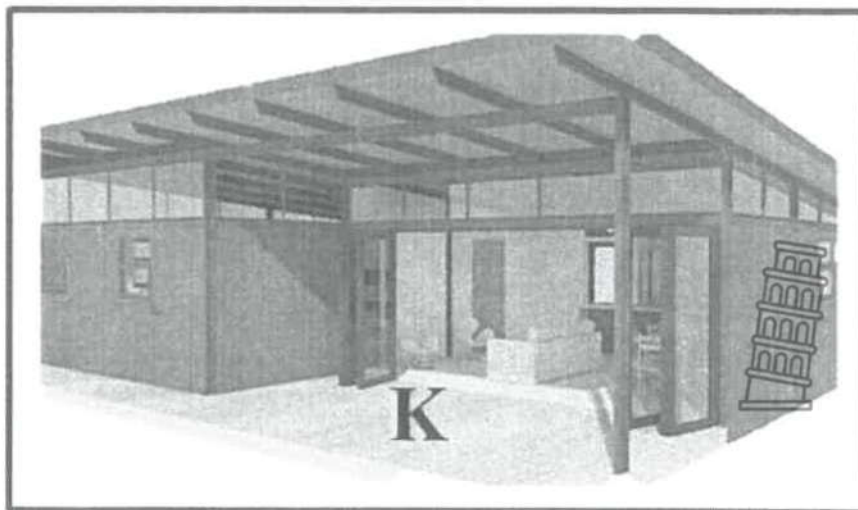
[Adapted from https://www. Pinterest.com]

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GRADE/*GRAAD* **12**

MATHEMATICAL LITERACY P2/
WISKUNDIGE GELETTERDHEID V2

SEPTEMBER 2023

MARKING GUIDELINES/*NASIENRIGLYNE*

MARKS/*PUNTE***: 150**

Symbol/*Kode*	Explanation/*Verduideliking*
M	Method/*Metode*
MA	Method with accuracy/*Metode met akkuraatheid*
CA	Consistent accuracy/*Volgehoue akkuraatheid*
A	Accuracy/*Akkuraatheid*
C	Conversion/*Herleiding*
S	Simplification/*Vereenvoudiging*
RT	Reading from a table/graph/document/diagram/*Lees vanaf tabel/grafiek/document/diagram*
SF	Correct substitution in a formula/*Korrekte vervanging in 'n formule*
O	Opinion/Explanation/*Opinie/Verduideliking*
P	Penalty, e.g. for no units, incorrect rounding off, etc./*Penalisasie, bv. vir geen eenhede, verkeerde afronding, ens.*
R	Rounding off/*Afronding*
NPR	No penalty for rounding/*Geen penalisasie vir afronding nie*
AO	Answer only/*Slegs antwoord*
MCA	Method with constant accuracy/*Metode met volgehoue akkuraatheid*

This marking guideline consists of 9 pages.
Hierdie nasienriglyne bestaan uit 9 bladsye.

Copyright reserved/*Kopiereg voorbehou*　　　　　　Please turn over/*Blaai om asseblief*

NOTE:
- If a candidate answers a question TWICE, only mark the FIRST attempt.
- If a candidate has crossed out (cancelled) an attempt to a question and NOT redone the solution, mark the crossed out (cancelled) version.
- Consistent accuracy (CA) applies in ALL aspects of the marking guidelines; however it stops at the second calculation error.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then ÷÷ penalise for every extra incorrect item presented.

LET WEL:
- *As 'n kandidaat 'n vraag TWEE KEER beantwoord, merk slegs die EERSTE poging.*
- *As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, merk die doodgetrekte (gekanselleerde) poging.*
- *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas, dit hou op by die tweede berekeningsfout.*
- *Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra verkeerde item.*

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
QUESTION/*VRAAG* **1 [30 MARKS/*PUNTE*]**			
1.1.1	Amount/*Hoeveelheid* = 18 rolls/ *rolle* ✓✓A	2A amount of rolls (2)	M L1
1.1.2	Lenght/*Lengte* = $\dfrac{23500}{1000}$ ✓C = 23,5 m ✓A	1C conversion 1A korrekte lengte (2)	M L1
1.1.3	Height/ *hoogte* = 100 mm + 100 mm + 100 mm ✓MA = 300 mm ✓A OR = 100 × 3 =300 mm	1MA adding 1A height in millimetres (2)	M L1
1.1.4	Mega : Regular/*Gewoon* ✓MA 18 : 72 1 : 4 ✓A	1MA correct order 1A simplified form (2)	M L1
1.1.5	Diameter/*diameter* = 140 – (29 +29) ✓MA = 82 mm ✓A	1MA method with accuracy 1A correct diameter (2)	M L1
1.1.6	Cost/*Koste* = R392÷ 18 ✓MA = R21,78 ✓A	1MA price divided by 18 1A cost **NPR** (2)	F L1
1.1.7	Shape/*Vorm*: Rectangular/*Reghoekig* ✓✓A	2A correct shape (2)	M L1
1.1.8	Sheet/*Velle* = 320 ÷ 2 ✓MA = 160 ✓A	1MA dividing by 2 1A amount of sheets left (2)	M L1

1.2.1	Stile/*Styl* ✓✓RT	2RT correct selection (2)	M&P L1
Q/V	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**

1.2.2	✓MA
	A = 65,89 – (28,5 + 28,5)
	  = 8,89 ✓A
	
	B = $\dfrac{91,89 - 65,89}{2}$ ✓MA
	  = 13 ✓A
		1MA method with accuracy
		1A length of A
		
		1MA method with accuracy
		1A length of B
		(4)
			M&P L1

1.2.3	✓✓A Panels/*Panele* : P3 and/*en* P4	2A correct selection (2)	M&P L1
1.2.4	Dowels/*penne* = 22 ✓✓A	2A correct amount (2)	M&P L1
1.2.5	✓✓A Bottom rail/*Onderste reeling* = 23cm	2A correct width (2)	M&P L1
1.2.6	✓MA Lenght /*Lengte* = (20,3 + 61,5 + 60,3) = 142,1 cm ✓A	1MA adding the correct values 1A correct length (2)	M&P L1
		[30]	

QUESTION/*VRAAG* 2 [23 MARKS/*PUNTE*]			
Q/V	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
2.1.1	Wroclaw ✓✓RT	2RT reading name from map (2)	M&P L1
2.1.2	North West/*Noordwes* OR NW ✓✓RT	2RT reading direction from map (2)	M&P L2

2.1.3	✓RT ✓A
	Cost/*Koste* = 2 ×(10+15+10) + (5+7,5+5)
	        = 70 + 17,5 ✓M
	        = $ 87,5 ✓CA
		1RT using the correct values
		1A converting discount price
		1M adding
		1CA cost (4)
			M&P L2

2.1.4	12 ✓✓RT	2RT correct number (2)	M&P L1
2.1.5	Warsaw ✓✓RT	2RT correct city (2)	M&P L1
2.1.6	Destination/*Bestemming* : Zakopane ✓✓✓A	3A correct destination (3)	M&P L2
2.1.7	All the distances between the places are under 100 km. ✓✓O Accept any other credible reasons	2O reason (2)	M&P L4

2.1.8	A: 254 mile = 408 km
	 1 mile = $\frac{408}{254}$ km ✓M
	     = 1,60630 ✓A
	Difference = 1,60934 – 1,60630
	     = 0.00304 ✓CA
	
	B: 253 miles = 408 km
	 1 mile = $\frac{408}{253}$ km
	     = 1,61264 ✓MA
	Difference = 1,61264 – 1,60934
	     = 0.0033 ✓CA
	
	A is the closest ✓O
		1M dividing
		
		1A simplification
		
		1CA difference
		
		1MA method
		
		1CA difference
		
		1O correct opinion (6)
			M&P L4

			[23]

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
	QUESTION/*VRAAG* 3 [35 MARKS/*PUNTE]*		
3.1	Radius = $0,5 + 0,1 + 1$ ✓MA $= 1,6$ m ✓CA	1MA adding the correct values 1CA radius (2)	M L1
3.2	$^{0}C = (^{0}65 - 32) \div 1,8$ ✓SF $= 18,33^{0}$Celsius ✓CA	1SFA correct substitution 1CA (2)	M L2
3.3	Lenght / *lengte* : $600 \div 100 = 6$m ✓C Area $= 6 \times 3$ ✓SF $= 18$ m^2 ✓CA ✓A Also accept answers in cm^2	1C convertion 1SF substition 1CA area 1A unit in square metres (4)	M L2
3.4	Radius $= 2,2 \div 2 = 1,1$ ✓A Volume $= 3,142 \times 1,1^2 \times 1$ ✓SF $= 3,142 \times 1,21 \times 1$ $= 3,80182$ m^3 ✓CA Volume $= 3,142 \times 1 \times 1$ $= 3,142$m^3 *(given)* Volume $= 3,80182$m$^3 - 3,142$m^3 ✓M $= 0,65982$m^3 ✓CA Bricks/*Stene* $= \dfrac{0,65982}{0,0024}$ ✓M $= 274,925$ ✓CA $= 275$ ✓R	1A correct radius 1SF correct substitution 1CA volume of B 1M subtracting A from B 1CA volume of the wall 1M dividing 1CA amount of bricks 1R Rounding (8)	M L3
3.5	Area $= 3,142 \times 1,6^2$ ✓SF $= 8,04352$ m^2 ✓CA Area of pond with wall $= 3,142 \times 1,1^2$ $= 3,80182$ m^2 ✓CA Area to be covered by compost $= 8,04352 - 3,80182$ ✓M $= 4,2417$ m^2 ✓CA	**CA from 3.1 & 3.4** 1SF substitution 1CA area 1CA area 1M subtracting 1CA simplification (5)	M L3

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L

3.6	Volume of water = 3,142 ×80%
	 Volume van water = 2,5136m³ ✓A
	
	 Volume = 2,5136 × 1 000
	         = 2513,6 ℓ ✓C
	
	 Flow rate/*Vloei tempo* = $1 \times \dfrac{2513,6}{39,6}$ ✓M
	         = 63,4745 minutes ✓CA
	         = 63,474 ÷60 ✓C
	         = 01h03 min ✓CA
	 No she is wrong/*Nee sy is verkeerd* ✓O
		1A volume of water
		
		 1C converting to litres
		
		 1M calculating flow rate per min
		
		 1CA amount of time
		 1C converting min to hours
		 1CA duration
		 1O opinion
		 (7)
			M L4

3.7	3 SIDES of walkway/*3 KANTE van voetpad*
	
	 F = 0,005 × 6
	    = 0,03 ✓MA ✓M
	 3 sides of walkway/ *3sye van voetpad:*
	 Length = (0,03×2) + (6 × 2) + 3 ✓CA
	        = 15,06 m
	 Bricks/*Stene* = 230 ÷ 1000 = 0,23
	             = 0,23 ✓C
	 Number/*Getal* = 15,06 ÷ 0,23 ✓M
	        = 65,48 ✓CA
	 Yes he is correct / *Ja hy is korrek* ✓O
		1MA % calculation
		 1M adding 3 correct sides
		
		 1CA length of walkway
		
		 1C converting to meter
		 1M dividing by 0,23
		 1CA number of bricks
		
		 1O correct opinion
		 (7)
			M L4

		[35]	

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
QUESTION/*VRAAG* 4 [38 MARKS/*PUNTE*]			
4.1.1	✓✓A Tuesday/*Dinsdag*	2A correct day (2)	M L1
4.1.2	✓A ✓A 25th August at 07:00/*25ste Augustus om 07:00*	1A date 1A time (2)	M L1
4.1.3	✓RT Time/*Tyd*: 23:03 − 22:43 = 20min ✓M : 02:40 + 30 = 03:00 ✓A	1RT correct values 1M difference in time 1A arrival time (3)	M L2
4.1.4	JHB > CPTWN ✓M *JHB . KPSD* = 25h15min CPTWN > JHB *KPSD > JHB* = 25h58min ✓M Difference = 25H58 min − 25H15min ✓M = 43 min ✓CA	1M Time calculation 1M Time calculation 1M difference 1CA simplification (4)	M L2
4.1.5	P/*W* = $\dfrac{1}{8}$ ✓A ✓A	1A denominator 1A numerator (2)	M L2
4.1.6	✓MA December/*Desember* = R830 × 4 = R 3 320,00 February/ *Februarie* = R690 × 4 = R2 760,00 ✓MA Cost/*Koste* = R3 320,00 − R 2 760,00 ✓M = R560,00 ✓CA	1MA cost for Dec 1MA cost for Feb 1M subtracting 1CA difference in cost (4)	F L3
4.1.7	Time/Tyd = $\dfrac{304}{110}$ ✓SF = 2h45m ✓CA Departure/*Vertrek* = 09:05 − (1h00m+2h45m) ✓M ✓M = 05:20 ✓CA	1SF substitution 1CA travel time 1M subtracting one hour 1M subtracting travel time 1CA departure time (5)	M L3
4.1.8	Time/*Tyd* = 22:43 − 15:00 = 7h43m ✓MA Speed = $\dfrac{556}{7h43m}$ ✓M ✓SF = 72km/h ✓CA No she is ~~not~~ correct ✓O	1MA time difference 1M changing subject of formula 1SF correct substitution 1CA speed 1O Opinion (5)	M L4
4.2.1	✓✓A Seats/*Sitplekke* = 197	2A number of seats (2)	M&P L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.2.2	Floor plans are a drawing that show the realationship between rooms spaces and physical features viewed from above. ✓✓A *Vloerplanne is 'n tekening wat die verband tussen kamersruimtes en fisiese kenmerke soos van bo gesien wys.*	2A correct definition (2)	M&P L1
4.2.3	Pass 3 seats turning right in the passage and walking in a westerly direction. *Gaan verby 4 sitplekke en draai regs in die gang en stap in 'n westelike rigting.* ✓A Turn left in the second passage and walk in a southerly direction to seat 13. *Draai links in die volgende gang en stap in 'n suidelike rigting na sitplek 13.* ✓A Passing seat 13 turn right and walk in a westerly direction. *Verby sitplek 13 draai regs en stap in 'n westelike rigting.* ✓A His friend will be seated on his left hand side in seat 14. *Sy vriend sal aan sy linkerkant in sitplek 14 sit.* ✓A	1A first correct direction 1A second correct direction 1A third correct direction 1A forth correct direction (4)	M&P L2
4.2.4	$P/W = \dfrac{1\,{}^{✓A}}{6} \times 100\%$ ✓M $= 3,125\%$ ✓CA	1A Correct denominator and numerator 1M multiplying by 100 1CA percentage (3)	P L2
		[38]	

QUESTION/*VRAAG* 5 [24 MARKS/*PUNTE*]

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.1	✓✓RT Bedroom G/*Slaapkamer G*	2RT correct selection (2)	M&P L1
5.2	✓✓A East elevation/*Oostelike aansig*	2A correct comparison (2)	M&P L2
5.3	✓✓RT 2 Foldable glass doors/*Opvoubare glasdeure*	2A correct answer (2)	M&P L1
5.4	✓RT ✓M L= (5 × 129) + (3313 + 1100 + 2000 + 3127) = 10185 mm ✓CA	1RT 5 walls 1M adding all the correct values 1CA length (3)	M L2

5.5	✓A ✓RT
	Scale / *Skaal* = 16 mm : 2500 mm ✓MA
	
	        = 1 : 156.25 ✓CA
	
	      = 1 : 200 ✓R
		1A measurement
		1RT correct value
		1MA correct order
		1CA simplification
		1R rounding
		
		Accept Range :15-17mm
		(5)
			M&P
			L3

5.6	P/W = $\dfrac{1}{4}$ ✓A ✓A = 0,25 ✓CA	1A denominator 1A numerator 1CA answer (3)	P L2

5.7	✓C
	A = 5,927 × 2,500
	  = 14,8175m² ✓CA
	Total area = 14,8175 × 2 ✓M
	      = 29,635m² ✓CA
	Spread rate/ *verspreidings koers*= 1:5,6m²
	      = 1× $\dfrac{29,635}{5,6}$ ✓MA
	      = 5,29 *l*
	      = (1 +5) = 6 ✓CA
	Most economical way ✓CA
	Mees ekonomiese manier = 1×5*l* and 1× 1*l*
		1C conversion
		1CA area
		
		1M multiplying by 2 coats
		1CA area
		
		1MA method with accuracy
		
		1CA amount of litres
		
		1CA most economical way to buy
		(7)
			M
			L3

		[24]	
		TOTAL: 150	