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education
MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

JUNE 2025

MARKS: 100

TIME: 2 HOURS

This question paper consists of 8 pages and a 16-page SPECIAL ANSWER BOOK.

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of **FOUR** questions. Answer **ALL** the questions.

2. Use the Annexures in the Answer book for the following questions.

   ANNEXURE A for QUESTION 1.1
   ANNEXURE B for QUESTION 1.2
   ANNEXURE C for QUESTION 2
   ANNEXURE D for QUESTION 3.3
   ANNEXURE E for QUESTION 4.1
   ANNEXURE F for QUESTION 4.2

3. You may use an approved calculator (non-programmable, non-graphical), unless stated otherwise.

4. Show ALL calculations clearly.

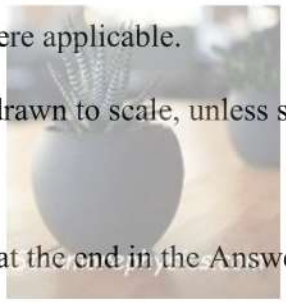
5. Round off ALL final answers appropriately according to the given context, unless stated otherwise.

6. Indicate units of measurement, where applicable.

7. Maps and diagrams may NOT be drawn to scale, unless stated otherwise.

8. Write neatly and legibly.

9. Use the additional space provided at the end in the Answer book if there is need.



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QUESTION 1

1.1 Rand water supplies water to Gauteng and parts of Mpumalanga Province. They cannot supply the amount of water needed to these areas as the demand is very high.

Rand water posted a document on their website that compares the Mac Drip's and the Van Plug's family water usage. Rand water and Water wise was hoping to make people aware of water saving.

Use ANNEXURE A in the ANSWER BOOK and the information above to answer the following questions.

1.1.1 Determine the amount of litres of water used daily for cooking and drinking by the Mac Drip family. (2)

1.1.2 Determine the amount of water saved a day by the Van Plug family versus the Mac Drip family. (2)

1.1.3 Determine a member of the Mac Drip family's daily water usage in kilolitres. (2)

1.1.4 Determine the difference in the toilet water usage between the two families, in the month of March. (3)

1.1.5 Which family will save water? (2)

1.2 In ANNEXURE B a map of the water management in South Africa is shown. This map indicates the major water supply to each section.

1.2.1 Give the number of water management areas in South Africa (2)

1.2.2 Name the major city that is supplied with water from the Orange. (2)

1.2.3 Give the numbers of the areas that receive water from the Vaal. (2)

1.2.4 Name 4 countries that boarder South Africa. (3)

[20]

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QUESTION 2

Andrew buys a flat in Balfour. The floorplan of the flat is given in ANNEXURE C.

Note:
1 foot = 0,305 m
1 inch = 2,54 cm

Use ANNEXURE C in the ANSWER BOOK and the information above to answer the following questions.

2.1 Define the term, '*floorplan*'. (2)

2.2 Give the ratio, in the simplest form, of baths and showers to bedrooms. (3)

2.3 Determine the probability as a decimal of randomly choosing a closet in a bedroom. Round of your answer to two decimal places. (3)

2.4 Describe the route from the kitchen door to the master bathroom, using compass directions. (5)

2.5 Determine the length of the flat in meters. Ignore the thickness of the walls. (5)

2.6 The stove's width is 0,8 m in real life. Determine a suitable numerical scale for this floorplan. (5)

[23]

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QUESTION 3

Andrew's flat only relies on municipal water. He then decided to install a backup system.

Water tanks come in different sizes. The available tank sizes for the backup system were: 707ℓ, 950 ℓ, 1 000 ℓ, 2 050 ℓ, 2 450 ℓ and 2 500 ℓ.

The global water usage per person a day is 173 litres.

[Source: rainbowtank.co.za]

Use the information above to answer the following questions.

3.1 Determine the maximum amount of water that Andrew and his wife will be using in a day, if they do not exceed the global water usage amount. (2)

3.2 Andrew states that the smallest tank that he will need to install as a backup is a 2 450 ℓ tank to cover their water usage if he wants to have water for at least 6 days. (3)

Verify if he is CORRECT. Show all calculations.

3.3 Andrew decides to install a 2 450 ℓ water tank. A water tank needs to be placed on a stable flat surface.

Andrew decides to have a concrete block as a foundation for the water tank as shown on ANNEXURE D in the ANSWER BOOK.

You may use the following formulae:

Volume of cylinder $= 3,142 \times \text{radius}^2 \times \text{height}$

Volume rectangular prism $= \text{side}^2 \times \text{height}$

Use ANNEXURE D in the ANSWER BOOK and the information above to answer the following questions,

3.3.1 Determine the volume of the water tank in cm^3. (4)

3.3.2 Determine the weight, in kg, of the water that will fill the water tank. (2)

3.3.3 Ready mix concrete is sold for R549 per bag. One bag is equivalent to 0,3 m^3. Determine the cost of the ready-mix concrete that will be needed for the foundation. (6)

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3.3.4 The optimal temperature to pour concrete is 80,6 – 95 ºF.

Determine the maximum optimal temperature that concrete can be poured in ºC.

You may use the formula: $°\boldsymbol{F} = \frac{\mathbf{9}}{\mathbf{5}}°\text{C} + \mathbf{32}$ (3)

3.3.5 Andrew installed the water tank when there was no water supplied from rand water. He found a person that will fill his tank with 2 000 ℓ of water. Determine the height that the water level will reach in the tank. (4)

3.4 Andrew is comparing shower heads in an attempt to save water. Andrew and his wife take a shower everyday of 12 minutes each.

He has narrowed the options down to two.

Option 1	**Option 2**
	
Product Specifications Dimensions: 73.025 mm x 73.025 mm x 127 mm. Flow Rate: 60 ℓ / hour	**Product Specifications** Flow Rate: 6.7 ℓ / min

[Source: www.sustainable.co.za]

3.4.1 Determine the total amount of water used per day for each option and indicate which will be the better option to save water. (6)

3.4.2 Give two possible reasons why a person will choose the option that will not save them water. (3)

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QUESTION 4

4.1

Water is a basic need and with the water problems, people are consuming contaminated water. Municipalities are forced to turn to alternative ways to purify water.

One of these purifying systems is Desalination that uses *Reverse osmosis*. Saudi-Arabia has one of the best Desalination systems. A group of South African municipality officials decided to fly to Saudi Arabia, to observe how this system works.

***Reverse osmosis*: When water is pumped at a high pressure through a membrane (Sheet) that only allows water molecules through therefore impurities and bacteria remains behind.

The group will leave South Africa on Monday (20 Jan 2025) 14:30 from Johannesburg and land in Riyadh on Tuesday (21 Jan 2025) 02:10. There was 1 hour and 45 minutes *layover* in Addis Ababa (Ethiopia).

***Layover*: Time that you will be waiting for the next flight.

Use ANNEXURE E in the ANSWER BOOK and the information above to answer the following questions.

4.1.1 Give one advantage of using a bar scale on a map. (2)

4.1.2 Give the general compass direction from Chad to Angola. (2)

4.1.3 The Municipal official states that the distance travelled from Johannesburg to Riyadh is 9 028km. Use the bar scale to verify if his statement is correct. Show all your calculations. (6)

4.1.4 Determine the time that will be spent by the officials in the flight from Johannesburg to Riyadh. (3)

4.1.5 Determine the average speed that the airplane was traveling if the distance travelled is 9 028km.

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

4.1.6 There are 54 countries in Africa. Determine the probability of being a neighbouring country of South Africa. Give your answer as a fraction. (2)

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4.2 A family uses a 2 050ℓ water tank for their daily use. They decide to install a reverse osmosis system as shown in ANNEXURE F in the ANSWER BOOK, to purify their drinking water.

Use ANNEXURE F in the ANSWER BOOK and the information above to answer the following questions.

4.2.1 Convert the rate to purify the water to litres per day. (2)

4.2.2 The family claims that the water of a 2 050 ℓ tank can be purified within 7 days. Verify if their claim is VALID. Show all calculations. (3)

[23]

TOTAL: 100

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NSC ANSWER BOOK

SCHOOL NAME		DISTRICT	
NAME & SURNAME		CLASS	
DATE			
SUBJECT	MATHEMATICAL LITERACY P2		

MARKER				MODERATIONS											
Ques	Marks		Initials	Marks			DH	Marks			C/D	Marks		Prov.	Marks			Ext.
1																		
2																		
3																		
4																		
5																		

				TOTAL														

This answer book consists of 16 pages.

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Answer Book

FOLLOW THESE INSTRUCTION CAREFULLY

1. Clearly write your examination number and centre number in the space provided and attach your barcode label in the space provided.

2. Remember that your own name (or the name of your school) may not appear anywhere on or in this answer book.

3. Answer ALL questions in the spaces provided.

4. No pages may be torn from this answer book.

5. Read the instructions printed on your timetable carefully as well as any other instructions which may be given in each examination paper.

6. Candidates may not retain an answer book or remove it from the examination room.

7. Answers must be written in black/blue ink as distinctly as possible.

8. Do not write in the margins.

9. If you require additional space for your answers:

   9.1 Use the additional space provided at the end of the answer book.

   9.2 When answering a question in the additional space, indicate clearly the question number in the column on the left-hand side.

10. Draw a neat line through any work that must not be marked.

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QUESTION 1

ANNEXURE A

How much water does your family use per day?		
Water used in the	**Mac Drip Family**	**Van Plug Family**
Bath	2 Baths AT A depth of 150 mm=180 litres	1 Bath at a depth of 100 mm = 60 litres
Shower	2 Showers at 15 litres per minute for 7 minutes each = 210 litres	3 showers at 6 litres per minute for 4 minutes each (close taps while soaping = 72 litres)
Wash Basin	Water used freely = 30 litres	Water used sparingly = 10 litres
Toilet	20 uses at 15 litres per flush = 300 litres	Uses a 9litre/4 litre dual flush toilet: 15 uses at 4 litres and 5 uses 9 litres = 105 litres
Cooking & Drinking	15 litres	15 litres
Dishwasher	Sink filled with water each time = 40 litres	Water used sparingly = 20 litres
TOTAL WATER USED	775 litres per family	282 litres per family
	194 litres/person daily	71 litres/person daily

Water Wise

RAND WATER

[Source: www.waterwise.co.za]

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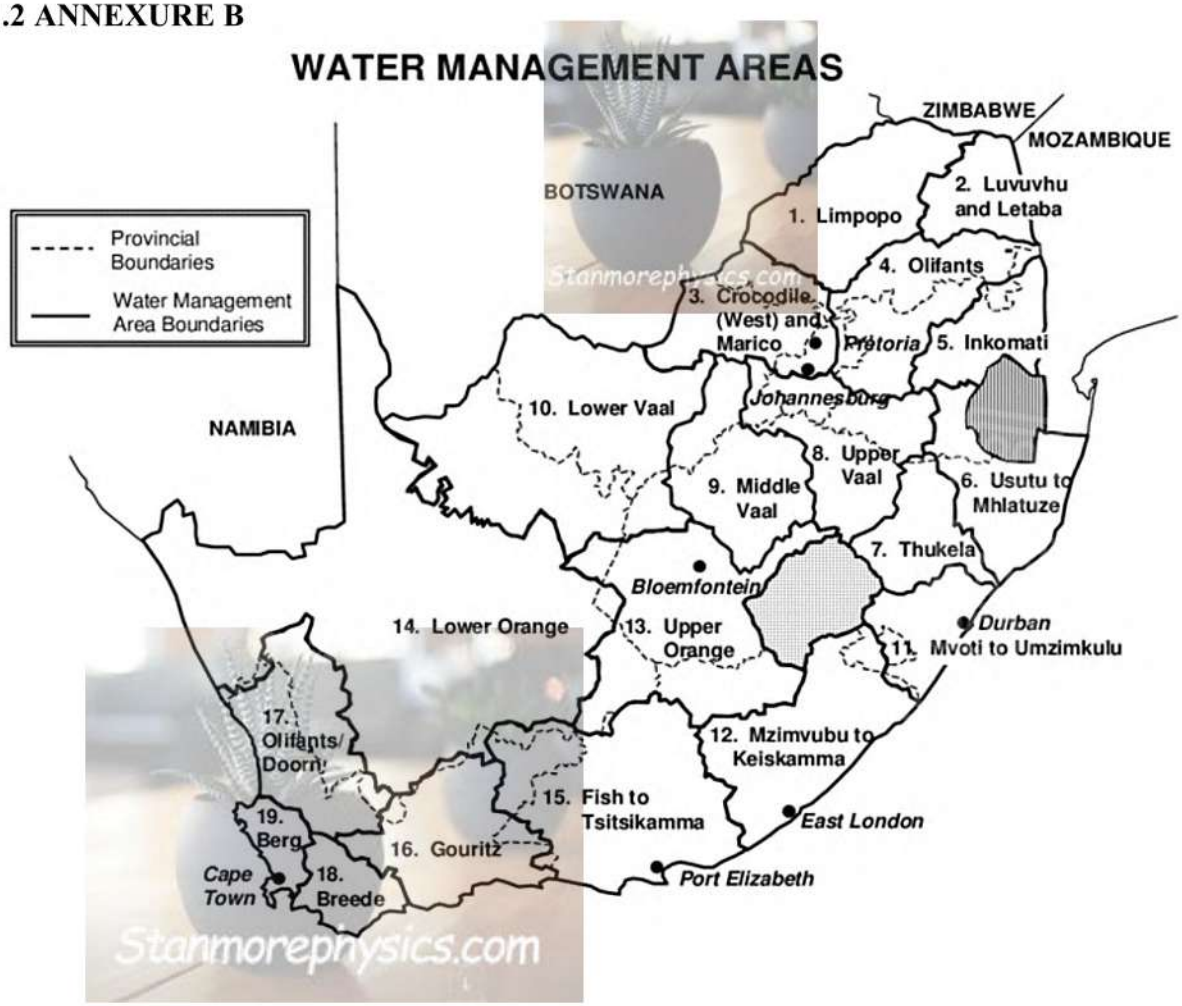
QUESTION 1

1.1	Solution	Marks
1.1.1		(2)
1.1.2		(2)
1.1.3		(2)
1.1.4		(3)
1.1.5		(2)

1.2 ANNEXURE B



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1.2	Solution	Marks
1.2.1		(2)
1.2.2		(2)
1.2.3		(2)
1.2.4		(3)
		[20]

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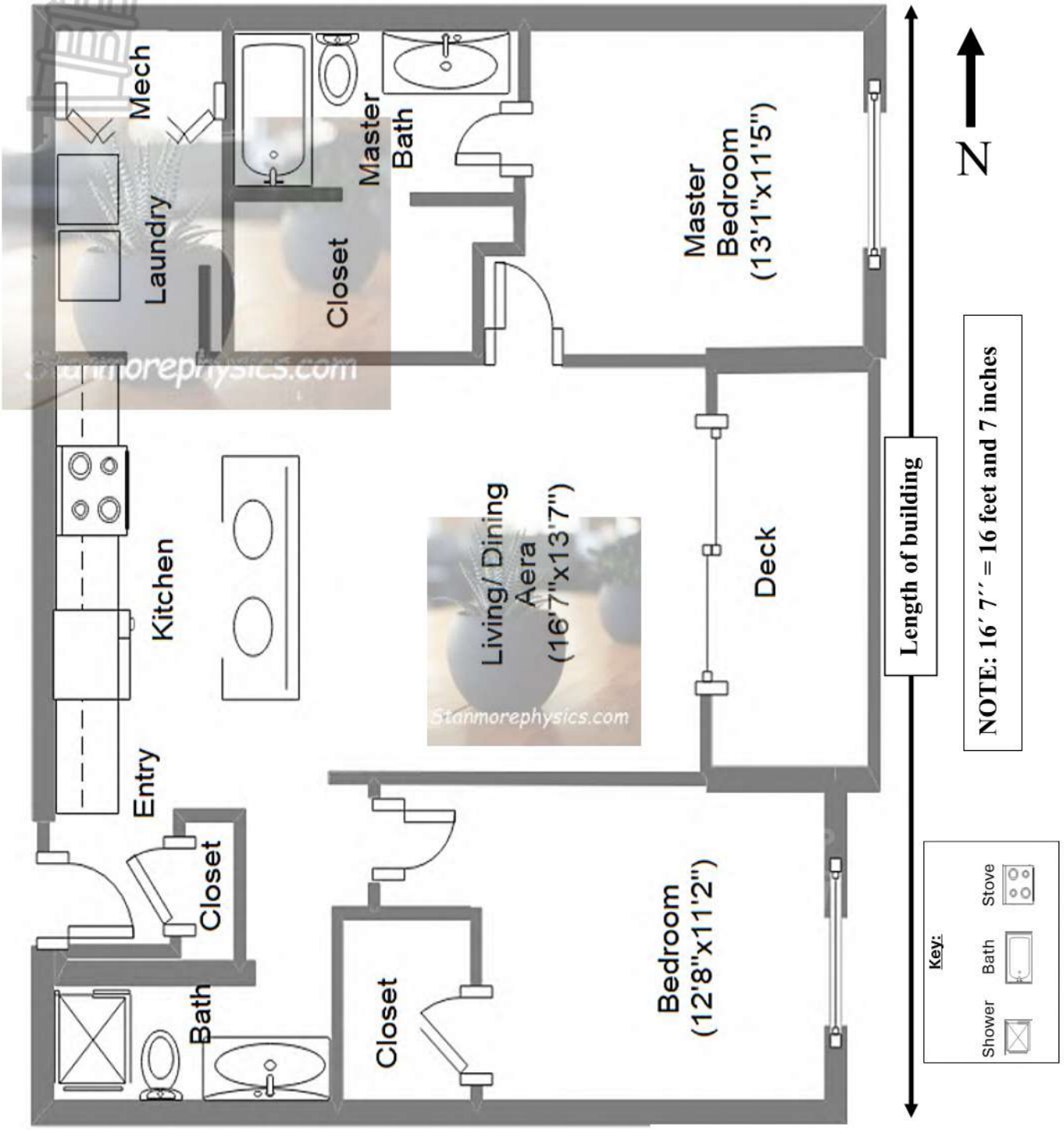
QUESTION 2

ANNEXURE C



[Source: https://images.edrawmax.com/]

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QUESTION 2

2	Solution	Marks
2.1		(2)
2.2		(3)
2.3		(3)
2.4		(5)
2.5		(5)
2.6		
		[23]

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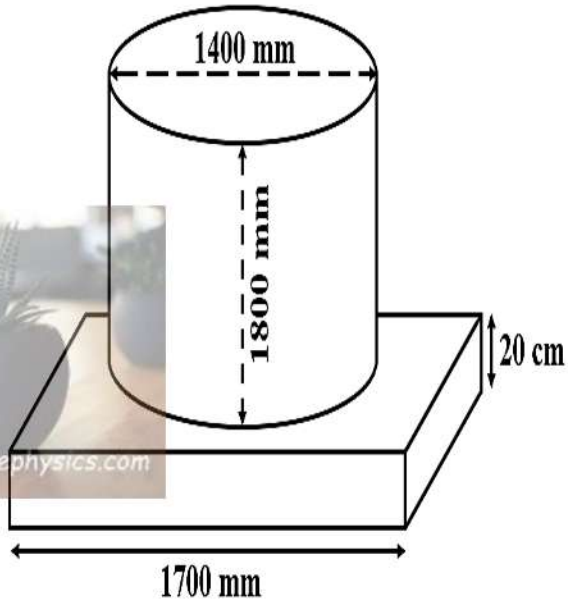
QUESTION 3

	Solution	Marks
3.1		(2)
3.2		(3)

3.2 ANNEXURE D

PICTURE OF A WATER TANK	DIAGRAM OF THE WATER TANK
	

Dimensions of water tank:
Diameter: 1400 mm
Height: 1800 mm

Dimension of cement square foundation:
Side length: 1700 mm
Height: 20 cm

Note:
10 mℓ water = 10 g water
$1cm^3 = 1mℓ$

[Source: https://ecotanks.co.za]

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3.3	**Solution**	**Marks**
3.3.1		(4)
3.3.2		(2)
3.3.3		(6)
3.3.4		(3)
3.3.5		(4)

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3.4	Solution	Marks
3.4.1		(6)
3.4.2		(3)
		[33]

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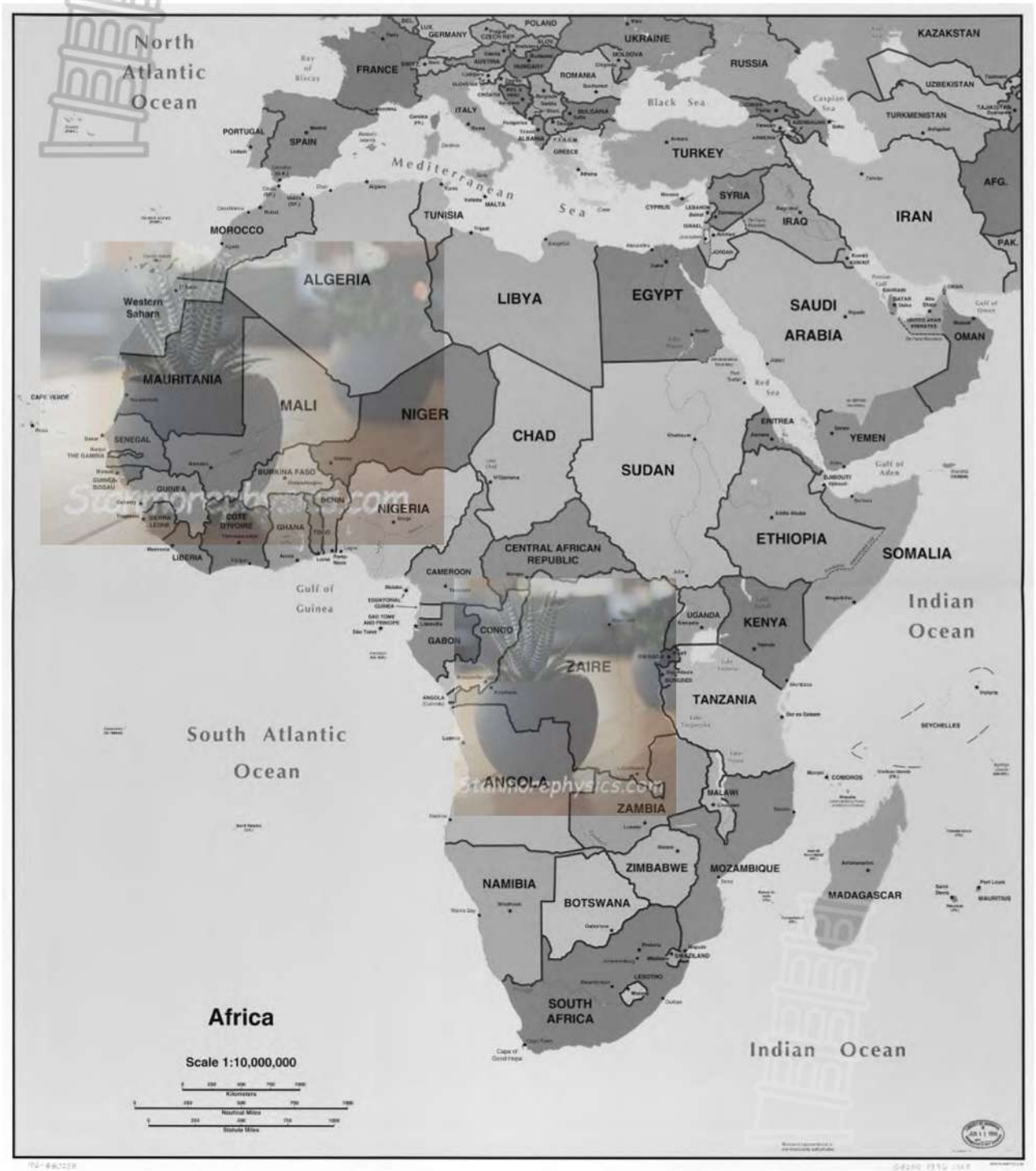
QUESTION 4

ANNEXURE E



[Source: https://www.istockphoto.com/]

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4.1	**Solution**	Marks
4.1.1		(2)
4.1.2		(2)
4.1.3		(6)
4.1.4		(3)
4.1.5		(3)
4.1.6		(2)

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4.2 ANNEXURE F

Domestic 5 Stage Reverse Osmosis Water Purification System **with** Booster Pump.

Maximum Purification Capacity: 75 gallons Per Day.

Suitable for a household of average 2 – 4 persons for drinking water.

Note: 1 gallon = 3,785 ℓ

[Source: www.osmotech.co.za]

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4.2	**Solution**	**Marks**
4.2.1		(2)
4.2.2		(3)
		[23]

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	Additional Space	Marks

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	Additional Space	Marks

TOTAL:10

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GRADE 12

MATHEMATICAL LITERACY P2
WISKUNDIGE GELETTERDHEID V2
JUNE 2025
MARKING GUIDELINES/NASIENRIGLYNE

MARKS: 100

Symbol/*Simbool*	**E×planation/*Verduideliking***
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/dokument/diagram*
SF	Correct substitution in a formula/*Korrekte vervanging in formule*
O	Opinion/Explanation/*Mening/Verduideliking*
P	Penalty, e.g. for no units, incorrect rounding off, etc. / *Straf, bv. Geen eenhede/verkeerde afronding, ens.*
R	Rounding off/*Afronding*
NPR	No penalty for rounding/units/*Geen straf vir afronding/eenhede*
AO	Answer only/*Slegs antwoord*
MCA	Method with consistent accuracy/*Metode met volgehoue akkuraatheid*

These marking guidelines consists of 10 pages and a 1 - page analysis grid.

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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 item presented.

• The general principle of marking is that if a candidate makes one mistake and there is sound mathematics thereafter, the candidate loses one mark.

LET WEL:

• As *'n kandidaat 'n vraag TWEE KEER beantwoord, sien slegs die EERSTE poging na.*

• *As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, sien die doodgetrekte (gekanselleerde) poging na.*

• *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas, dit hou egter by die tweede berekeningsfout op.*

• *Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem het en ekstra antwoorde gee, straf vir elke ekstra item.*

• *Die algemene beginsel van merk is dat as 'n leerder een fout maak en dis daarna wiskundig korrek, verloor die leerder een punt.*

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QUESTION/VRAAG 1 [20 MARKS/PUNTE] **ANSWER ONLY–FULL MARKS/*SLEGS ANTWOORD - VOLPUNTE***			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T/L**
1.1.1	✓✓RT 15 ℓ	2RT (2)	M L1 E
1.1.2	✓MA 775 – 282 = 493 ℓ ✓A	1MA Subtracting correct values 1A Total litres (2)	M L1 M
1.1.3	✓C 194 ℓ ÷ 1 000 = 0,194 kℓ ✓A	1C Conversion 1A simplification (2)	M L1 M
1.1.4	✓MA 300 – 105 = 195 ℓ water per day/*water per dag* ✓MA 195 × 31 days/*dae* ✓A = 6 045 ℓ water per month/*water per maand*	1MA Subtracting correct values 1MA Multiply by 31 1A Total amount of water (3)	M L1 H
1.1.5	✓✓RT Van Plug family/*Van Plug familie*	2RT Correct family (2)	M L1 E
1.2.1	19 ✓✓RT	2RT Amount (2)	MP L1 E
1.2.2	Bloemfontein ✓✓RT	2RT Town (2)	MP L1 E
1.2.3	8 ; 9 ; 10 ✓✓RT	2RT Three correct areas (2)	MP L1 M
1.2.4	✓RT ✓RT ✓RT Namibia, Botswana , Zimbabwe, Mozambique, Lesotho, Swaziland / *Namibië, Botswana, Zimbabwe, Mosambiek, Lesotho, Swaziland*	1RT 1st correct country 1RT 2nd correct country 1RT 3rd & 4th correct country (3)	MP L1 H

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QUESTION/VRAAG 2 [23 MARKS/PUNTE]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T/L**
2.1	Shows the design and dimensions of the inside of a building, from a top view/ ✓✓A *Wys die ontwerp en afmetings van die binnekant van 'n gebou, vanuit 'n bo-aansig.*	2A Correct definition (2)	MP L1 H
2.2	✓RT 1+1: 2 ✓RT 1:1 ✓A	1RT Correct amount of Baths and showers 1RT Correct amount of bedrooms 1A Simplification **(AO)** (3)	MP L2 E
2.3	$\frac{2}{3}$ ✓A ✓A = 0,6666666..... ≈ 0,67 ✓R	1A 1Numerator 1A Denominator 1R Correct rounding 2 Decimal **(AO)** (3)	P L2 E
2.4	Enter door and walk **EAST** to the closet door ✓RT ✓RT Turn **NORTH** and walk to the Laundry door ✓RT Turn **EAST** walk till the door is on your left ✓RT Turn **NORTH** and enter the room ✓RT ✓RT *Gaan in die deur in en loop **OOS** na die kasdeur* ✓RT *Draai **NOORD** en loop na die wasgoeddeur* ✓RT *Draai **OOS** loop totdat die deur aan jou linkerkant is* ✓RT *Draai N**OORD** en gaan die kamer binne*	4RT Correct directions 1RT Landmarks used (5)	MP L2 H

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2.5	11 feet 2 inches + 13 feet 7inches + 11 feet 5 inches ✓RT ✓MCA = 35 feet and 14 inches 1 foot : 0,305 m 35 feet : 10,675 m ✓C x 1 inch : 2,54 cm 14 inches : 35,56 cm ✓C 35,56 cm = 0,3556 m 10,675 + 0,3556 ✓CA = 11,0306 m	1RT Correct dimensions 1MCA Total length 1C Converting feet to meter 1C Converting inches to cm 1CA Total amount in m (5)	MP L4 M
2.6	✓MA 1,2 cm : 0,8 m ✓MA 1,2 cm : 80 cm ✓C 1 : 66,66…. ✓S 1 : 67 ✓R	1MA measure correctly (Accept: ± 1mm deviation) 1MA Correct ratio 1C Conversion 1S Simplify 1R Rounding to nearest whole number (5)	MP L3 H

QUESTION/VRAAG 3 [33 MARKS/PUNTE]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T/L**
3.1	173 ×2 = 346 ℓ ✓✓A **OR** 173 + 173 = 346 ℓ ✓✓A	2A Amount of water 2A Amount of water **(AO)** (2)	M L1 M

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3.2	✓MCA 346 ×6 = 2 076 ℓ ✓CA His statement is correct/ ✓O *Sy stelling is korrek* **OR** Days for 1 person/*Dae vir 1 persoon:* 2050 ÷ 173 = 11,8497 ✓MCA Days for 2 people/*Dae vir 2 mense:* 11,8497 ÷ 2 = 5,924 ≈ 5 ✓CA 2050 ℓ is too small therefor 2 450 ℓ is needed. His statement is correct ✓O 2050 ℓ is te klein, daarom is 2 450 ℓ nodig. Sy stelling is korrek **OR** Days for 1 person/*Dae vir 1 persoon:* 2450 ÷ 173 = 14,1618 ✓MCA Days for 2 people/*Dae vir 2 mense:* 14,1618 ÷ 2 = 7,0809 ✓CA His statement is correct ✓O *Sy stelling is korrek*	**CA from 3.1** 1MCA Multiply by six 1CA Total amount of water needed 1O Opinion 1MCA Divide by 173 1CA Total amount of days for 2 people 1O Opinion 1MCA Divide by 173 1CA Total amount of days for 2 people 1O Opinion (3)	MP L4 E

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3.3.1	✓C Diameter/*Deursnee* 1400mm = 140 cm Height/*Hoogte* 1800 = 180 cm Radius = 140 ÷ 2 = 70 cm ✓MCA Volume = 3,142 × radius^2 × height = 3,142 × $(70)^2$ × (180) ✓MCA = 2 771 244 cm^3 ✓CA **OR** Radius = 1400 ÷ 2 = 700 mm ✓MCA Volume = 3,142 × radius^2 × height = 3,142 × $(700)^2$ × (1800) ✓MCA = 2 771 244 000 mm^3 ✓CA = 2 771 244cm^3 ✓C	1C Conversion 1MCA Radius 1MCA Correct Substations 1CA Volume in cm^3 1MCA Radius 1MCA Correct Substations 1CA Volume in cm^3 1 C Conversion (4)	MP L2 H
3.3.2	2 771 244 cm^3 = 2 771 244 ml = 2 771 244 g ✓C = 2 771, 244 kg ✓C	**CA from 3.3.1** 1C Conversion to grams 1C Conversion to kg **NPR** (2)	MP L2 H
3.3.3	Side/*Sy* = 1700 mm = 170 cm ✓C Volume = Side^2 × height = $(170)^2$ × (20) ✓SF = 578 000 cm^3 ✓CA = 0,578 m^3 ✓C ∴ 2 bags needed/*Sakke nodig* ✓R 2×549 = R1 098 ✓CA **OR** Height/*Hoogte* = 20 cm = 200 mm ✓C Volume = Side^2 × height = $(1700)^2$ × (200) ✓SF = 578 000 000 mm^3 ✓CA = 0,578 m^3 ✓C ∴ 2 bags needed/*sakke nodig* ✓R 2×549 = R1 098 ✓CA	1C Conversion 1SF Correct substitution 1CA Volume in cm^3 1C Conversion to m^3 1R Rounding up total bags needed 1CA Total cost 1C Conversion 1SF Correct substitution 1CA Volume in cm^3 1C Conversion to m^3 1R Rounding up total bags needed 1CA Total cost	MP L3 H

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	OR Side/*Sy* = 1700 mm = 170 cm ✓C Volume = Side^2 × height = $(170)^2$ × (20) ✓SF = 578 000 cm^3 ✓CA 0,3m^3 = 300 000 cm^3 ✓C 578 000 ÷ 300 000 = 1,926….. ≈ 2 bags needed/*sakke nodig* ✓R 2×549 = R1 098 ✓CA	1C Conversion 1SF Correct substitution 1CA Volume in cm^3 1C Conversion to m^3 1R Rounding up total bags needed 1CA Total cost (6)	
3.3.4	$^\circ F = \frac{9}{5}(^\circ C) + 32$ $95 = \frac{9}{5}(^\circ C) + 32$ ✓SF $^\circ C = \frac{5}{9}(95 - 32)$ ✓MA $^\circ C = 35$ ✓CA	1SF Correct substitution 1MA Changing the formula 1CA Temperature (3)	MP L2 H
3.3.5	Volume = 3,142 × radius^2 × height ✓SF 2 000ℓ = 3,142 ×$(70)^2$ × height ✓C 2 000 000 = 3,142 × $(70)^2$ × height 2 000 000 = 15 395,8 ×height ✓MCA Height/*Hoogte* = 2 000 000 ÷ 15 395,8 = 129,9055587 cm ✓CA	**CA from 3.3.1 (radius)** 1SF Correct substitution 1C Conversion to ml 1MCA Changing the formula 1CA Height **NPR** (4)	MP L3 H
3.4.1	<u>Option/*Opsie* 1:</u> 60 ℓ : 1 hour 60 ℓ : 60 min ✓C 12 min = 12 litres water ✓A 12×2 = 24 litres of water ✓CA	1C Conversion of time 1A Amount for 12 min 1CA Amount for 2 people	MP L3 H

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	Option/*Opsie 2* 6,7 ℓ : 1 min ✓A` 80,4 ℓ : 12 min 80,4 × 2 = 160,8 ℓ ✓CA Option 1 will save more water ✓O *Opsie 1 sal meer water bespaar*	1A multiply with 6,7 1CA Amount for 2 people 1O Opinion (6)	
3.4.2	• The shower head is prettier ✓✓O • The shower head gives a better massage ✓O • The color fits with the theme of the bathroom • Cost is cheaper • *Die stortkop is mooier* ✓✓O • *Die stortkop gee 'n beter massering* ✓O • *Die kleur pas by die tema van die badkamer* • *Koste is goedkoper* (Any 2 relevant answers)	2O 1st Reason 1O 2nd Reason (3)	MP L4 E

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QUESTION/VRAAG 4 [23 MARKS/PUNTE]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T/L**
4.1.1	If the map increases or decreases in size. The bar scale will increase or decrease in the same proportion where the number scale does not ✓✓O *As die kaart in grootte toeneem of afneem. Die staafskaal sal in dieselfde verhouding toeneem of afneem waar die getalleskaal nie*	2O Opinion (2)	MP L1 H
4.1.2	South/*Suid* ✓✓RT	2RT Correct direction (2)	MP L1 M
4.1.3	Measurement/*Meet* : 79 mm ✓MA Measurement.*Meet* : 37 mm ✓MA ✓CA Distance on map/*Afstand op kaart* = 116 mm ✓MA 20 mm: 1 550 km 116 mm : 116 ×1 550 ÷ 20 = 8 990 km ✓CA His statement is incorrect/ ✓O *Sy stelling is nie korrek nie*	1MA Correct Measurement (Accept ±1mm) 1 MA Correct Measurement (Accept ±1mm) 1CA Total distance 1MA measurement (Accept ±1 mm) 1CA Real distance 1O Opinion (6)	MP L4 M
4.1.4	14:30 – 02:10 14:30 – 00:00 = 9 h 30 min 00:00 – 02:10 = 2 h 10 min Total time : 11 hours 40 min ✓A Min travel time/*Min reistyd:* ✓MCA 11 hours 40 min – 1 hour 45 min = 9 hours 55 min ✓CA	1A Time passed 1MCA Subtracting layover time 1CA Total traveling time (3)	M L2 H
4.1.5	$Speed = \frac{Distance}{Time}$ $= \frac{9028}{9:55}$ ✓SF $= \frac{9028}{9.916666\ldots..}$ ✓C $= 910{,}3865546\ km/h$ ✓CA	**CA from 4.1.4** 1SF Substitution 1C Converting time 1CA Speed travelled (3)	M L2 M

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		NPR (3)	
4.1.6	$\frac{6}{53}$ ✓A ✓A	1 A Numerator 1A Denominator (2)	P L2 M
4.2.1	1 Gallon : 3,785 ℓ 75 Gallons : 75×3,785 = 283,875 ℓ ✓CA 283,875 ℓ / day ✓CA	1C Conversion 1CA rate form (2)	M L2 E
4.2.2	283,875 ℓ : 1 day 2050 ℓ : 2 050 ÷ 283,875 ✓MCA =7,221488331 days ≈ 8 days ✓CA His statement is incorrect ✓O *Sy stelling is nie korrek nie* **OR** 283,875 × 7 ✓MCA = 1 987,125 ℓ ✓CA His statement is incorrect ✓O *Sy stelling is nie korrek nie*	**CA from 4.2.1** 1MCA Divide with 283,875 1CA amount of days 1O Opinion 1MCA Multiply with 7 1CA amount of Litres 1O Opinion (3)	M L2 H

MDE Mathematical Literacy Paper 2 Question Analysis June 2025																					
Question	Measurement	Maps, Plans	Probability	Total		L 1	Level of difficulty			L 2	Level of difficulty			L 3	Level of difficulty			L 4	Level of difficulty		
							E	M	H		E	M	H		E	M	H		E	M	H
1.1.1	2			2		2	✓														
1.1.2	2			2		2		✓													
1.1.3	2			2		2		✓													
1.1.4	3			3		3			✓												
1.1.5	2			2		2	✓														
1.2.1		2		2		2	✓														
1.2.2		2		2		2	✓														
1.2.3		2		2		2		✓													
1.2.4		3		3		3			✓												
					20																
2.1		2		2		2			✓												
2.2		3		3						3	✓										
2.3			3	3						3	✓										
2.4		5		5						5			✓								
2.5		6		6														6		✓	
2.6		5		5										5			✓				
					24																
3.1	2			2		2		✓													
3.2	3			3														3	✓		
3.3.1	4			4						4			✓								
3.3.2	2			2						2			✓								
3.3.3	6			6										6			✓				
3.3.4	3			3						3			✓								
3.3.5	4			4										4			✓				
3.4.1	6			6										6			✓				
3.4.2	3			3														3	✓		
					33																
4.1.1		2		2		2			✓												
4.1.2		2		2		2		✓													
4.1.3		6		6														6		✓	
4.1.4	3			3						3			✓								
4.1.5	3			3						3		✓									
4.1.6			2	2						2		✓									
4.2.1	2			2						2	✓										
4.2.2	3			3						3			✓								
					23																
Total marks	55	40	5	100		28				33				21				18			
Tot.%	55	40	5	100		28				33				21				18			
% req.	55	40	5	100		30				30				20				20			
Marks req.	55	40	5	100		30				30				20				20			

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