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# JENN

**Training and Consultancy**

The path to enlightened education

**SUBJECT: MATHEMATICAL LITERACY**

**GRADE 12**

**2024 SPRING CLASSES**

**SOLUTIONS/ANSWERS**

**Paper 2 Topics**

1. Plans
2. Assembly Diagrams
3. Models

**Revision (Last Push)**  
**Paper 1 and 2**

## MATHEMATICAL LITERACY PROGRAMME FOR 2023 Spring CLASSES

TOPICS FOR PAPER 2			
Plans, Instructions and Assembly diagrams and Models	Plans (1 hour)	± 48	± 45%
	Instructions and Assembly diagrams (1 hour)	± 14	± 13%
	Models (2 hours)	± 45	± 42%
<b>TOTAL</b>		<b>± 110</b>	<b>100%</b>
Pre-test and Post-test to be administered since it's a revision of Term 3.			

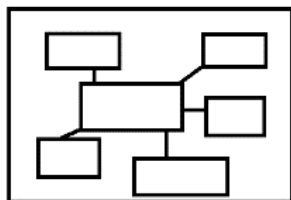
### CONTENTS

### PAGE

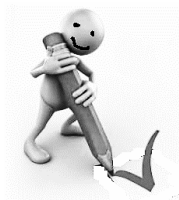
<b><u>TOPIC 4:</u> Maps, Plans &amp; other representations of the physical world</b>	
○ Plans	04 - 05
○ Instructions and Assembly diagrams	06
○ Models	06 - 08



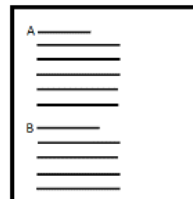
## ICON DESCRIPTION



**MIND MAP**



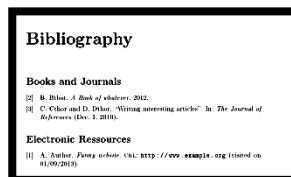
**EXAMINATION GUIDELINE**



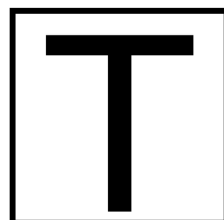
**CONTENTS**



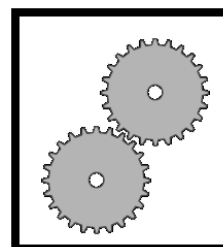
**ACTIVITIES**



**BIBLIOGRAPHY**



**TERMINOLOGY**



**WORKED EXAMPLES**



**STEPS**

## ACTIVITY 1: Floor and Elevation Plans

1.1.1	is a diagram which shows a two-dimensional view of an RDP house from above.
1.1.2	04
1.1.3	Northeast/NE
1.1.4	7,3 m = 7300 mm 133: 7300 1 : 5,48872...
1.1.5	Area of the rectangle = 7,3 m x 7,2 m  = 51,83 m <sup>2</sup>
1.1.6	To the left
1.2.1	Westerly direction
1.2.2	1 foot = 0,3048 m 29 feet = 0,3048 × 29 = 8,8392 m  1inch = 2,54 cm 10 inches = 2,54 × 10 = 25,4 cm = 0,254 m  29 feet and 10 inches = 8,8392 m + 0,254 m = 9,0932 m
1.2.3	1 foot = 0,3048 m 50 feet = 0,3048 × 50 = 15,24 m = 15 240 mm  Scale    135 : 15 240 1 : 112,888
1.2.4	Elevation B There should be two windows

## ACTIVITY 2: Floor and Elevation Plans

1.1.1	It is a plan with a view of a building seen from one side. OR It is a two-dimensional representation of one side of a building
1.1.2	3 cm
1.1.3	Area or Surface Area
1.1.4	0 or None
1.2.1	2 windows
1.2.2	Length of outer wall $7,2 \text{ m} - 4 \text{ m}$ $= 3,2 \text{ m}$
1.2.3	Basin
1.2.4	Replace the window with a door to make it accessible from the workshop.
1.2.5	Breadth $= 4 - (0,23 \times 2)$ $= 3,54$ Perimeter $= 2 \times 4,77 + 2 \times 3,54$ $= 9,54 + 7,08$ $= 16,62 \text{ m}$

## ACTIVITY 3: Assembly Diagrams

1.1.1	$32 - (8 + 6 + 8 + 8)$ $= 2 \text{ bolts}$
1.1.2	2 nuts
1.1.3	Short brace
1.2.1	4 screws
1.2.2	Drill/Wrench
1.2.3	2 or Step 2
1.2.4	Cylinder/Cylindrical

## ACTIVITY 4: Packaging

1.1.1	<p>Bottle diameter = <math>52 \times 2 \div 1000</math>  Length = width = 0,104 m</p> <p>Bottle height = <math>327 \div 1000</math>  = 0,327 m</p> <p>Pallet length = <math>8 \times 0,104</math>  = 0,832</p> <p>Pallet width = <math>8 \times 0,104</math>  = 0,832</p> <p>Pallet height = 0,327</p> <p>Lengthwise = <math>8,1 \div 0,832</math>  = 9</p> <p>Width wise = <math>2,45 \div 0,832</math>  = 2</p> <p>Height wise = <math>2,6 \div 0,327</math>  = 7</p> <p>Total number of pallets = <math>9 \times 2 \times 7</math>  = 126</p>
1.1.2	<p><math>1,5 \text{ ton} \times 1000 = 1\,500 \text{ kg}</math>  <math>64 \times 2 = 128 \text{ litre} = 128 \text{ kg}</math></p> <p>Number of pallets = <math>1\,500 \text{ kg} \div 126 \text{ kg}</math>  = 11 pallets</p> <p>His statement is INCORRECT.</p>
1.2.1	Calculations using volume
1.2.2	<p><b>Length - wise:</b>  The number of TVs that can be packed along the LENGTH.  = <b>length of container <math>\div</math> length of TV</b>  = <math>6\text{m} \div (97\text{cm} \div 100)</math>  = 6,18556701  = 6 TVs</p>
1.3	<p><b>OPTION 1:</b>  The length of the small box along  the length of the large box  <b>Length - wise:</b>  The number of small boxes that can be packed along the LENGTH  = <b>length of large box <math>\div</math> length of small box</b>  = <math>54,8 \text{ cm} \div 10,2 \text{ cm}</math>  = 5,37254902 boxes  = 5 boxes</p> <p><b>Width - wise:</b>  The number of small boxes that can be packed along the WIDTH  = <b>width of large box <math>\div</math> width of small box</b></p>

	<p> <math>= 42,1 \text{ cm} \div (87\text{mm} \div 10) \text{ cm}</math>  <math>= 4,83908046 \text{ boxes}</math>  <math>= 4 \text{ boxes}</math> </p> <p> <b>Height - wise:</b>  The number of small boxes that can be packed along the HEIGHT  <math>= \text{Height of large box} \div \text{Height of small box}</math>  <math>= 33,5 \text{ cm} \div 6,5 \text{ cm}</math>  <math>= 5,153846154 \text{ boxes}</math>  <math>= 5 \text{ boxes}</math> </p> <p> <b>TOTAL BOXES PACKED</b>  <math>= \text{Number at length} \times \text{Number at width} \times \text{Number at height}</math>  <math>= 5 \times 4 \times 5</math>  <math>= 100 \text{ boxes}</math> </p> <p> <b>OPTION 2:</b>  The width of the small box along the length of the large box  <b>Length - wise:</b>  The number of small boxes that can be packed along the LENGTH  <math>= \text{length of large box} \div \text{width of small box}</math>  <math>= 54,8 \text{ cm} \div (87\text{mm} \div 10) \text{ cm}</math>  <math>= 6,298850575 \text{ boxes}</math>  <math>= 6 \text{ boxes}</math> </p> <p> <b>Width - wise:</b>  The number of small boxes that can be packed along the WIDTH  <math>= \text{width of large box} \div \text{length of small box}</math>  <math>= 42,1 \text{ cm} \div 10,2 \text{ cm}</math>  <math>= 4,12745098 \text{ boxes}</math>  <math>= 4 \text{ boxes}</math> </p> <p> <b>Height - wise:</b>  The number of small boxes that can be packed along the HEIGHT  <math>= \text{Height of large box} \div \text{Height of small box}</math>  <math>= 33,5 \text{ cm} \div 6,5 \text{ cm}</math>  <math>= 5,153846154 \text{ boxes}</math>  <math>= 5 \text{ boxes}</math> </p> <p> <b>TOTAL BOXES PACKED</b>  <math>= \text{Number at length} \times \text{Number at width} \times \text{Number at height}</math>  <math>= 6 \times 4 \times 5</math>  <math>= 120 \text{ boxes}</math> </p> <p> <b>Conclusion</b>  Option 2, more boxes can be packed, and it will be more compact. </p>
1.4	<p> length = <math>3,5\text{cm} \times 6</math>  <math>= 21\text{cm}</math> </p> <p> Width = <math>3,5\text{cm} \times 4</math>  <math>= 14\text{cm}</math> </p>

## EXCHANGE RATES

### ANSWERS

Question 1	
1.1.1	It is the price for which the currency of one country can be exchanged for another country's currency
1.1.2	Rand is Weaker  Dollar is Stronger
1.1.3	$R30\,000 \div R13,97$  $= R2\,147,46$
1.2.1	October 02, 2017
1.2.2	13,608770
1.2.3	Australian Dollar
1.2.4	11
1.3.1	Cost in New York = $178,57 \times 14,52$ $= R2\,592,84$  Cost in London $= R\,2\,927,93$ Saving = $2\,927,93 - 2\,592,84$ $= R335,09$
1.3.2	Price of sneakers = $\frac{3\,000}{1,05}$ $= R2\,832,86$
1.3.3	$40\,329,21 \times R1,84$ $= R74\,205,75 + R1250$ $= R75\,455,75$
Question 2	
2.1.1	20 May 2020
2.1.2	R22,222255
2.1.3	Japanese Yen
2.2.1	Yen
2.2.2	1 ZAR = 0,067251 dollar (\$)  $x = \frac{\$130}{\$0,067251} \times 1R$  $= R1\,933,05758$ $= R1\,900,00$
2.3.1	$\frac{R34\,152,69}{R1} \times £0,048373$  $= £1\,652,07$



## REVISION: PAST EXAMINATION PAPERS (QUESTION 1s ONLY)

### P2 May-June 2022

Que	Solution	(2)
1.1.1	D ✓✓	(2)
1.1.2	E ✓✓	(2)
1.1.3	G ✓✓	(2)
1.1.4	C ✓✓	(2)
1.1.5	F ✓✓	(2)
1.2.1	B ✓✓	(2)
1.2.2	mm <sup>3</sup> <b>OR</b> Cubic millimetres ✓✓	(2)
1.2.3	Length = $240 \div 1\,000$ = 0,24 m ✓✓	(2)
1.2.4	Number of rows  $= \frac{2\,100\text{ mm}}{70\text{ mm}} \quad \checkmark$ $= 30 \quad \checkmark$	(2)
1.3.1	Mass of the flour (in kg)  $= \frac{500}{1\,000} \quad \checkmark$ $= \frac{1}{2} \text{ kg or } 0,5 \text{ kg} \quad \checkmark$	(2)
1.3.2	12 scones: 2 eggs ✓ 30 scones: $\frac{30}{12} \times 2 = 5$ eggs ✓  <b>OR</b>  30 scones = $\frac{30}{12} = 2,5$ dozen ✓ 1 dozen need 2 eggs 2,5 dozen = $2,5 \times 2 = 5$ eggs ✓	(2)
1.3.3	Radius = $7\text{ cm} \div 2 \quad \checkmark$ = 3,5 cm ✓	(2)
1.3.4	Number of dozen scones  $= \frac{500}{75} \quad \checkmark$ $= 6,67$ $= 6 \quad \checkmark$	(2)
1.3.5	Ten minutes past two in the afternoon. ✓✓	(2)
		<b>[30]</b>

P2 Nov 2022		
1.1.1	Z ✓✓	(2)
1.1.2	24 hour ✓✓	(2)
1.1.3	Quartet to one in the afternoon OR Fifteen minutes to one in the afternoon ✓✓	(2)
1.1.4	2 ✓✓	(2)
1.1.5	$16 \times 60 + 45$ ✓✓	(2)
1.2.1	$32 - (8 + 6 + 8) = 2$ bolts ✓✓✓	(2)
1.2.2	2 nuts ✓✓	(2)
1.2.3	Short brace ✓✓	(2)
1.3.1	Bar scale OR Line scale ✓✓	(2)
1.3.2	Gauteng ✓✓	(2)
1.3.3	N14 and N17 ✓✓	(2)
1.3.4	7 ✓✓	(2)
1.3.5	39 mm (allow 1mm on both sides) ✓✓	(2)
		<b>[27]</b>

P2 May-June 2023		
Que	Solution	Marks
1.1.1	E ✓✓	(2)
1.1.2	C ✓✓	(2)
1.1.3	I ✓✓	(2)
1.1.4	B ✓✓	(2)
1.1.5	G ✓✓	(2)
1.2.1	Potatoes, Onions and Cucumber ✓✓✓	(2)
1.2.2	Six (6) ✓✓	(2)
1.2.3	Beans ✓✓	(2)
1.2.4	South East ✓✓	(2)
1.2.5	3 and 7 ✓✓✓	(3)
1.3.1	C OR $\pi \times r^2 \times h$ ✓✓	(2)
1.3.2	$\text{mm}^3$ ✓✓	(2)
1.3.3	mm to metre = $124 \div 1\,000 = 0,124$ m ✓✓	(2)
		<b>[28]</b>

**P2 Nov 2023**

Que	Solution	Marks
1.1.1	B ✓✓	(2)
1.1.2	E ✓✓	(2)
1.1.3	A ✓✓	(2)
1.1.4	F ✓✓	(2)
1.2.1	3 ✓✓	(2)
1.2.2	Iffley ✓✓	(2)
1.2.3	980 m + 435 m + 870 m + 1 100 m = 3 385 m ✓✓✓	(3)
1.3.1	3 ✓✓	(2)
1.3.2 (a)	F ✓✓	(2)
1.3.2 (b)	4 ✓✓	(2)
1.3.3	Allen key ✓✓	(2)
1.3.4	Chair arms <b>OR</b> F ✓✓	(2)
		<b>[25]</b>

**P2 May-June 2024**

Que	Solution	Marks
1.1.1	E ✓✓	(2)
1.1.2	G ✓✓	(2)
1.1.3	F ✓✓	(2)
1.1.4	B ✓✓	(2)
1.2.1	Number/Ratio scale ✓✓	(2)
1.2.2	One unit on the map is equal to fifty thousand units on the ground. ✓✓	(2)
1.2.3	Scale B /1:25 000 ✓✓	(2)
1.3.1	Circle and Rectangle ✓✓	(2)
1.3.2	144 km ✓✓	(2)
1.3.3	It is the speed limit, meaning the maximum speed on this road is 120 km. ✓✓	(2)
1.3.4	Distance/Afstand (Jhb – Trompsburg) = 534 – 27 = 507 km ✓✓	(2)
1.3.5	North ✓✓	(2)
1.3.6	0,9 m ✓✓	(2)
		<b>[26]</b>

P1 May 2023		
Que	Solution	Marks
2.1.1	-17,4%; - 6,7%; - 1,1%; 10,1%; 42,7%; 90,1%; 122,2% ✓✓	(2)
2.1.2	Sport skirt ✓✓	(2)
2.1.3	Difference  = R171,00 – R89,95✓ = R81,05✓	(2)
2.1.4	Total cost  = R267,92 + R214,17 + R248,70 + R267,78 + R87,75 + R48,58 + R89,95 ✓ = R1 224,85 ✓	(2)
2.1.5	Shinpads ✓✓ OR Hockey shoes ✓✓	(2)
4.1.1	Banks are discouraging clients to go to the branch to reduce the number of people visiting the bank	(2)
4.1.2	Difference in cost  = R5,00 – R1,50 ✓ = R3,50 ✓	(2)
4.1.3	Nedbank: Pay-as-you-use  = 2 × R5,00 + 2 × R9,00 + R11 + 5 × R2,30 + R15 ✓✓✓✓ = R65,50 ✓  Difference  = R65,50 – R45,00 = R20,50 ✓  His statement is VALID ✓	(7)
		<b>[21]</b>

Financial Documents: Account Statements		P1 May-June 2022
Que	Solution	Marks
2.1.1	BGD 0016 ✓✓	(2)
2.1.2	Easier to read numbers on long bank statements; to identify which clients have made payments to their accounts convenience. ✓✓	(2)
2.1.3	$= A = R3\ 205,51 - R3\ 206,00 \checkmark$ $= - R0,49 \checkmark$	(2)
2.1.4	Total amount due excluding VAT  $= R2\ 340,73 \times \frac{100}{115} \checkmark$ $= R2\ 035,42 \checkmark$	(2)
2.1.5	Percentage  $\frac{R1\ 498,63}{R2\ 340,73} \times 100\% \checkmark\checkmark$  $= 64,02304378\ \% \checkmark$ $= 64,02\ \% \checkmark$	(4)
2.1.6	Cheques ✓✓	(2)
2.1.7	Total amount collected  $= 49 \times R30,90 \checkmark\checkmark$ $= R1\ 514,10 \checkmark$	(3)
2.1.8	Standard Levy increase  $= R1\ 498,63 \times 6,45\% \checkmark$ $= R96,661635 \checkmark$ $= R96,66 \checkmark$  Standard Levy after increase  $= R1\ 498,63 + R96,66$ $= R1\ 595,29 \checkmark$	(4)
		<b>[21]</b>

Financial Documents: Account Statements		P1 Nov 2023
Que	Solution	Marks
2.1.1	Elite Cheque Account ✓✓	(2)
2.1.2	Total Fees  = R1,60 + R69,00 + R110,00 ✓✓ = R180,60 ✓	(3)
2.1.3	Nett Salary  = R 10 078, 41 – R2 100,35 ✓ ✓ = R 7 978, 06 ✓  Portion of Net Salary  = R 7 978, 06 ÷ 4 ✓ = R 1 994, 52 ✓  Total insurance  = R 940, 39 + R 940,39 = R 1 880, 78 ✓  = R 1 994, 52 > R 1 880, 78  His statement is INCORRECT ✓	(7)
2.1.4	Amount excluding VAT  $= \frac{100}{115} \times \frac{R110}{1}$ ✓✓  = R 95, 65217391✓  Amount including VAT  $R 95, 65217391 \times \frac{114}{100}$ ✓ = R109, 04 ✓	(5)
2.1.1	R 2 000,00 ✓✓	(2)
2.1.2	For security reasons ✓✓	(2)

2.1.3	<p>Available money</p> $= R\ 20\ 000 - (R\ 5\ 656,22 + R\ 6\ 020,00) \checkmark\checkmark\checkmark$ $= R\ 8\ 323,78$	(3)
2.1.4	<p>Price per litre</p> $= \frac{R\ 1\ 376,15}{54,1365} \checkmark\checkmark$ $= R25,42/\ell \checkmark$	(4)
2.1.5	<p><math>100\% - 17,5\% = 82,5\% \checkmark</math></p> <p>Original price</p> $= \frac{100}{82,5} \times R\ 3\ 299,99 \checkmark\checkmark$ $= R\ 3\ 999,99 \checkmark$	(4)
		<b>[21]</b>

Income Tax		P1 May-June 2022
Que	Solution	Marks
5.1.1	Three million, four hundred and fifty seven thousand, nine hundred and twenty rand✓✓	(2)
5.1.2	= 1/3 withdrawal = 1/3 × R 3 457 920 = R 1 152 640 ✓✓	(2)
5.1.3 (a)	Tax = R130 500 + 36% of taxable income above 1 050 000✓ = R130 500 + 36% (R3 457 920,00 R1 050 000,00) ✓ = R130 500 + (36% × R2 407 920) ✓ = R130 500 + R866 851,20 = R997 351,20 ✓ = R1 000 000 > R997 351,20 ✓ Her statement is not correct ✓	(6)
5.1.3 (b)	Total deductions = 9,8798 : 1 ✓ = R3 457 920,00 ÷ 9,8798 ✓ = R349 998,99 ✓ = R350 000,00 OR R 350 thousand ✓	(4)
5.1.3 (c)	Total amount $R\ 350,000 \times \frac{7,8}{100} \times 3$ ✓✓ = R 81 900 = R81 900 + R 350 000 ✓ = R431 900 ✓	(4)
		<b>[18]</b>



Income Tax		P1 May-June 2024
Que	Solution	Marks
5.1.1	Two (2) ✓✓	(2)
5.1.2	<p>Tax before rebates</p> <p>= 251 258 + 41% of taxable income above 857 900 ✓</p> <p>= R251 258 + 41% (R981 500 – R857 900) ✓</p> <p>= R251 258 + 41% (R123 600)</p> <p>= R251 258 + R50 676</p> <p>= R301 934 ✓</p> <p>Tax after rebates</p> <p>= R301 934 – R17 235 – R9 444 ✓</p> <p>= R275 255 ✓</p> <p>Monthly Tax</p> <p>= <math>\frac{R\ 275\ 255}{12}</math> ✓</p> <p>= R22 937,92 ✓</p>	(7)
		<b>[9]</b>

## TARIFFS, INTERESTS & INCOME AND EXPENDITURE

Tariffs		P1 May-June 2022
Que	Solution	Marks
4.2	<p><b><u>Cape Town</u></b>  Fixed Monthly = R104,50  6 kl × R15,10 = R 90,60  4,5 kl × R20,75 = R 93,38 ✓  24,5 kl × R28,20 = R690,90  10 kl × R52,04 = R520,40 ✓  = <b>R1499,78</b> ✓</p> <p><b><u>Ekurhuleni</u></b>  Fixed Monthly  6 kl × R13,50 = R81,00  9 kl × R22,24 = R200,16 ✓  15 kl × R27,24 = R408,60  15 kl × R33,90 = R508,50  = <b>R1198,26</b> ✓</p> <p><b>Difference per month</b>  R1499,78 – R1198,26 = <b>R301,52</b> ✓</p> <p><b>Difference per year</b>  R301,52 × 12  = <b>R3618,24</b> ✓</p> <p><b>He is correct</b> ✓</p>	(10)
Interest		P1 May-June 2024
5.2.1	Interest rate is the percentage, per annum, of the total value you have to pay extra for taking the loan.	(2)
5.2.2	<p>Difference  = R6 115,47 – R5 498,19  = R617,28</p>	(2)
5.2.3	<p>X = R6 115,47 × 6 × 12 – R300 000  = R140 313,84</p>	(3)
5.2.4	<p>Balloon payment / Ballonpaalement  = 20% × R300 000  = R60 000  Y = R5 498,19 × 72 + R60 000  = R455 869,68</p>	(5)
5.2.5	The vehicle serves as security for the loan	(2)
		<b>[24]</b>

Income and Expenditure		P1 May-June 2024
Que	Solution	Marks
4.1.1	<p>Total cost before discount ✓✓  <math>= (R149,95 \times 16,7) + (R99,99 \times 13)</math>  <math>= R2\,504,165 + R1\,299,87</math> ✓  <math>= R3\,804,04</math> ✓</p> <p>Total amount /Totale koste ✓  <math>\frac{15}{100} \times R3804,04</math> ✓  <math>= R570,61</math> ✓  <math>= R3\,804,04 - R570,61</math>  <math>= R3\,233,43</math> ✓</p>	(2)
4.1.2	<p>Total cost  <math>= R3\,233,43 + R850</math> ✓  <math>= R4\,083,43</math> ✓</p> <p>Cost of 1 plate  <math>= R4\,083,43 \div 200</math> ✓  <math>= R20,42</math> ✓</p>	(4)
4.1.3	<p>Profit per plate  <math>= R35,00 - R20,42</math>  <math>= R14,58</math></p> <p>Number of plates  <math>= R2\,850,00 \div R14,58</math>  <math>= 195,47</math>  <math>\approx 200</math> plates / <i>borde</i></p> <p>Total number of plates  <math>= 200 + 200 = 400</math>  <math>= R14,58</math></p> <p>Number of plates  <math>= R2\,850,00 \div R14,58</math>  <math>= 195,47</math>  <math>\approx 200</math> plates</p> <p>Total number of plates  <math>= 200 + 200 = 400</math></p>	(6)
		[17]

## Measurement, Scale, Maps and Plans

Measurement		P2 Nov 2021
Que	Solution	Marks
3.1.1	$A = 162 \text{ cm} + 1,5 \text{ cm} + 1,5 \text{ cm} \checkmark\checkmark$	(2)
3.1.2	$B = 80 \text{ cm} - (40 \text{ cm} + 4,5 \text{ cm} + 1,5 \text{ cm} + 1,5 \text{ cm}) \checkmark\checkmark$ $= 32,5 \text{ cm} \checkmark$	(3)
3.2	$31,496 \text{ inches} = 80 \text{ cm} \checkmark$ $1 \text{ inch} = \frac{80}{31,496} \text{ cm} \checkmark$ $= 2,54 \text{ cm} \checkmark$	(3)
3.3.1	Area of a rectangle = length $\times$ width $= 165 \text{ cm} \times 80 \text{ cm} \checkmark$ $= 13\,200 \text{ cm}^2 \checkmark$	(2)
3.3.2	$1 \text{ inch} = \frac{13\,200}{(100^2)} \text{ cm}^2 = 1,32 \text{ m}^2 \checkmark$	(2)
3.3.2	$1 \ell$ covers $6,9 \text{ m}^2$ $n \ell$ covers $1,32 \text{ m}^2$ $n = \frac{1,32}{6,9} \checkmark$ $= 0,1913... \ell \checkmark$ $= 0,19 \ell \checkmark$ To paint three coats $0,19 \ell \times 3 = 0,57 \ell \checkmark\checkmark$	(5)
3.3.4	$0,57 \ell \times 1\,000 \checkmark$ $= 570 \text{ ml} \checkmark$ Not valid $\checkmark$	(3)

3.4.1	<p>Number of boxes</p> $\frac{162 \text{ cm}}{8,1 \text{ cm}} = 20 \checkmark\checkmark$ <p>Number of files in boxes /<i>Getal lêers in 'n boks</i></p> $= 4 \times 4 = 16 \checkmark\checkmark$ <p>Difference in the number of files</p> $= 20 - 16 = 4 \checkmark$	(5)
3.4.3	<p>Neater storage</p> <p>Files stand up straight <math>\checkmark\checkmark</math></p> <p>Prevents dust on documents in the files</p>	(2)
3.4.4	$P = \frac{1}{31,496} \times 100\% = 6,25\% \checkmark\checkmark\checkmark$	(3)
4.1.1	Perennial garden bed $\checkmark\checkmark$	(2)
4.1.2	Water is scarce and expensive in South Africa $\checkmark\checkmark$	(2)
4.1.3	Greenhouse roof/ gutters/Livestock Barn roof/ gutters/Solar greenhouse roof / gutters/ $\checkmark\checkmark$	(2)
4.1.4	<p>Area/<i>Oppervlakte</i> <math>= \frac{1}{2} \times 17,024\text{m} \times 19,5 \text{ m} \checkmark\checkmark</math></p> $= 165,984 \text{ m}^2 \checkmark$	(3)
4.1.5	<p>Option/<i>Opsie</i> A = R1 154 <math>\times</math> 2 = R2 308 <math>\checkmark\checkmark</math></p> <p>Option/<i>Opsie</i> B = R127,30 <math>\times</math> 19 = R2 418,70 <math>\checkmark\checkmark</math></p> <p>Option A. <math>\checkmark</math></p>	(5)
4.2	<p>Volume = 3,142 <math>\times</math> <math>r^2</math> <math>\times</math> height</p> $5000 = 3,142 \times r^2 \times 220 \text{ cm} \checkmark$ $5000 \ 000 = 691,24 \times r^2 \checkmark$ $\frac{5 \ 000 \ 000}{691,24} = r^2 \checkmark$ $7233,377698 = r^2 \checkmark$ $\sqrt{7233,377698} = r \checkmark$ $85,05 \text{ cm} = r \checkmark$	(6)
		[35]

Plans P2 Nov 2021		
Que	Solution	Marks
2.1	3 ✓✓	(2)
2.2	Living room ✓✓	(2)
2.3	North East ✓✓	(2)
2.4	$P = \frac{2}{6} = \checkmark\checkmark$ OR $P = 1 - \frac{4}{6} \checkmark\checkmark = \frac{2}{6} \checkmark = \frac{1}{3} \checkmark = \frac{1}{3} \checkmark\checkmark$	(4)
2.5	Jan is wrong, the kitchen is on the Southern side, in South Africa it does not get sun. ✓✓✓	(3)
2.6	It cannot be the view showing the kitchen and dining room, as it does not show the extra window for the bathroom ✓✓  OR  It does not show the other rooms to both sides of the windows  OR  It shows the veranda, door and the bedroom and livingroom windows	(2)
2.7.1	10 mm : 1 000 mm = 1 : 100 ✓✓	(2)
2.7.2	Length on floor plan = 4 cm ✓  1 cm = 100 cm  4 cm = 4 × 100 cm ✓  = 400 cm ✓  = 4 m ✓	(4)
2.7.3	Jan is correct. ✓  When a photocopy is made the size of the plan may ✓✓ change while the number scale remains the same.	(3)
		[24]

Maps		P2 May-June 2022
Que	Solution	Marks
2.1.1	14:00 ✓✓	(2)
2.1.2	8 ✓✓	(2)
2.1.3	Bicycle ✓✓	(2)
2.1.4 (a)	Distance = 9K + 1K = 10 km ✓ Fraction = $\frac{10}{42,2}$ ✓✓ $= \frac{50}{211}$ ✓	(4)
2.1.4 (b)	The distance is less than that of a full marathon ✓✓ OR It is a fraction of a full marathon.	(2)
2.1.5	B OR 0% ✓✓	(2)
		[14]

Que	Solution	Marks
2.2	<p>Half the table length = 145 cm ✓</p> <p>Pack the length wise along table's top length</p> $\frac{145 \text{ cm}}{36,4 \text{ cm}} = 3,98 = 3 \text{ packs } \checkmark\checkmark$ <p>And the wodth against the table</p> $\frac{49 \text{ cm}}{24,2 \text{ cm}} = 2,02 = 2 \text{ packs } \checkmark$ <p>Number that can be packed</p> $= 3 \times 2 = 6 \text{ packs } \checkmark\checkmark$ <p>But <math>36,4 \times 3 = 109,2 \text{ cm}</math></p> <p>And <math>145 \text{ cm} - 109,2 \text{ cm} = 35,8 \text{ cm}</math></p> <p>Pack width wise along table's top length</p> $\frac{35,8 \text{ cm}}{24,2 \text{ cm}} = 1,479338843 = 1 \text{ pack } \checkmark$ <p>Length against the width</p> $\frac{49 \text{ cm}}{36,4 \text{ cm}} = 1,346153846 = 1 \text{ pack}$ <p>Total number of packs = <math>6 + 1 = 7 \checkmark</math> The maximum is 7 packs</p>	(8)
		<b>[08]</b>



Packaging		P2 May-June 2023
Que	Solution	Marks
2.3.1	<p>Number of reams lengthwise</p> $= \frac{102 \text{ cm}}{27,94 \text{ cm}} = 3,65 \approx 3 \checkmark \checkmark \checkmark$ <p>Number of reams widthwise</p> $= \frac{44 \text{ cm}}{21,59 \text{ cm}} = 2,04 \approx 2 \checkmark$ <p>Number of reams heightwise</p> $= \frac{39 \text{ cm}}{6,35 \text{ cm}} = 6,14 \approx 6 \checkmark$ <p>Total number of reams</p> $= 3 \times 2 \times 6 \checkmark$ $= 36 \checkmark$	(7)
2.1.2	<p>To keep them dust free. <math>\checkmark \checkmark</math></p> <p>OR</p> <p>To keep them safe for later use. <math>\checkmark \checkmark</math></p> <p>OR</p> <p>To keep the reams dry. <math>\checkmark \checkmark</math></p>	(2)
		[09]