



NATIONAL SENIOR CERTIFICATE

GRADE 12

JUNE 2025

MATHEMATICAL LITERACY P2 MARKING GUIDELINE

MARKS: 100

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
RCA	Rounding consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
SF	Correct substitution in a formula
J	Justification
O	Opinion/Example/Definition/Explanation/Justification/Verification
RT/RG/RM	Reading from a table/graph/map
P	Penalty, e.g. for no units, incorrect rounding off etc.
R	Rounding off or reason
NPR	No penalty rounding or omitting units
AO	Answer only, full marks

This marking guideline consists of 9 pages.

MARKING GUIDELINES**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.

KEY TO TOPIC SYMBOL:**F = Finance; M = Measurement; MP = Maps, plans and other representations; P = Probability****QUESTION 1 [20 MARKS]****ANSWER ONLY FULL MARKS**

Ques.	Solution	Explanation	Level
1.1.1	D7 ✓✓A (Accept 7D)	2A correct grid reference (2)	MP L1
1.1.2	Bar scale OR Linear scale OR Graphic scale ✓✓A	2A correct scale (2)	MP L1
1.1.3	4 : 3 ✓A 1 : 0,75 ✓A	1A correct ratio 1A unit ratio format (2)	MP L1
1.2.1	3 flowers ✓✓A	2A number of flowers (2)	M L1
1.2.2	Radius = $\frac{36 \text{ cm}}{2}$ ✓M = 18 cm ✓A	1M divide by 2 1A radius (2)	M L1
1.2.3	Diameter ✓✓A	2A correct answer (2)	M L1
1.2.4	C OR Cylinder ✓✓A	2A correct shape (2)	M L1
1.2.5	Area is the amount of space occupied by a two-dimensional object. ✓✓A OR Area is the space that is covered by an object. ✓✓A	2A definition (2)	M L1
1.2.6	Perimeter = $3,142 \times \text{diameter}$ = $3,142 \times 25$ ✓SF = 78,55 cm ✓A	1SF substitution 1A perimeter (2)	M L1
1.2.7	Height = $\frac{105}{10}$ ✓C = 10,5 cm ✓A	1C divide by 10 1A height in cm (2)	M L1
		[20]	

QUESTION 2 [26 MARKS]

Ques.	Solution	Explanation	Level
2.1.1	<p>A strip chart is easy to read and to understand. ✓✓A</p> <p style="text-align: center;">OR</p> <p>A strip chart is less cluttered than other maps. ✓✓A (Accept any relevant answer)</p>	<p>2A explanation</p> <p style="text-align: right;">(2)</p>	MP L4
2.1.2	<p style="text-align: center;">✓RT</p> <p>Distance = 490 km – 459 km ✓M = 31 km ✓CA</p>	<p>1RT total distance 1M subtraction 1CA answer</p> <p style="text-align: right;">(3)</p>	MP L2
2.1.3	<p>No. of litres of petrol in tank = $\frac{42}{2}$ = 21 litres ✓A</p> <p>Distance = $\frac{21}{5,6} \times 100$ ✓M = 375 km ✓CA</p>	<p>1A half a tank of petrol 1M dividing by 5,6 and multiply by 100 1CA total distance</p> <p style="text-align: right;">(3)</p>	MP L3
2.1.4 (a)	191 km ✓✓RT	<p>2RT correct distance</p> <p style="text-align: right;">(2)</p>	MP L1
(b)	<p>No. of litres of petrol used = $\frac{191}{100} \times 5,6$ ✓M = 10,696 litres ✓A</p> <p>No. of litres of petrol left in tank = 21 litres – 10,696 litres ✓M = 10,304 litres ✓CA</p> <p style="text-align: center;">OR</p> <p>Remaining distance = 375 km – 191 km ✓M = 184 km ✓A</p> <p>No. of litres of petrol used = $\frac{184}{100} \times 5,6$ ✓M = 10,304 litres ✓CA</p>	<p>CA from 2.1.4 (a) 1M dividing by 100 and multiply by 5,6 1A litres of petrol used 1M subtraction from 21/ 1CA litres of petrol in tank</p> <p style="text-align: center;">OR</p> <p>1M subtracting distances 1A remaining distance 1M dividing by 100 and multiply by 5,6 1CA litres of petrol used NPR</p> <p style="text-align: right;">(4)</p>	MP L3
(c)	<p>No. of litres of petrol bought = 42 litres – 10,304 litres ✓M = 31,696 litres ✓A</p> <p>(Accept 31,7 litres OR 32 litres)</p>	<p>CA from 2.1.4 (b) 1M subtraction 1A litres of petrol bought NPR</p> <p style="text-align: right;">(2)</p>	MP L1

2.1.4 (d)	$\text{Petrol cost} = 31,696 \text{ litres} \times \$1,12 \checkmark M$ $= \$35,49952 \checkmark CA$ $\approx \$35 \checkmark R$	CA from 2.1.4 (c) 1M multiply with cost 1CA cost of petrol 1R rounding to nearest dollar (3)	F L2
2.1.5	$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$ $3,25 \text{ h} = \frac{299 \text{ km}}{\text{speed}} \checkmark SF$ $\text{Speed} = \frac{299 \text{ km}}{3,25 \text{ h}} \checkmark M$ $= 92 \text{ km/h} \checkmark CA$	1C converting time 1SF substitution 1M changing subject of formula 1CA simplification (4)	MP L3
2.1.6	$\text{Probability} = \frac{2}{3} \checkmark A \times 100$ $= 66,666\dots\%$ $\approx 66,67\% \checkmark CA$ (Accept 66,7% OR 67%)	1A numerator 1A denominator 1CA answer as a % NPR (3)	P L2
		[26]	

QUESTION 3 [30 MARKS]

Ques.	Solution	Explanation	Level
3.1.1	$\text{Radius} = \frac{0,6 \text{ m}}{2} \checkmark \text{M}$ $= 0,3 \text{ m}$ $\text{Area of circle} = 3,142 \times \text{radius}^2$ $= 3,142 \times 0,3^2 \checkmark \text{SF}$ $= 0,28278$ $\approx 0,28 \text{ m}^2 \checkmark \text{CA}$ (Accept 0,283 m²)	1M finding radius 1SF substitution 1CA area of circle NPR (3)	M L2
3.1.2	$\text{Area of garden} = \text{length} \times \text{width}$ $= 15 \text{ m} \times 5 \text{ m} \checkmark \text{SF}$ $= 75 \text{ m}^2 \checkmark \text{A}$ $\text{Area of pond} = \text{side} \times \text{side}$ $= 1,8 \text{ m} \times 1,8 \text{ m}$ $= 3,24 \text{ m}^2 \checkmark \text{A}$ $\text{Area of circular stone tiles} = 0,28 \text{ m}^2 \times 5$ $= 1,4 \text{ m}^2 \checkmark \text{A}$ $\therefore \text{Area of grass needed} = 75 \text{ m}^2 - 3,24 \text{ m}^2 - 1,4 \text{ m}^2$ $= 70,36 \text{ m}^2 \checkmark \text{MA}$	1SF substitution 1A area of garden 1A area of pond MCA from 3.1.1 1A area of circular stone tiles 1MA subtraction and answer NPR (5)	M L3
3.1.3	$\text{Cost of grass} = 71 \text{ m}^2 \times \text{R}45,50 \checkmark \text{M}$ $= \text{R}3\,230,50 \checkmark \text{CA}$ $\therefore \text{Invalid/incorrect} \checkmark \text{O}$	1R number of whole m ² 1M multiply with R45,40 1CA total cost 1O opinion (4)	F L4
3.2.1	$\text{Depth of pond} = \frac{60 \text{ cm}}{100} \checkmark \text{C}$ $= 0,6 \text{ m}$ $\text{Volume} = \text{side} \times \text{side} \times \text{depth}$ $= 1,8 \text{ m} \times 1,8 \text{ m} \times 0,6 \text{ m} \checkmark \text{SF}$ $= 1,944 \text{ m}^3$ $\approx 1,94 \text{ m}^3 \checkmark \text{CA}$	1C converting depth to m 1SF substitution 1CA volume of pond (3)	M L2

3.2.2	<p>Capacity = $1,94 \text{ m}^3 \times 1\,000 \checkmark C$ $= 1\,940 \text{ litres}$</p> <p>\therefore Water required in pond = $1\,940 \times 95\% \checkmark M$ $= 1\,843 \text{ litres} \checkmark CA$ \therefore Invalid/incorrect $\checkmark O$</p>	<p>CA from 3.2.1 1C conversion 1M multiply no. of litres by 95% 1CA no. of litres 1O opinion (4)</p>	<p>M L4</p>
3.2.3	<p>Maximum no. of goldfish = $\frac{1\,843}{240} \times 2 \checkmark M$ $\checkmark M$ $= 15,358 \dots$ $\approx 15 \text{ goldfish} \checkmark A$</p>	<p>CA from 3.2.2 1M divide by 240 1M multiply by 2 1A number of goldfish (3)</p>	<p>M L2</p>
3.2.4	<p>Surface area of pond = $(\text{length} \times \text{width}) + 4 (\text{length} \times \text{depth})$ $= (1,8 \text{ m} \times 1,8 \text{ m}) + 4 (1,8 \text{ m} \times 0,6 \text{ m}) \checkmark SF$ $= 7,56 \text{ m}^2$</p> <p>Surface area for 2 coats of paint = $7,56 \text{ m}^2 \times 2 \checkmark M$ $= 15,12 \text{ m}^2 \checkmark A$</p> <p>No. of litres of paint = $\frac{15,12}{3} \checkmark M$ $= 5,04$ $\approx 6 \text{ litres} \checkmark CA$</p> <p style="text-align: center;">OR</p> <p>Surface area of pond = $(\text{length} \times \text{width}) + 4 (\text{length} \times \text{depth})$ $= (1,8 \text{ m} \times 1,8 \text{ m}) + 4 (1,8 \text{ m} \times 0,6 \text{ m}) \checkmark SF$ $= 7,56 \text{ m}^2$</p> <p>No. of litres of paint = $\frac{7,56}{3} \checkmark M$ $= 2,52 \text{ litres (one coat)} \checkmark A$</p> <p>$\therefore$ No of litres of paint for 2 coats = $2,52 \text{ litres} \times 2 \checkmark M$ $= 5,04$ $= 6 \text{ litres} \checkmark CA$</p>	<p>CA from 3.2.1 1SF substitution</p> <p>1M multiply by 2 1A area to be painted</p> <p>1M divide by spread rate 1CA no. of litres of paint OR</p> <p>1SF substitution</p> <p>1M divide by spread rate 1A no. of litres one coat</p> <p>1M multiply by 2 1CA no. of litres of paint (5)</p>	<p>M L3</p>
3.2.5	<p>Water in litres = $2 \text{ hours} \times 60 \checkmark C$ $= 120 \text{ minutes}$ $\therefore 120 \text{ minutes} \times 7 \text{ litres} \checkmark M$ $= 840 \text{ litres} \checkmark CA$</p>	<p>1C converting hours to minutes 1M multiply with 7ℓ 1CA no. of litres of water (3)</p>	<p>M L2</p>
[30]			

QUESTION 4 [24 MARKS]			
Ques.	Solution	Explanation	Level
4.1.1	OR Tambo International Airport ✓A Dubai International Airport ✓A	1A first airport 1A second airport (Accept any order) (2)	M L1
4.1.2	7:35 pm ✓✓A	2A correct time (2)	M L1
4.1.3	Time in Johannesburg = 19 : 35 $\frac{08 : 10}{\text{✓M}}$ = 27 : 45 (the next day) ∴ 03 : 45 ✓A OR Time in Johannesburg = 05 : 45 - $\frac{02 : 00}{\text{✓M}}$ = 03 : 45 ✓A	1M adding flight duration to departure time 1A time in Johannesburg OR 1M subtraction 1A time in Johannesburg (2)	M L1
4.1.4	OR Tambo International Airport – Dubai International Airport: $= \frac{3\,994,13}{0,621371} \text{ ✓M}$ = 6 431,771337 km ✓A Dubai International Airport – London Heathrow Airport: = 5 505 km Total Distance = 6 427,93114 km + 5 505 km ✓M = 11 932,9311 km ✓CA ∴ Kevin is correct ✓O	1M dividing by 0,621 1A distance in km 1M adding distances 1CA total travel distance 1O opinion (5)	M L4
4.1.5	Volume of a rectangular prism = length × width × height Height of hand luggage = $\frac{490}{10} \text{ ✓C}$ = 49 cm ∴ Volume of hand luggage = 55 cm × 27 cm × 49 cm ✓SF = 72 765 cm ³ ✓CA	1C converting height 1SF substitution 1CA volume of hand luggage (3)	M L2
4.1.6	Probability = 0 OR None ✓✓A	2A probability (2)	P L2

4.2.1	No of e-toll gates = 15 ✓✓A	2A correct no. of e-toll gates (2)	MP L2
4.2.2	138 mm ✓✓A	2A distance in mm (2)	MP L2
4.2.3	No. of e-toll gates = 15 No. of tourist attractions = 15 ✓A Difference = 15 – 15 ✓M = 0 ✓CA ∴ Kevin's claim is valid/correct. ✓O	CA from 4.2.1 1A no. of tourist attractions 1M subtraction 1CA difference 1O opinion (4)	MP L4
		[24]	
		TOTAL: 100	