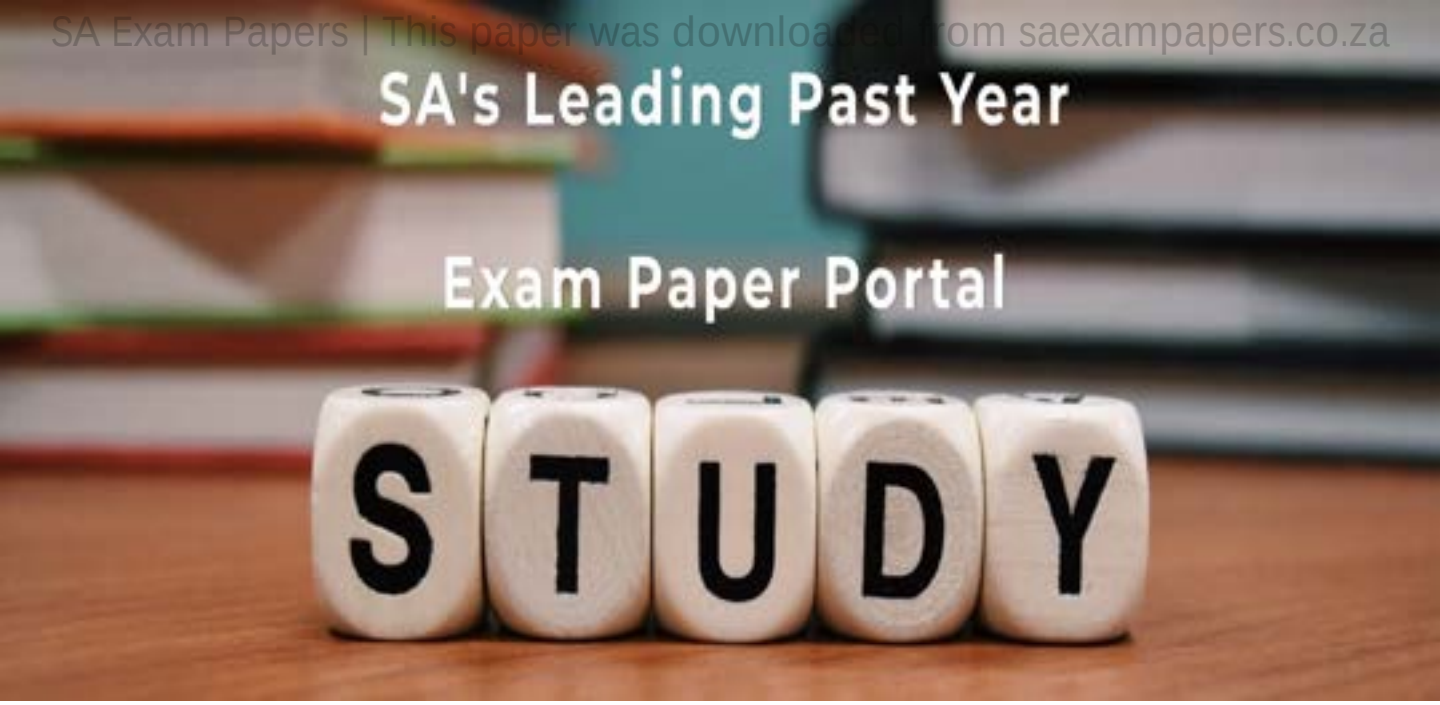

GRADE 12

MATHEMATICAL LITERACY P2

MARKING GUIDELINES

SEPTEMBER 2023

MARKS: 150

TIME: 3 hours

This memo consists of 12 pages

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.

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 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 item.*

QUESTION 1 [27]	**NB: (CORRECT) ANSWER ONLY – FULL MARKS**		
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.1.1	Mass of butter beans/*Massa van botterbone* ✓M 2 × 250 g ✓RT =500 g ✓A	1RT correct weight 1M multiply by 2 1A answer in g (3)	M L1 M
1.1.2	Amount of roasted masala/*Hoeveelheid geroosterde masala* ✓RT 3 × 5 ml × 3 ✓M =45 mℓ ✓A	1RT number of teaspoons 1M multiply by 3 1A answer in mℓ (3)	M L1 E
1.1.3	19:22 + 0h35 ✓M 19:57 ✓A	1M adding 35 minutes. 1A correct time (2)	M L1 E
1.1.4	25°C ✓✓A	2A correct reading (2)	M L1 E
1.2.1	Tree diagram ✓✓A	2A correct name (2)	P L1 E
1.2.2	Roti ✓✓A	2A correct selection (2)	P L1 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.2.3	$\frac{2}{8}$ ✓A OR ✓A $\frac{1}{4}$	1A numerator 1A denominator (2)	P L1 E
1.3.1	FALSE ✓✓A	2A correct choice (2)	MP L1 E
1.3.2	Number scale ✓✓A	2A correct option (2)	MP L1 E
1.3.3	No external windows ✓✓A	2A correct feature (2)	MP L1 M
1.3.4	✓✓A One unit on the plan is equal to one hundred and twenty units in real-life.	2A correct explanation. (2)	MP L1 E
1.3.5a)	D ✓✓A	2A correct area. (2)	MP L1 E
1.3.5b)	F ✓✓A	2A correct room. (2)	MP L1 E
		[28]	

QUESTION 2 [29]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
2.1.1	Wineries ✓✓A	2A correct answer (2)	MP L1
2.1.2	Southwest OR SW ✓✓A	2A correct direction (2)	MP L1
2.1.3	✓✓RT Between Klaarstroom en De Rust Next to the N12 ✓RT (Accept as road - between the R407 and the road to Uniondale)	2RT both towns 1RT road (3)	MP L2
2.1.4	$\text{Probability}_{\text{restaurants}} = \frac{2}{8}$ ✓A $\times 100\%$ ✓A $= 25\%$ ✓CA	1A numerator 1A denominator 1CA percentage (3)	P L2
2.1.5	Via N12 Distance = Oudtshoorn to De Rust to Klaarstroom to Prince Albert = 35 + 23 + 52 ✓RT OR 35 + 75 = 110 km ✓CA ✓RT Shortest Distance = 70,5 km Difference = 110 – 70,5 ✓M = 39,5 km ✓CA	1RT all 3 distances 1CA distance via N12 1RT shortest distance 1M subtract distances 1CA difference (5)	MP L2
2.1.6	✓✓O You need to drive slow through the Swartberg Pass	2O reason (2)	MP L4
2.1.7	Distance between Calitzdorp and Oudtshoorn = 50 km ✓RT 10,5 cm = 50 km ✓MA 10,5 cm = 5 000 000 cm ✓ C 1 : 476 190 ✓CA	1RT distance 1MA setting up scale 1C convert to cm or mm or m 1CA 1 : … **NPR** (4)	MP L3

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.1	2 blocks ✓✓RT	2RT correct number (2)	MP L1
2.2.2	Closest to the stage. ✓✓O	2O correct justification. (2)	MP L4
2.2.3	✓RT Block B – 3 × R486 = R 1 458,00 ✓MA Block K – 2 × R362 = R 724,00 ✓MA Total = R 2 182,00✓CA	1RT correct ticket prices 1MA finding Block B cost. 1MA finding Block K cost. 1CA simplification (4)	MP L2
		[29]	

QUESTION 3 (28)			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
3.1.1	✓**MA** **A** = (3,9 – 2 – 0,7) m ✓**C** = 1,2 m ✓**A**	1MA subtracting from 3,9 m 1C convert cm na m 1CA simplification (3)	M L2
3.1.2	50 cm = 0,5 m 0,5 m × 0,5 m ✓**M** = 0,25 m² ✓**A** **OR** 50 cm × 50 cm ✓**M** = 2500 cm² = 0,25 m² ✓**A**	1M concept of area 1A correct answer in m². 1M concept of area 1A correct answer in m². (2)	M L2
3.1.3	Side 1: 2,4 m × 0,7 m ✓**RT** = 1,68m² ✓**MA** Side 2 (3,9 – 2) m × 0,7 m ✓**RT** = 1,33 m² ✓**MA** Total area: 1,68 m² + 1,33 m² ✓**MA** = 3,01 m² Area of all stepping stones: 0,25 m² × 7 = 1,75 m² ✓**MA** 3,01 m² – 1,75 m² ✓**M** = 1,26 m²	**CA from 3.1.1 and 3.1.2** 1RT correct values 1MA finding area. 1RT correct values 1MA finding area. 1MA adding values. 1MA multiply area by 7. 1M subtracting correct values.	M L3

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.1.3	**OR/OF** ✓RT ✓RT Area = (1,2 × 0,7) + [(2,4 + 0,7) × 0,7] – (7 × 0,25) ✓MA ✓MA = (1,2 × 0,7) + (3,1 × 0,7) – (7 × 0,25) ✓MA ✓MA = 0,84 + 2,17 – 1,75 = 3,01 – 1,75 ✓M = 1,26	1RT correct values 1MA finding area. 1RT correct values 1MA finding area. 1MA adding values. 1MA multiply area by 7. 1M subtracting correct values. (7)	
3.1.4	2 600 cm^2 = 0,26 m^2 ✓C Number of bags needed: 1,26 m^2 ÷ 0,26 m^2 ✓M = 4,846 bags ✓CA = 5 bags It is not valid. ✓O	1C convert cm^2 to m^2 1M divide by 1,26 m^2 1CA simplification 1O conclusion (4)	M L4

3.1.5	Volume = $\pi r^2 h$ = 3,142 $(60)^2$65 ✓**SF** = 735 228 cm^3 ✓**CA** $\frac{85}{100} \times \frac{735\,228}{1}$ ✓**M** 624943,8 cm^3 ✓**CA** = 624 943,8 mℓ	1SF correct values 1CA simplification 1M percentage calculation 1CA simplification **NPR** (4)	M L2
3.1.6	Fence of 2 rose beds: 2 × π × radius 2 × 3,142 × 0,5 m ✓**SF** = 3,142 m ✓**CA** Fence of 4 rose beds = 3,142 m × 2 = 6,284 m ✓**MA** OR Fence of 4 rosebeds ✓**SF** = $(\frac{1}{2} \times 2 \times 3{,}142 \times 0{,}5) \times 4$ ✓**CA** = 1,571 × 4 = 6,284 ✓**MA**	1SF correct value 1CA simplification 1MA finding total circumference (3)	M L2
3.2.1	190 cm = 1,9 m ✓**C** BMI = $\frac{Mass}{(Height)^2}$ = $\frac{85\,kg}{(1,9)^2}$ ✓**SF** = 23,54570637 = 24 kg/m^2 ✓**R**	1C mark converting to 1,9 1SF correct values 1R rounded answer (3)	M L2
3.2.2	Zonke has a normal weight status. ✓✓**A**	2A conclusion (2)	M L1
		[28]	

QUESTION 4 (33)			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
4.1.1	Strip Map✓✓A	2A correct map (2)	MP L1
4.1.2	2✓✓RT	2RT number of roads (2)	MP L1
4.1.3	Windhoek to Rustenburg = 1 288 km ✓RT Rustenburg to Sun City = 41 km✓RT Total Distance = 1 288 + 41 = 1 329 km✓CA	1RT correct distance 1RT correct distance 1CA finding total distance. (3)	MP L2
4.1.4	9,5 liters = 100km Distance = 1 329 km Diesel consumption = 1 329 km ÷ 100 × 9,5 km ✓M = 126,255 litres✓CA = 126,255 × R 21,86✓M = R2 759,93✓CA × 2✓M = R5 519,8686 = R5 519,87 ✓CA OR/OF Distance = 1 329 × 2✓M = 2 658✓CA Diesel consumption = 2 658 km ÷ 100 × 9,5 km ✓M = 252,51 litres✓CA = 252,51 × R 21,86✓M = R5 519,8686 = R5 519,87 ✓CA	**CA from 4.1.3** 1M divide by consumption rate. 1CA amount of litres 1M multiply by price/litre 1CA single trip cost / total distance 1M multiply by 2 1CA return cost. (6)	M L3
4.1.5	Distance to Gobabis = 210 km ✓RT Speed = Distance ÷ Time 95km/h = 210 km ÷ Time ✓SF Time = 210 km ÷ 95 km/h ✓M = 2,210526316 h ✓CA = 2h13 Statement is invalid, they arrived 13 minutes later than expected. ✓O	1RT correct distance 1SF correct values 1M changing subject of formula 1CA simplification 1O conclusion (5)	M L4
4.2.1	B + 150 cm = 6 m B + 1,5 m = 6 m ✓C B = 6 – 1,5 ✓MA B= 4,5 m	1C convert cm to m. 1MA finding distance of B. (2)	M L2

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.2.2			M L3
	Area = 6 × 4,5 ✓MA = 27 m² ✓ A	1MA calculate area of chalet. 1A answer in m².	
	Area of bathroom = 1,5 × 2,7 ✓C = 4,05 ✓CA	1C convert to m. 1CA area of bathroom	
	Area to be carpeted = 27 – 4,05 = 22,95 m² ✓CA	1CA finding area to be carpeted.	
	Cost = 22,95 × R245/m² ✓M = R5 622,75 ✓CA	1M multiply by cost 1CA simplification	
	[Note : Rounding up – Full marks]	(7)	
4.2.3			M L4
	Capacity of A = 99 – 19,8 = 79,2 kℓ ✓MA = 79,2 m³	1MA finding capacity of A	
	Breadth in m = 14,8 ÷ 3,2808 ≈ 4,5 m ✓C	1C converting feet to m.	
	Height: 79,2 = 8 × 4,5 × height ✓SF Height = 79,2 ÷ 36 ✓M = 2,2 ✓CA	1SF correct values 1M changing subject of formula 1CA simplification	
	His estimation is CORRECT ✓O	1O conclusion (6)	
		[33]	

QUESTION 5 (32)			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
5.1.1 a)	False ✓✓A	2A correct answer (2)	MP L1
5.1.1 b)	True ✓✓A	2A correct answer (2)	MP L1
5.1.2	Duration in minutes: 6h32 = (6 × 60) + 32 = 392 ✓C ✓A Measured distance (Tokyo to Yamanakako) = 30 mm Measured distance (Yamanakako to Kyoto) = 86 mm✓A 30 mm = 392 min 86 mm = … min Duration in minutes = $\frac{86}{30} \times 392$ ✓M ✓C = 1123,7333 minutes (÷ 60) = 18,72889 hours = 18 h 44 min ✓CA ✓O No. It is incorrect. **[NB: Check schools' learners final printed paper– Allow 1 mm variation/ *NB: Kontroleer leerders se finale gedrukte vraestelle– Laat 1 mm verskil toe]***	1C converting to minutes. 1A measured distance. 1A measured distance. 1M ratio calculations 1C converting to hours. 1CA simplification 1O justification (7)	MP L4
5.2.1	✓SF Area = length × breadth Area = 187 ft × 160 ft ✓M = 29 920 ft^2 ✓A	1SF correct values 1M multiply values. 1A correct answer and units. (3)	M L2
5.2.2	✓M Length = 43,8 + (40 cm × 2) = 123,8 cm ✓CA Width = 29,2 + (40 cm × 2) ✓MCA = 109,2 cm ✓SF Perimeter = 2(123,8 cm) + 2(109,2 cm) = 466 cm ✓CA	1M adding extra lengths. 1CA simplification 1MCA finding increased width. 1SF substituting correct values. 1CA simplification (5)	M L3 D
5.3.1	✓✓A Capacity is the largest amount or number of units that can be contained by a certain space. / Space of the boot in car	2A correct explanation (2)	M L1 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.3.2	S-presso in mm^3: $= 300\ 960\ cm^3$ (× 1000) ✓C $= 300\ 960\ 000\ mm^3$ Volume = 880 mm × 600 mm × 570 mm ✓SF $= 300\ 960\ 000\ mm^3$ ✓CA Difference = 342 380 000 – 300 960 000 ✓MCA = 41 420 000 He is correct. ✓O	1C converting to mm^3 1SF correct values 1CA simplification 1MCA subtracting from correct value. 1O conclusion (5)	M L4 M
5.3.3	Dimensions of box in mm: Length – 250 mm; Height – 450 mm ✓C Boxes in the length: Boxes in the width: 880 mm ÷ 250 mm ✓MA 600 mm ÷ 250 mm ✓MA = 3,52 = 2,4 Number of boxes = 3 × 2 ✓MA = 6 boxes ✓CA	1C converting to mm. 1MA dividing by correct value. 1MA finding number of boxes. 1MA calculating no of boxes 1R using rounded values. 1CA correct answer. (6)	MP L3 D
		[32]	