



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2
SEPTEMBER EXAMINATION 2026
MARKING GUIDELINE

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 table / 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. /Penalising, bv. Vir geen eenhede, verkeerde afronding ens.
R	Rounding off / Afronding
NPR	No penalty for rounding / Geen penalising vir korrekte afronding nie
NPU	No penalty for omitting correct unit / Geen penalising indien die eenheid uitgelaat is nie, maar wel indien 'n verkeerde eenheid gebruik word
AO	Answer only / Slegs antwoord
MCA	Method with consistent accuracy / Metode met volgehoue akkuraatheid

This marking guideline consists of 15 pages
Hierdie nasienriglyne bestaan uit 15 bladsye

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.
- Rounding is an independent mark.
- General principle for marking, if a candidate makes one mistake one mark is deducted.
- A conclusion mark can only be given if relevant calculations precedes it.
- No penalty for rounding (NPR) if the first decimal is correct.

LET WEL:

- Indien 'n kandidaat 'n vraag TWEE KEER beantwoord, merk slegs die EERSTE poging.
- Indien 'n kandidaat 'n poging tot 'n vraag deurgehaal (gekanselleer) het en NIE die oplossing oorgedoen het nie, merk die deurgehaalde (gekanselleerde) weergawe.
- Konsekwente akkuraatheid (KB) is van toepassing in ALLE aspekte van die merkriglyne; dit stop egter by die tweede berekeningsfout.
- Indien die kandidaat enige ekstra oplossing aanbied wanneer daar van 'n grafiek, tabel, uitlegplan en kaart gelees word, word daar vir elke ekstra item gepeenaliseer.
- Afronding is 'n onafhanklike merk.
- Algemene beginsel vir nasien, as 'n kandidaat een fout maak, word een punt afgetrek.
- 'n Gevolgtrekkingspunt kan slegs toegeken word indien relevante berekeninge dit voorafgaan.
- Geen penalisasie vir afronding (NPR) indien die eerste desimaal korrek is nie.

QUESTION/ VRAAG 1 [30 MARKS/ PUNTE] Answer only AO- full marks/ Beantwoord slegs AO - volpunte			
Q	Solution/ Oplossing	Explanation/ Verduideliking	T & L
1.1.1	$125 \times 2 \checkmark$ MA $250 \text{ g} \checkmark$ A	2 A correct answer (2)	M L1
1.1.2	$\frac{1}{2} \times 2 \checkmark$ 1 Cup / Koppie $\checkmark$ A	1M for multiplying by 2 1A correct answer (2)	M L1
1.1.3	12 $\checkmark \checkmark$ A	2A correct answer (2)	M L1
1.1.4	$\frac{1}{3} \times 20 \text{ min} \checkmark$ M 6.67 minutes $\checkmark$ A	1M multiply by 20 1 A correct answer (2)	M L1
1.1.5	B $\checkmark \checkmark$ A	2A correct answer (2)	M L1
1.2.1	One unit on the baking tray represents 10 units in real life. / <i>Een eenheid op die bakplaat verteenwoordig 10 eenhede in die werklike lewe</i> $\checkmark \checkmark$ A	2A correct explanation (2)	MP L1
1.2.2	12 $\checkmark \checkmark$ A	2 A correct answer (2)	MP L1
Q	Solution/ Oplossing	Explanation/ Verduideliking	T & L
1.2.3	3 cm $\checkmark \checkmark$ A	2 A correct answer (2)	M L1
1.2.4	Rectangular / Reghoekig $\checkmark \checkmark$ A	2A correct answer (2)	M L1

1.2.5	$\frac{5}{12}$ ✓ ✓ A	A correct answer (2)	M L1
1.3.1	E ✓ ✓ A	2A correct answer (2)	MP L1
1.3.2	A ✓ ✓ A	2A correct answer (2)	MP L1
1.3.3	D ✓ ✓ A	2A correct answer (2)	M L1
1.3.4	F ✓ ✓ A	2A correct answer (2)	MP L1
1.3.5	I ✓ ✓ A	2A correct answer (2)	M L1
		[30]	

[illegible]

Q	Solution/ Oplossing	Explanation/ Verduideliking	T & L
2.2.2	$L = 9' \times 0,3048 + (10'' \times 2,54\text{cm}) \div 100 \quad \checkmark C$ $= 2,7432 \text{ m} + 0,254 \text{ m} \quad \checkmark A$ $= 2,9972 \text{ m} \quad \checkmark CA$ Valid / Geldig $\checkmark O$	1A correct conversion 1A simplification 1CA correct answer 1 O Justification (4)	MP L4
2.2.3	1 $\checkmark \checkmark A$	2A correct answer (2)	MP L1
2.2.4	4 : 3 $\checkmark \checkmark$	1A both correct values 1A correct order (2)	MP L2
2.2.5	$\checkmark$ 65 mm = 4,50 m $\times 1\,000 \quad \checkmark C$ 65 mm = 4 500 mm ($\div 65$) $\checkmark M$ 1: 69,2307692... 1: 69 $\checkmark CA$ OR / OF 6,5 cm $\checkmark A$ 6,5 cm = 4,50m $\times 1\,00 \quad \checkmark C$ 6,5 cm = 4 50cm ($\div 6,5$) $\checkmark M$ 1: 69,2307692... 1: 69 $\checkmark CA$	1A measured value 1C correct conversion 1M dividing by 65 1CA simplification Accept: 64 – 66 mm OR 1A measured value 1C correct conversion 1M dividing by 6,5 1CA simplification Accept: 6,4 – 6,6 cm NPR (4)	MP L3
2.3.1	Bar scale/ <i>Staafskaal</i> / Linear scale/ <i>Lineêrskaal</i> / Graphic scale/ <i>Grafiese skaal</i> $\checkmark \checkmark RT$	2RT correct scale (2)	MP L1

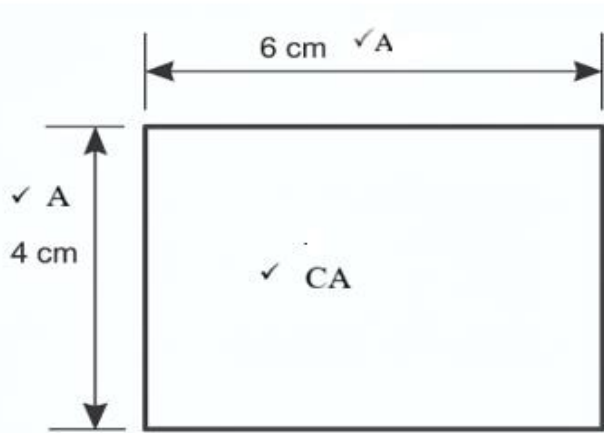
2.3.2	It remains accurate even when the map or plan is resized / <i>Dit bly akkuraat selfs wanneer die kaart of plan se grootte verander word.</i> ✓✓ O OR/ OF It grows or shrinks at the same rate as the map / plan / <i>Dit groei of krimp teen dieselfde tempo as die kaart / plan</i> ✓✓ A OR /OF Bar scale is quick and easy to use / <i>Die staafskaal is vinnig en maklik om te gebruik.</i> ✓✓ A	2 O reasoning (2)	MP L4
2.3.3	166 Seats / <i>Sitplekke</i> ✓✓ A	2A correct answer (2)	MP L1
2.3.4	✓ A $P = \frac{33}{166}$ ✓ A = 0,198795180... = 0,199 ✓ R	1A numerator 1A denominator 1R correct rounding (3)	P L2
		[29]	

QUESTION/ VRAAG 3 [35 MARKS/ PUNTE]			
Q	Solution/ Oplossing	Explanation/ Verduideliking	T & L
3.1.1	Volume of soil / <i>Volume van grond</i> $= 4\,480\text{ cm}^3 \times 83\% \quad \checkmark \text{ M}$ $= 3\,718,4\text{ cm}^3 \quad \checkmark \text{ CA}$ $= 3\,700\text{ cm}^3 \quad \checkmark \text{ R}$	1M multiplying by 83% 1CA volume of soil 1R correct rounding (3)	M L2
3.1.2	Volume of a cylinder / <i>Volume van 'n silinder</i> $= \pi \times \text{radius}^2 \times \text{height/ hoogte}$ $\quad \quad \quad \checkmark \text{ R} \quad \quad \checkmark \text{ 1SF}$ $= 3,142 \times (7,5\text{ cm})^2 \times 40\text{ cm}$ $= 7\,069,5\text{ cm}^3 \quad \checkmark \text{ CA}$ $= 7\,069,5\text{ cm}^3 \quad \checkmark$ $\quad \quad \quad \checkmark \text{ R} \quad \quad \checkmark \text{ 1SF}$	1A radius 1SF substitution 1CA answer 1A correct unit (4)	M L2
3.1.3	Thickness both sides / <i>Dikte aan beide kante</i> $= (2,5\text{ mm} \div 10) \times 2 = 0,25\text{ cm} \times 2 \quad \checkmark \text{ A}$ $= 0,5\text{ cm}$ Inner diameter / <i>Binnediameter</i> $= (75\text{ mm} \div 10) \times 2 = 7,5\text{ cm} \times 2 = 15\text{ cm} \quad \checkmark \text{ M}$ Outer diameter / <i>Buitenste deursnee</i> $= 15\text{ cm} + 0,5\text{ cm} \quad \checkmark \text{ M}$ $= 15,5\text{ cm}$ OR/OF Outer / <i>Buitenste radius</i> $= 75\text{ mm} + 2,5\text{ mm} = 77,5\text{ mm} \quad \checkmark \text{ M}$ Outer diameter/ <i>Buitenste deursnee</i> $= 77,5\text{ mm} \times 2 \quad \checkmark \text{ A}$ $= 155\text{ mm} \quad \checkmark \text{ A}$	1A convert and multiply by 2 1A converting and multiplying by 2 1 M addition 15cm and 0,5 cm OR 1 M adding 2,5mm 1A multiply by 2 1CA correct answer (3)	M L2

3.1.4	Number of pots lengthwise / <i>Aantal potte in die lengte</i> $= 70 \div 15,5 = 4,5$ $\therefore 4$ pots / <i>potte</i> ✓ A ✓ M Length/ <i>Lengte</i> = $15,5 \text{ cm} \times 4 = 62 \text{ cm}$ ✓ CA Width/ <i>breedte</i> = $15,5 \text{ cm} \times 2 = 31 \text{ cm}$ ✓ CA	1A rounded simplification 1M multiplying 4 CA simplification of length CA simplification of width (4)	M L2
3.2	SA of cylinder/ <i>Buite oppervlak van silinder</i> = $2\pi rh + \pi r^2$ $= 2 \times 3,142 \times 7,5 \text{ cm} \times 40 \text{ cm} + 3,142 \times (7,5 \text{ cm})^2$ ✓ SF $= 1\,885,2 \text{ cm}^2 + 176,7375 \text{ cm}^2$ ✓ M $= 2\,061,9375 \text{ cm}^2$ ✓ CA SA of Rect. Prism / <i>Buite oppervlakte van Reghoekige Prisma</i> $= (L \times W) + 2(L \times H) + 2(W \times H)$ $= (14 \text{ cm} \times 8 \text{ cm}) + 2(14 \text{ cm} \times 40 \text{ cm}) + 2(8 \text{ cm} \times 40 \text{ cm})$ ✓ SF $= 112 \text{ cm}^2 + 1\,120 \text{ cm}^2 + 640 \text{ cm}^2$ ✓ M $= 1\,872 \text{ cm}^2$ ✓ CA Manufacturing the rectangular pot is cost effective/ <i>Die vervaardiging van die reghoekige pot is koste-effektief</i> ✓ O	1SF correct substitution 1M adding 1CA Simplification 1SF correct substitution 1M adding 1CA Simplification 1O justification (7)	M L4
3.3.1	R78,99 for 14 kg Cost per kg/ <i>Koste per kg</i> = $R78,99 \div 14$ ✓ MA $= R5,64$ ✓ CA	1MA dividing by 14 1CA answer per kg (2)	M/F L2
3.3.2	$1 \ell = 0,001 \text{ m}^3$ $X = 0,030 \text{ m}^3$ Volume = 30 litres / <i>liter</i> ✓ A Number of cups / <i>Aantal koppies</i> $= 30\,000 \text{ ml} \div 250 \text{ ml}$ ✓ C	1A number of litres 1C conversion 1CA number of cups (3)	M L3

	=120 ✓CA		
3.3.3 (a)	Calcium/ <i>Kalsium</i> = 14 kg × 0,5% ✓ M = 0,07 kg ✓ CA = 70 g ✓ C OR/OF ✓ C Calcium / <i>Kalsium</i> = 14 000 g × 0,5% ✓ M = 70 g ✓ CA	1M multiply 14 Kg by 0,5% 1 CA simplification 1C answer in grams OR/OF 1C conversion 1M multiply 14 000 by 0,5% 1 CA simplification (3)	M L2
3.3.3 (b)	Copper/ <i>Koper</i> = 14 000 g × 5 ÷ 1 000 000 ✓ M = 0,07 g ✓ CA	1M multiplying by 5 parts per million 1CA Correct answer (2)	M L2
3.3.3 (c)	Nitrogen/ <i>Stikstof</i> = 14 000 g × 1,6% ✓ M = 224 g ✓ CA Carbon/ <i>Koolstof</i> = 224g × 15,5 ✓ M = 3 472 g ✓ CA	1M multiplying by 1,6% 1CA answer in grams 1M multiplying by 15,5 1CA answer in grams (4)	M L3
		[35]	

QUESTION/ VRAAG 4 [34 MARKS/ PUNTE]			
Q	Solution/ Oplossing	Explanation/ Verduideliking	T & L
4.1.1	Square / <i>Vierkant</i> ✓ Triangle / <i>Driehoek</i> ✓ Rectangle / <i>Reghoek</i> ✓ Circle / <i>Sirkel</i> / Oval / <i>Ovaal</i> ✓ (Any two/ enige twee)	2A correct shapes (2)	M L 1
4.1.2	Area of the wall / <i>Oppervlakte van die muur</i> $\text{Area/ Oppervlakte} = l \times b$ $= 600 \text{ cm} \times 300 \text{ cm} \quad \checkmark \text{ SF}$ $= 180\,000 \text{ cm}^2 \quad \checkmark \text{ CA}$	1SF correct substitution 1CA correct answer NPU (2)	M L2
4.1.3	Area of square window/ $\text{Oppervlakte van vierkantige venster} = s^2$ $= (1\text{m})^2 \quad \checkmark \text{ SF}$ $= 1\text{m}^2 \quad \checkmark \text{ CA}$ Area of circular window/ $\text{Oppervlakte van sirkelvormige venster} = \pi \times r^2$ $= 3,142 \times (0,5\text{m})^2 \quad \checkmark \text{ SF}$ $= 0,7855 \text{ m}^2 \quad \checkmark \text{ CA}$ Area of Rec and triangular window / $\text{Oppervlakte van Reg en driehoekige venster}$ $= (l \times b) + (\frac{1}{2} \times b \times h)$ $\quad \checkmark \text{ SF}$ $= (1,5\text{m} \times 1\text{m}) + (\frac{1}{2} \times 1,5\text{m} \times 1\text{m}) \quad \checkmark \text{ SF}$ $= 1,5\text{m}^2 + 0,75\text{m}^2 \quad \checkmark \text{ S}$ $= 2,25\text{m}^2 \quad \checkmark \text{ CA}$ Total Area / <i>Totale Area</i> $= 1\text{m}^2 + 0,7855 \text{ m}^2 + 2,25\text{m}^2 \quad \checkmark \text{ MCA}$ $= 4,0355\text{m}^2 \quad \checkmark \text{ CA}$	1SF correct substitution 1CA correct answer 1SF correct substitution 1CA correct answer 1SF correct substitution of rectangular part 1SF substitution of triangular part 1M addition of 2 areas 1CA correct answer 1MCA adding correct areas 1CA correct answer (10)	M L3

Q	Solution / Oplossing	Explanation/ Verduideliking	T & L
4.1.4	$180\,000\text{ cm}^2 \div 100^2 = 18\text{m}^2 \quad \checkmark \text{ C}$ Area to be painted / <i>Oppervlakte wat geverf moet word</i> $= 18\text{m}^2 - 4,0355\text{m}^2 \quad \checkmark \text{ M}$ $= 13,9645\text{m}^2 \times 2 \quad \checkmark \text{ M}$ $= 27,929\text{m}^2 \quad \checkmark \text{ CA}$	1A correct conversion 1M subtracting area 1A multiplying by 2 1CA correct answer (4)	MP L3
4.1.5	Dimensions/ <i>Afmetings</i> : Length/ <i>Lengte</i> = $150\text{cm} \div 25$ $= 6\text{ cm}$ Width / <i>Breedte</i> = $100\text{cm} \div 25$ $= 4\text{ cm}$ 	1MA using scale 1A simplification 1CA simplification 1A correct Length drawn 1A correct width drawn 1 CA shape (6)	MP L3
4.2.1	Total wall area to paint/ <i>Totale muuroppervlakte om te verf</i> $= 27,929\text{m}^2 \div 6\text{m}^2/\text{l} \quad \checkmark \text{ M}$ $= 4,654333$ $= 5\text{ l} \quad \checkmark \text{ R}$ Number of 2l tins/ <i>Aantal 2l-blikkies</i> $= 5\text{ l} \div 2 \quad \checkmark \text{ M}$ $= 2,5$ $= 3 \quad \checkmark \text{ A}$ Number of 5l tins/ <i>Aantal 5l-blikke</i> = $5\text{ l} \div 5$ $= 1 \quad \checkmark \text{ A}$	1M dividing 6m^2 1 R rounding answer 1M dividing by 2 1A number of 2l tins 1A number of 5l tins 1O Justification	MP L4

	The statement is valid buying 2l tins will be 3 times more than buying 5l/ <i>Die stelling is geldig, die koop van 2 l blikkies sal 3 keer meer wees as die koop van 5l</i> ✓	(6)	
4.2.2	$5l = R472,95$ ✓RT $2l = 3 \times R187,95$ ✓M $= R563,85$ ✓CA Buying a 5 l tin will be cheaper <i>/Koop van 5 lblik sal goedkoper wees</i> ✓ O	1RT for R472,95 1M multiplying R215 by 3 1CA correct answer 1O Justification (4)	M/F L4
		[34]	

QUESTION/VRAAG 5 [22 MARKS/ PUNTE]			
Q	Solution/ Oplossing	Explanation/ Verduideliking	T&L
5.1.1	Strip Map / <i>Strookkaart</i> ✓✓ A	2A correct answer (2)	MP L1
5.1.2	B ✓✓ A OR/ OF 50 % ✓✓ A	2 A correct percentage (2)	P L2
5.1.3	✓ A Total Distance/ <i>Totale Afstand</i> = 403km + 450km + 84km ✓ RT = 937km ✓ CA	1RT 403 and 84 1A adding 450 1CA correct answer (3)	MP L2
5.1.4	D = S x T / A = S x T $T = \frac{D}{S}$ ✓ / $T = \frac{A}{S}$ ✓ RT = $\frac{937 \text{ km}}{95 \text{ km/h}}$ ✓ SF = 9,863157894736842 h ✓ CA = 9h + 0,863157894736842 x 60 ✓ MCA = 9h 51,79min ✓ MCA	1A changing the subject of the formula 1 SF substitution 1CA simplification 1MCA multiplying by 60 1CA correct answer (5)	MP L3
5.2.1	Diameter is a straight line passing through the centre of London eye and touching both ends of the London eye / <i>Die deursnee is 'n reguit lyn wat deur die middelpunt van die London Eye loop en aan beide kante van die London Eye raak.</i> ✓✓ A	2 A correct defination (2)	M L1

Q	Solution/ Oplossing	Explanation/ Verduideliking	T & L
5.2.2.	$C = 2 \times \pi \times r$ ✓A $= 2 \times 3,142 \times 60\text{m}$ ✓SF $= 377,04\text{m}$ ✓CA	1A radius 1SF Substituting correct values 1CA Simplification (3)	M L2
5.2.3	$377,04 \div 32$ ✓ M 11,7825 11,78 ✓ SF Not Correct / Nie korrek nie ✓ O	MCA 5.2.2 1M dividing by 32 1 CA simplification 1O justification (3)	MP L4
5.2.4	External mounting allows unobstructed 360° views/ <i>Eksterne montering bied onbelemmerde 360°-uitsigte</i> ✓ ✓ O OR / OF maximizes visibility/ <i>maksimeer sigbaarheid</i> ✓ ✓ O OR / OF enhancing tourist experience/ <i>toeriste-ervaring verbeter</i> ✓ ✓ O (Any one of the explanations/ <i>Enige een van die verduidelikings</i>)	2O justification (2)	MP L4
		[22]	
		TOTAL/ TOTAAL : 150	