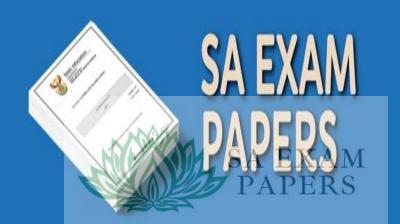


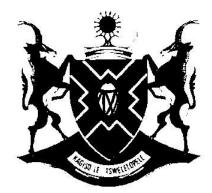
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NATIONAL SENIOR CERTIFICATE/ NASIONALE SENIOR SERTIFIKAAT

GRADE/GRAAD 12

MATHEMICAL LITERACY P1

SEPTEMBER 2024

MEMO

MARKS/PUNTE: 150

Symbol/Kode	Explanation/Verduideliking	
M	Method/Metode	
MA	Method with accuracy/Metode met akkuraatheid	
СА	Consistent accuracy/Volgehoue akkuraatheid	
A Accuracy/Akkuraatheid		
С	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 'n formule	
O Opinion/Explanation/Opinie/Verduideliking		
Р	Penalty, e.g. for no units, incorrect rounding off, etc./Penalisasie. hv. vir geen eenhede, verkeerde afronding, ens.	
R	Rounding off/Afronding	
NPR	No penalty for rounding/Geen penalisasie vir afronding nie	
AO	Answer only/Slegs antwoord	
MCA	Method with consistent accuracy/Metode met volgehoue akkuraatheid	
RCA	Rounding consistent with accuracy/ Afronding met volgehoue akkuraatheid	

These marking guidelines consist of 13 pages. Hierdie nasienriglyne bestaan uit 13 bladsye.

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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.

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.

xplanation/Verduideliking	T&I
MA adding correct values A total number of steps (2)	D L1 M
MA subtracting correct alues A correct answer (2)	D L1 E
A correct time (2)	D L1 E
RT correct values A descending order (2)	D L1 E
RT correct values MA written as a ratio in prrect order CA correct simplified aswer ccept AO as fraction (3)	D L1 E
RT correct value divided y total kilometers MA calculating percentage A correct answer PR (3)	D L1 M
y total MA ca A corr PR	kilometers alculating percentage rect answer

1.2.1	700 kWh ✓✓RT	2RT correct kWh	F
	18 bi Band 55	(2)	L1
		0.2	E
			F
1.2.2	Service charge/ Diensfooi ✓RT	1RT service charge	L1
	Capacity charge/kapasiteit heffing √RT	1RT capacity charge	E
		(2)	
			F
1.2.3	$209,19 \div 100 \checkmark MA$	1MA dividing with 100	L1
	= 2,0919 ✓A	1A correct answer	E
		NPR (2)	
	✓RT	1RT correct values	F
1.2.4	328,14 - 234,73 ✓MA	1MA subtracting correct	L1
	= 93,41 ✓A	values	M
		1A correct answer	
		(3)	
	✓MA		F
1.2.5	500 - 350 = 150	1MA subtracting correct	L1
	✓ MA	kWh	D
	$150 \times 209, 19 = 31378, 5$	1MA multiplying with	
	✓A	correct rate	
	$31\ 378,5 \div 100 = 313,79$	1A divided by 100	
		(3)	
		[26]	

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'V	Solution/Oplossing	Explanation/Verduideliking	T&I
1.1	The 5 AM club ✓✓ RT	2RT correct book Accept: Own your morning elevate your life	F L1 E
		(2)	F
1.2	Percentage discount/Persentasie afslag \checkmark MA $\frac{249}{360} \times 100$ $= 69,17 \% \checkmark \Lambda$ $100\% - 69,17\% \checkmark MCA$ $= 30,83\% \checkmark CA$	1MA dividing 249 with 360 1A correct answer 1MCA subtract percentage from 100% 1CA correct percentage	L2 D
	OR/OF		
	✓MA $\frac{360 - 249}{360} \times 100$ ✓A $= \frac{111}{360} \times 100 \checkmark MCA$ $= 30,83\% \checkmark CA$	1MA subtract 249 from 360 1A dividing 111 with 360 1MCA percentage calculation 1CA correct percentage (4)	
1.3	Total cost/Totale koste $\checkmark MA \qquad \checkmark MA$ $(5 \times 139) + (7 \times 357)$ $= 695 + 2 499 \checkmark MCA$ $= 3 194 \checkmark CA$ $3 194 \div 1,15 \checkmark MCA$ $= R2 777,39 \checkmark CA$ OR/OF Total cost/Totale koste $(5 \times 139) = 695 \checkmark MA$ $(7 \times 357) = 2 499 \checkmark MA$ $= 695 + 2 499 \checkmark MCA$	1MA multiplying R139 by 5 1MA multiplying R357 by 7 1MCA adding the answers 1CA answer 1MCA dividing answer with 1,15 1CA correct answer 1MA multiplying R139 by 5 1MA multiplying R357 by 7 1MCA adding the answers 1CA answer	F L3 M
Co	$= 3 194 \checkmark CA$ = 3 194 × $\frac{100}{115} \checkmark MCA$ = R2 777,39 × CA	$\frac{1000}{1000}$ $\frac{1000}{115}$ $\frac{100}{115}$	ſ

\mathbf{Q}/\mathbf{V}	Solution/Oplossing	Explanation/Verduideliking	Т&
2.].4	Book purchase/Boek aankope $225 \times 189 \checkmark MA$ $\approx R42 525 \checkmark A$ R42 525 $\times 7,25\% \checkmark MCA$ $= R3 083,0625 \checkmark CA$ R42 525 - R3 083,0625 $= R39 441,94 \checkmark CA$ Teacher statement is NOT CORRECT/Onderwyser se bewering is NIE KORREK NIE. $\checkmark O$	1MA multiplying correct values 1A correct answer 1MCA percentage calculation 1CA correct amount 1CA correct cost 10 opinion	F L4 D
	OR / <i>OF</i> Book purchase/ <i>Boek aankope</i> $225 \times 189 \checkmark MA$ = R42 525 $\checkmark A$	1MA multiplying correct values	
	$= R42 525 \lor A$ $100\% - 7,25\% = 92,75\% \checkmark CA$ $R42 525 \times 92,75\% \checkmark MCA$ $= R39 441,94 \checkmark CA$	1A correct answer 1CA correct percentage	
	Teacher statement is NOT CORRECT /Onderwyser se bewering is NIE KORREK NIE . ✓O	1MCA percentage calculation 1CA correct cost 10 opinion (6)	F
2.1.5	Probability/ <i>Waarskynlikheid</i> = $\frac{5}{9} \checkmark A$ = 0,56 $\checkmark A$	1A correct numerator 1A correct denominator 1A correct rounded answer (3)	F L2 E
2.2.1	✓A Interest rates, Inflation rate, Economic stability, Government policies, Trade balance, Economic conditions, Supply and demand, Country's political stability/ <i>Rentekoers</i> , <i>Inflasiekoers, Ekonomiese stabiliteit, Regeringsbeleid,</i> <i>Handelsbalans, Ekonomiese toestande, Voorsiening en bevel,</i> <i>Land se politiese.</i>	2A any two of the listed factors (2)	F L1 M
2.2.2	$\frac{1}{157,86242} \checkmark MA$ = 0,00633462986	1MA one divided by the correct exchange rate 1A correct answer	F L1 D

	Explanation/Verduideliking	T&L
Amount for accommodation/Bedrag vir verblyf	1MA multiply correct amount with fraction 1A correct simplification 1MCA subtract answer from 246 900 1CA correct answer NPR and unit	F L2 M
OR/OF		
Amount for food and spending/Bedrag vir kos en spandeer \checkmark MA $1 - \frac{3}{7} = \frac{4}{7} \checkmark$ A	1MA subtract $\frac{3}{7}$ from 1 1A correct simplification	
¥ 246 900× $\frac{4}{7}$ ✓MCA =¥ 141 085,71 ✓CA	1MCA multiply correct value with fraction 1CA correct answer NPR and unit (4)	
Dario ¥ 246 900 ÷ 157,86242 \checkmark MA = \in 1564,020113 \checkmark A Catalina £1 400 ÷ 0,85304601 \checkmark MA = \in 1 641,177596 \checkmark A	1MA dividing by exchange rate 1A correct answer 1MA dividing by exchange rate 1A correct answer	F L3 E
Jan R32 750 \div 20,5669 \checkmark MA $= \notin 1$ 592,36443 \checkmark A \checkmark O Catalina has the most Euro's/Catalina het die meeste Euro's.	1MA dividing by exchange rate 1A correct answer 1O correct opinion NPR (7)	
	¥ 246 900 × $\frac{3}{7}$ ✓MA =¥ 105 814,2857 ✓A Amount for food and spending/Bedrag vir kos en spandeer ¥ 246 900 - ¥ 105 814,2857 ✓MCA =¥ 141 085,71 ✓CA OR/OF Amount for food and spending/Bedrag vir kos en spandeer ✓MA $1-\frac{3}{7}=\frac{4}{7}$ ✓A ¥ 246 900 × $\frac{4}{7}$ ✓MCA =¥ 141 085,71 ✓CA Dario ¥ 246 900 ÷ 157,86242 ✓MA = €1564,020113 ✓A Catalina £1 400 ÷ 0,85304601 ✓MA = € 1 641,177596 ✓A Jan R32 750 ÷ 20,5669 ✓MA = € 1 592,36443 ✓A ✓O	

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$\hat{\mathbf{Q}}/V$	STION/VRAAG 3 [26 MARKS/PUNTE] Solution/Oplossing	Explanation/Verduideliking	T&I
3.1	$\checkmark \checkmark A$ One million eighteen thousand four hundred and ninety-four/ Een miljoen agtien duisend vier honderd vier en negentig.	2A written correctly in words (2)	D L1 E
3.2	Survey/Opname A startegical investigation to collect data/'n Strategiese ondersoek om data te versamel. OR/OF ✓✓A The process of collecting, analysing, and interpreting data from individuals/ Die proses van versameling, analisering en interpretering van data vanaf individue.	2A Explanation	D L1 M
		(2)	D
3.3	45 649 ✓ ✓ A	2A correct number of people (2)	L1 E
3.4	$ \begin{array}{c} \checkmark MA \\ \mathbf{A} = 53\ 905 - (1\ 999 + 3\ 076 + 1\ 710 + 12 + 9\ 752 + 10\ 441 + \\ 6\ 418 + 586 + 99) \\ = 53\ 905 - 34\ 093 \ \checkmark S \\ = 19\ 812 \ \checkmark CA \\ \mathbf{OR}/OF \end{array} $	1MA subtracting all 2020 values from 53 905 1S simplifying 1CA correct total	D L2 E
	$A = 212\ 043 - (85\ 842 + +43\ 575 + 62\ 814)$ = 212\ 043 - 192\ 231 \checkmark S = 19\ 812 \checkmark CA	1MA subtracting all August values from 212 043 1S simplifying 1CA correct total (3)	
3.5	Range = Highest value – Lowest value 206 716 = 212 043 – B \checkmark MA B = 212 043 – 206 716 \checkmark MA B = 5 327 \checkmark A	1MA substitution into formula 1MA simplifying 1A correct lowest value (3)	D L2 M
3.6	Mean = $\frac{60 + 14 + 194 + 1024 + + 9094 + 1193}{12 \sqrt{MA}}$ $= \frac{178869}{12}$	1MA concept of mean 1MA adding correct values	D L2 E
	= 14 905,75 $\therefore = 14 906 \text{ pilgrims}/pelgrims \checkmark CA$	1CA correct rounded answer	
Co	SA EX	(3) Please turn the page/Blaai om asseblie	f

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
3.7	Percentage Pilgrims in 2022/Persentasie Pelgrims in 2022 \checkmark RT $\frac{438\ 182}{1018\ 494} \times 100 \checkmark$ MA = 43,0225% \checkmark A	1RT correct value 438 182 1MA divided by the total and percentage calculation 1A correct percentage	D L4 D
	Percentage Pilgrims in 2019/Persentasie Pelgrims in 2019	1MA dividing correct values	
	$\frac{347538}{1018494} \times 100 \checkmark MA$	and percentage calculation	
	$= 34,1227\%$ \checkmark A	1A correct percentage	
	$43,0225\% - 34,1227\% \checkmark MCA = 8,8998\% \checkmark CA \checkmark O$	1MCA subtracting percentages 1CA correct answer	
	The statement is not correct/ <i>Die bewering is nie waar nie</i>	10 correct conclusion NPR (8)	
3.8	Probability/ <i>Waarskynlikheid</i> $\checkmark RT$ $= \frac{5}{12} \times 100 \checkmark MA$	1RT correct numerator and	D L2 E
	$= \frac{12}{12} \times 100 \checkmark \text{ MA}$ $= 41,667\%$ $\approx 42\% \checkmark \text{CA}$	correct denominator 1MA percentage calculation 1CA simplification rounded to a whole number (3)	
		[26]	

	STION/VRAAG 4 [35 MARKS/PUNTE]		70.07
\mathbf{Q}/V	Solution/Oplossing	Explanation/Verduideliking	T&L
12 12 121	√ √ A		D
4.1.1	50% of the data/50% van die data.	2A correct explanation	L1
		(2)	M
		187	D
4.1.2	22 ✓√RT	1RT correct class	L2
	Class B ✓RT	2RT correct value	E
	kooseleinesseksi	(3)	
	√√A	(3)	D
4.1.3	Minimum value, Q1, Q2, Q3 and maximum value/	2A correct answer	L1
	minimum waarde, K1, K2, K3 en maksimum waarde		Ē
		(2)	1000
			D
4.1.4	Class B/Klas B		L4
	IQR = Q3 - Q1	1MA concept of IQR with	D
	= 82 - 50.125 ✓MA	correct values	
	= 31,875 √A	1A correct IQR class B	
	Class A/Klas A		
	IQR = Q3 - Q1		
	= 84 - 72.5		
	$= 11.5 \checkmark A$	1A correct IQR class A	
		- 1971	
	Class C/Klas C		
	IQR = Q3 - Q1		
	= 79 - 64	1A correct IQR class C	
	= 15 ✓A		
	Class B – (Class $A + Class C$)		
	$= 31,875 - (11,5 + 15) \checkmark MCA$	1MCA subtracting class A	
	$= 31,875 - 26,5 \checkmark S$	and C from class B	
	= 5,375% ✓CA	1S simplification	
	√ 0	1CA correct answer	
	: His statement is not correct/Sy bewering is nie waar nie.	10 correct conclusion	
	Constructions in the construction of the const	(8)	

\mathbf{Q}/V	Solution/Oplossing	Explanation/Verduideliking	T&L
	✓ A		D
4.1.5	Class A performed the best/Klas A het die beste uitslae.	1A correct class	L4
	✓✓A ✓A		Μ
	The median, more than 50% of the students scored more than	2A correct central tendency	
	78% as compared to other classes/Die median, meer as 50%	10 correct opinion	
	van die student het meer as 78% in vergelyking met ander		
	klasse.		
		(4)	
	undersembled and street approximate	2012 (9 (0) (0.01) (0.01)(0.01	F
4.2.1	R3 375 – 2 500 ✓ MA	1MA subtract R2 500 from	L2
	= R875	R3 375	Μ
	R875 ÷ 5 ✓MCA	1MCA answer divided by 5	
	$R175 \checkmark CA$	1CA correct answer	
	RI15 CA	(3)	
		× *	F
4.2.2	Income/ Inkomste		L2
			D
	$\mathbf{A} = \mathbf{R450} \times 15 \checkmark \mathbf{MA}$	1MA multiplying selling	
	$=$ R6 750 \checkmark A	price by no. of boards	
		1A calculating income	
	Expenses/uitgawes		
	$\mathbf{B} = \text{R2500} + (\text{R175} \times 25) \checkmark \text{MCA}$	CA from 4.2.1	
	= R2 500 + R4 375	1MCA correct calculation	
	$=$ R6 875 \checkmark CA	using cost	
		1CA correct answer	
		(4) CA from 4.2.1	F
4.2.3	$\checkmark A$ Expenses = R2 500 + (number of charcuterie boards × R175)	1A fixed cost	г L2
4.2.3	Expenses $- K2 500 + (number of charculeric boards × K1/5)$	1A number of charcuterie	M LZ
	$Uitgawes = R2\ 500 + (aaantal snyborde \times R175)$	boards multiplied by R175	IVI
	$Cugawes = K2 500 + (uuunuu shyborue \times K175)$	(2)	

arcuterie boards/ ope van 9 snyborde g 9 charcuterieboards/ borde 9) charcuterie boards/ ope van 10 snyborde g 10 charcuterie boards/ yborde 10) √O	 1MA calculating income of 9 boards 1MA calculating expenses of 9 boards 1MA calculating income of 10 boards 1MA calculating expenses of 10 boards 	F L3 D
borde 9) charcuterie boards/ ope van 10 snyborde g 10 charcuterie boards/ yborde 10)	of 9 boards 1MA calculating income of 10 boards 1MA calculating expenses	
ope van 10 snyborde g 10 charcuterie boards/ yborde 10)	10 boards 1MA calculating expenses	
yborde 10)		
uterie boards, he will show a profit/ verkoop sal hy 'n wins begin toon	10 Opinion	
OR/OF		
break-even) $\checkmark MA$ $s = 2500 + 175 \times no. of boards$ of boards = 2500 s = 2500 $500 \div 275 \checkmark MA$ $\checkmark MA$ we sold to show a profit. $\checkmark O$	1MA calculating no. of boards at break-even 1MA subtracting the no. of boards 1MA dividing by 275 1A correct answer 1O Explanation	
✓A phone expenses, machinary, deliveries/ selfoon onkoste, mashinerie, aflewerings.	(5) 10 Any relevant influence 10 Any relevant influence	F L4 E
,	Accept any valid or reasonable answer	
	(2)	
	s = 2500 $00 \div 275 \checkmark MA$ $\checkmark MA$ e sold to show a profit. $\checkmark O$ $\checkmark A$ bhone expenses, machinary, deliveries/	$s = 2500$ $s = 2500$ boards MA is sold to show a profit. $\checkmark O$ boards MA is sold to show a profit. $\checkmark O$ $Solution$ MA boards MA is dividing by 275 A correct answer O Explanation (5) O $Solution (5) O Solution (5) O Solution$

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$\frac{\sqrt{0}}{O/V}$	STION/VRAAG 5 [27 MARKS/PUNTE] Solution/Oplossing	Explanation/Verduideliking	T&I
Qir	Solution/Opiossing	Explanation/veraulaenking	F
5.1.1	6 Panels/Panele \checkmark RT	1RT 6 panels	L1
	455-watt solar panels/ <i>watt solar panele</i> \checkmark RT	1RT 455watt-panels	E
	455-wall solar panels/wall solar panele • K1	(2)	
	√√A		F
5.1.2	I March 2023 to 29 February 2024/1 Maart tot 29 Februarie	2A correct answer	L1
	2024	(2)	E
			F
5.1.3	Total amount paid/Totale bedrag betaal	1N(A multiplein mith	L2
	$6 \times \text{R4}\ 000 \checkmark \text{MA}$	1MA multiplying with correct value of 6	M
	$=$ R24 000 \checkmark A	1A correct answer	
	$=$ R24 000 × 25% \checkmark MCA	1MCA percentage	
	$=$ R6 000 \checkmark CA	calculation	
		1CA simplification	
		(4)	
			F
5.1.4	Monthly repayment /Maandelikse paaiement		L3
	R85 000 × 12,5%	1.4	M
	$=$ R10 625 \checkmark A	1A correct answer of	
	$= R10\ 625 + R85\ 000$	multiply by 12,5%	
	= R95 625 ✓A	1A correct answer	
	R95 625 × 12,5%		
	$= R11953,125 \checkmark CA$	1CA answer to multiply by	
		12,5%	
	= R11 953,125 + R95 625	1CA correct answer	
	$=$ R107 578,125 \checkmark CA		
	R107 578,125 ÷ 24 ✓MCA	1MCA divide answer by 24 months	
	R4 482,42 ✓CA	1CA correct answer	
	OR/OF		
	Monthly repayment /Maandelikse paaiement	1MA multiply by 112,5%	
	a second s	1A correct answer	
	R85 000 \times 112,5% \checkmark MA		
	$= R95 \ 625 \ \checkmark A$		
	D05 625 × 112 50/ ×/MCA	1MCA multiply previous	
	R95 625 × 112,5% ✓MCA	answer by 112,5%	
	R107 578,125 ✓CA	1CA correct answer	
	R107 578,125 ÷ 24 ✓MCA	1MCA divide answer by 24	
	R4 482,42 ✓CA	months	
	n	1CA correct answer	
		(6)	

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\mathbf{Q}/V	Solution/Oplossing	Explanation/Verduideliking	T&L
5.2.1	Annual medical credit/ <i>Jaarlikse Mediese krediet</i> = (364×2) = $R728 \checkmark A$ $R728 \times 12 \checkmark MA$	1A answer of R364 multiplied by 2 1MA multiply answer by 12	F L2 E
	R728 × 12 × MA R8 736 ✓ A	months 1A correct answer (3)	
5.2.2	Tax rebate /belastingkorting \checkmark RT R17 235 + R9 444 \checkmark MA = R26 679 \checkmark A	1RT correct values 1MA adding the values 1A correct answer (3)	D L2 E
5.2.3	Annual taxable income/ <i>Jaarlikse belasbare inkomste</i> R35 750 × 12 = R429 000 ✓MA	CA from Q5.2.1 & 5.2.2 1MA taxable income multiplied by 12	D L3 D
	✓SF R77 362 + 31%(R429 000 - R370 500) $✓$ A = R77 362 +31%(R58 500) = R77 362 + R18 135 = R95 497 $✓$ CA	1A correct tax bracket 1SF correct substitution 1CA correct simplification	
	✓MCA = R95 497 - R8 736 - R26 679	1MCA subtraction of medical credit and tax rebates	
	Monthly tax payable/Maandelikse belasting betaalbaar = R60 082 ÷ 12 ✓MCA = R5 006,83 per month/ <i>per maand</i> ✓CA	1MCA divide answer by 12 1CA correct answer	
		(7)	
		TOTAL: 150	

