education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE/
NASIONALE SENIOR SERTIFIKAAT

GRADE/*GRAAD* 12

MATHEMATICAL LITERACY P1/
WISKUNDIGE GELETTERDHEID V1

SEPTEMBER 2024

MARKING GUIDELINES/*NASIENRIGLYNE*

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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 tabel/grafiek/dokument/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./*Penalisasie, bv. 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.*

QUESTION/*VRAAG* 1 [26 MARKS/*PUNTE*] ANSWER ONLY FULL MARKS			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.1.1	✓MA 31 153 + 28 732 + 32 697 + 36 629 + 25 414 + 27 932 = 182 557 ✓A	1MA adding correct values 1A total number of steps (2)	D L1 M
1.1.2	3 280 − 2 194 ✓MA = 1 086 calories/kalorieë ✓A	1MA subtracting correct values 1A correct answer (2)	D L1 E
1.1.3	5:56:53 ✓✓A	2A correct time (2)	D L1 E
1.1.4	✓RT 29,47 ; 25,46 ; 25,21 ; 22,80 ; 20,90 ; 20,28 ✓MA	1RT correct values 1A descending order (2)	D L1 E
1.1.5	✓RT 2 084 : 3 280 ✓MA 521 : 820 ✓CA	1RT correct values 1MA written as a ratio in correct order 1CA correct simplified answer **Accept AO as fraction** (3)	D L1 E
1.1.6	✓RT $\frac{29,47}{144,12} \times 100$ ✓MA = 20,45% ✓A	1RT correct value divided by total kilometers 1MA calculating percentage 1A correct answer **NPR** (3)	D L1 M

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1.2.1	700 kWh ✓✓RT	2RT correct kWh (2)	F L1 E
1.2.2	Service charge/ *Diensfooi* ✓RT Capacity charge/*kapasiteit heffing* ✓RT	1RT service charge 1RT capacity charge (2)	F L1 E
1.2.3	✓MA 209,19 ÷ 100 = 2,0919 ✓A	1MA dividing with 100 1A correct answer **NPR** (2)	F L1 E
1.2.4	✓RT 328,14 – 234,73 ✓MA = 93,41 ✓A	1RT correct values 1MA subtracting correct values 1A correct answer (3)	F L1 M
1.2.5	✓MA 500 – 350 = 150 ✓MA 150 × 209,19 = 31 378,5 ✓A 31 378,5 ÷ 100 = 313,79	1MA subtracting correct kWh 1MA multiplying with correct rate 1A divided by 100 (3)	F L1 D
		[26]	

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QUESTION/*VRAAG* 2 [36 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
2.1.1	The 5 AM club ✓✓RT	2RT correct book **Accept**: Own your morning elevate your life (2)	F L1 E
2.1.2	Percentage discount/*Persentasie afslag* ✓MA $\frac{249}{360} \times 100$ = 69,17 % ✓A 100% − 69,17% ✓MCA =30,83% ✓CA **OR/*OF*** ✓MA $\frac{360-249}{360} \times 100$ ✓A $= \frac{111}{360} \times 100$ ✓MCA = 30,83% ✓CA	1MA dividing 249 with 360 1A correct answer 1MCA subtract percentage from 100% 1CA correct percentage 1MA subtract 249 from 360 1A dividing 111 with 360 1MCA percentage calculation 1CA correct percentage (4)	F L2 D
2.1.3	Total cost/*Totale koste* ✓MA ✓MA (5 × 139) + (7 × 357) = 695 + 2 499 ✓MCA = 3 194 ✓CA 3 194 ÷ 1,15 ✓MCA = R2 777,39 ✓CA **OR/*OF*** Total cost/*Totale koste* (5 × 139) = 695 ✓MA (7 × 357) = 2 499 ✓MA = 695 + 2 499 ✓MCA = 3 194 ✓CA $= 3\,194 \times \frac{100}{115}$ ✓MCA = R2 777,39 ✓CA	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 1MCA multiplying the answer with $\frac{100}{115}$ 1CA correct answer (6)	F L3 M

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Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.1.4	Book purchase/*Boek aankope* 225 × 189 ✓MA = R42 525 ✓A R42 525 × 7,25% ✓MCA = R3 083,0625 ✓CA R42 525 – R3 083,0625 = R39 441,94 ✓CA Teacher statement is **NOT CORRECT**/*Onderwyser se bewering is* ***NIE KORREK NIE***. ✓O **OR/*OF*** Book purchase/*Boek aankope* 225 × 189 ✓MA = R42 525 ✓A 100% – 7,25% = 92,75% ✓CA R42 525 × 92,75% ✓MCA = R39 441,94 ✓CA Teacher statement is **NOT CORRECT**/*Onderwyser se bewering is* ***NIE KORREK NIE***. ✓O	1MA multiplying correct values 1A correct answer 1MCA percentage calculation 1CA correct amount 1CA correct cost 1O opinion 1MA multiplying correct values 1A correct answer 1CA correct percentage 1MCA percentage calculation 1CA correct cost 1O opinion (6)	F L4 D
2.1.5	Probability/*Waarskynlikheid* = $\frac{5}{9}$ ✓A ✓A = 0,56 ✓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/*Rentekoers, Inflasiekoers, Ekonomiese stabiliteit, Regeringsbeleid, Handelsbalans, Ekonomiese toestande, Voorsiening en bevel, Land se politiese.*	2A any two of the listed factors (2)	F L1 M
2.2.2	$\frac{1}{157,86242}$ ✓MA = 0,00633462986 ≈ 0,00633 ✓A	1MA one divided by the correct exchange rate 1A correct answer (2)	F L1 D

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Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.3	Amount for accommodation/*Bedrag vir verblyf* ¥ 246 900 $\times \frac{3}{7}$ ✓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 $\times \frac{4}{7}$ ✓MCA = ¥ 141 085,71 ✓CA	1MA multiply correct amount with fraction 1A correct simplification 1MCA subtract answer from 246 900 1CA correct answer **NPR and unit** 1MA subtract $\frac{3}{7}$ from 1 1A correct simplification 1MCA multiply correct value with fraction 1CA correct answer **NPR and unit** (4)	F L2 M
2.2.4	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 Catalina has the most Euro's/*Catalina het die meeste Euro's .*	1MA dividing by exchange rate 1A correct answer 1MA dividing by exchange rate 1A correct answer 1MA dividing by exchange rate 1A correct answer 1O correct opinion **NPR** (7)	F L3 E
		[36]	

QUESTION/*VRAAG* 3 [26 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
3.1	✓✓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 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 (2)	D L1 M
3.3	45 649 ✓✓ A	2A correct number of people (2)	D L1 E
3.4	✓MA **A** = 53 905 – (1 999 +3 076 + 1 710 +12 + 9 752 + 10 441 + 6 418 + 586 + 99) = 53 905 – 34 093 ✓S = 19 812 ✓CA **OR/*OF*** ✓MA **A** = 212 043 – (85 842 + +43 575 + 62 814) = 212 043– 192 231 ✓S = 19 812 ✓CA	1MA subtracting all 2020 values from 53 905 1S simplifying 1CA correct total 1MA subtracting all August values from 212 043 1S simplifying 1CA correct total (3)	D L2 E
3.5	Range = Highest value – Lowest value 206 716 = 212 043 – **B** ✓MA **B** = 212 043 – 206 716 ✓MA **B** = 5 327 ✓A	1MA substitution into formula 1MA simplifying 1A correct lowest value (3)	D L2 M
3.6	Mean = $\frac{60+14+194+1024+...+9094+1193}{12}$ ✓MA ✓MA = $\frac{178869}{12}$ = 14 905,75 ∴ = 14 906 pilgrims/*pelgrims* ✓CA	1MA concept of mean 1MA adding correct values 1CA correct rounded answer (3)	D L2 E

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Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.7	Percentage Pilgrims in 2022/*Persentasie Pelgrims in 2022* ✓RT $\frac{438\ 182}{1\,018\,494} \times 100$ ✓MA = 43,0225% ✓A Percentage Pilgrims in 2019/*Persentasie Pelgrims in 2019* $\frac{347\,538}{1\,018\,494} \times 100$ ✓MA = 34,1227% ✓A 43,0225% – 34,1227% ✓MCA = 8,8998% ✓CA ✓O The statement is not correct/*Die bewering is nie waar nie*	1RT correct value 438 182 1MA divided by the total and percentage calculation 1A correct percentage 1MA dividing correct values and percentage calculation 1A correct percentage 1MCA subtracting percentages 1CA correct answer 1O correct conclusion **NPR** (8)	D L4 D
3.8	Probability/*Waarskynlikheid* ✓RT $= \frac{5}{12} \times 100$ ✓MA = 41,667% ≈ 42% ✓CA	1RT correct numerator and correct denominator 1MA percentage calculation 1CA simplification rounded to a whole number (3)	D L2 E
		[26]	

QUESTION/*VRAAG* 4 [35 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
4.1.1	✓✓A 50% of the data/*50% van die data.*	2A correct explanation (2)	D L1 M
4.1.2	22 ✓✓RT Class B ✓RT	1RT correct class 2RT correct value (3)	D L2 E
4.1.3	✓✓A Minimum value, Q1, Q2, Q3 and maximum value/ *minimum waarde, K1, K2, K3 en maksimum waarde*	2A correct answer (2)	D L1 E
4.1.4	**Class B/*Klas B*** IQR = Q3 – Q1 = 82 – 50,125 ✓MA = 31,875 ✓A **Class A/*Klas A*** IQR = Q3 – Q1 = 84 – 72,5 = 11,5 ✓A **Class C/*Klas C*** IQR = Q3 – Q1 = 79 – 64 = 15 ✓A Class B – (Class A + Class C) = 31,875 – (11,5 + 15) ✓MCA = 31,875 – 26,5 ✓S = 5,375% ✓CA ✓O ∴ His statement is not correct/*Sy bewering is nie waar nie.*	1MA concept of IQR with correct values 1A correct IQR class B 1A correct IQR class A 1A correct IQR class C 1MCA subtracting class A and C from class B 1S simplification 1CA correct answer 1O correct conclusion (8)	D L4 D

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Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.1.5	✓A **Class A** performed the best/***Klas A*** *het die beste uitslae*. ✓✓A ✓A The median, more than 50% of the students scored more than 78% as compared to other classes/*Die median, meer as 50% van die student het meer as 78% in vergelyking met ander klasse.*	1A correct class 2A correct central tendency 1O correct opinion (4)	D L4 M
4.2.1	R3 375 – 2 500 ✓MA = R875 R875 ÷ 5 ✓MCA R175 ✓CA	1MA subtract R2 500 from R3 375 1MCA answer divided by 5 1CA correct answer (3)	F L2 M
4.2.2	Income/ *Inkomste* **A** = R450 × 15 ✓MA = R6 750 ✓A Expenses/*uitgawes* **B** = R2500 + (R175 × 25) ✓MCA = R2 500 + R4 375 = R6 875 ✓CA	 1MA multiplying selling price by no. of boards 1A calculating income **CA from 4.2.1** 1MCA correct calculation using cost 1CA correct answer (4)	F L2 D
4.2.3	✓A ✓A Expenses = R2 500 + (number of charcuterie boards × R175) *Uitgawes = R2 500 + (aaantal snyborde × R175)*	**CA from 4.2.1** 1A fixed cost 1A number of charcuterie boards multiplied by R175 (2)	F L2 M

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Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.2.4	Income selling 9 charcuterie boards/ *Inkomste met verkope van 9 snyborde* R450 × 9 = R4 050 ✓MA Expenditure selling 9 charcuterieboards/ *Uitgawes vir 9 snyborde* R2500 + (R175 × 9) = R4 075 ✓MA Income selling 10 charcuterie boards/ *Inkomste met verkope van 10 snyborde* R450 × 10 = R4 500 ✓MA Expenditure selling 10 charcuterie boards/ *Uitgawes vir 10 snyborde* R2500 + (R175 × 10) = R4 250 ✓MA ✓O If he sells 10 charcuterie boards, he will show a profit/ *Indien hy 10 borde verkoop sal hy 'n wins begin toon* **OR/*OF*** Cost = Income (at break-even) ✓MA 450 × no. of boards = 2 500 + 175 × no. of boards ✓MA (450 – 175) × no. of boards = 2 500 275 × no. of boards = 2 500 No. of boards = 2 500 ÷ 275 ✓MA = 9 ✓MA ∴ 10 boards must be sold to show a profit. ✓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 1O Opinion 1MA calculating no. of boards at break-even 1MA subtracting the no. of boards 1MA dividing by 275 1A correct answer 1O Explanation (5)	F L3 D
4.2.5	✓A ✓A Fuel expense, cell phone expenses, machinary, deliveries/ *Brandstof onkoste, selfoon onkoste, mashinerie, aflewerings.*	1O Any relevant influence 1O Any relevant influence Accept any valid or reasonable answer (2)	F L4 E
		[35]	

QUESTION/*VRAAG* 5 [27 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
5.1.1	6 Panels/*Panele* ✓RT 455-watt solar panels/*watt solar panele* ✓RT	1RT 6 panels 1RT 455watt-panels (2)	F L1 E
5.1.2	✓✓A 1 March 2023 to 29 February 2024/*1 Maart tot 29 Februarie 2024*	2A correct answer (2)	F L1 E
5.1.3	Total amount paid/*Totale bedrag betaal* 6 × R4 000 ✓MA = R24 000 ✓A = R24 000 × 25% ✓MCA = R6 000 ✓CA	1MA multiplying with correct value of 6 1A correct answer 1MCA percentage calculation 1CA simplification (4)	F L2 M
5.1.4	Monthly repayment /*Maandelikse paaiement* R85 000 × 12,5% = R10 625 ✓A = R10 625 + R85 000 = R95 625 ✓A R95 625 × 12,5% = R11 953,125 ✓CA = R11 953,125 + R95 625 = R107 578,125 ✓CA R107 578,125 ÷ 24 ✓MCA R4 482,42 ✓CA **OR/*OF*** Monthly repayment /*Maandelikse paaiement* R85 000 × 112,5% ✓MA = R95 625 ✓A R95 625 × 112,5% ✓MCA R107 578,125 ✓CA R107 578,125 ÷ 24 ✓MCA R4 482,42 ✓CA	1A correct answer of multiply by 12,5% 1A correct answer 1CA answer to multiply by 12,5% 1CA correct answer 1MCA divide answer by 24 months 1CA correct answer 1MA multiply by 112,5% 1A correct answer 1MCA multiply previous answer by 112,5% 1CA correct answer 1MCA divide answer by 24 months 1CA correct answer (6)	F L3 M

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Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.2.1	Annual medical credit/*Jaarlikse Mediese krediet* = (364 × 2) = R728 ✓A R728 × 12 ✓MA R8 736 ✓A	1A answer of R364 multiplied by 2 1MA multiply answer by 12 months 1A correct answer (3)	F L2 E
5.2.2	Tax rebate /*belastingkorting* ✓RT R17 235 + R9 444 ✓MA = R26 679 ✓A	1RT correct values 1MA adding the values 1A correct answer (3)	D L2 E
5.2.3	Annual taxable income/*Jaarlikse belasbare inkomste* R35 750 × 12 = R429 000 ✓MA ✓SF R77 362 + 31%(R429 000 – R370 500) ✓A = R77 362 +31%(R58 500) = R77 362 + R18 135 = R95 497 ✓CA ✓MCA = R95 497 – R8 736 – R26 679 Monthly tax payable/Maandelikse belasting betaalbaar = R60 082 ÷ 12 ✓MCA = R5 006,83 per month/*per maand* ✓CA	**CA from Q5.2.1 & 5.2.2** 1MA taxable income multiplied by 12 1A correct tax bracket 1SF correct substitution 1CA correct simplification 1MCA subtraction of medical credit and tax rebates 1MCA divide answer by 12 1CA correct answer (7)	D L3 D
		[27]	
		TOTAL: 150	

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