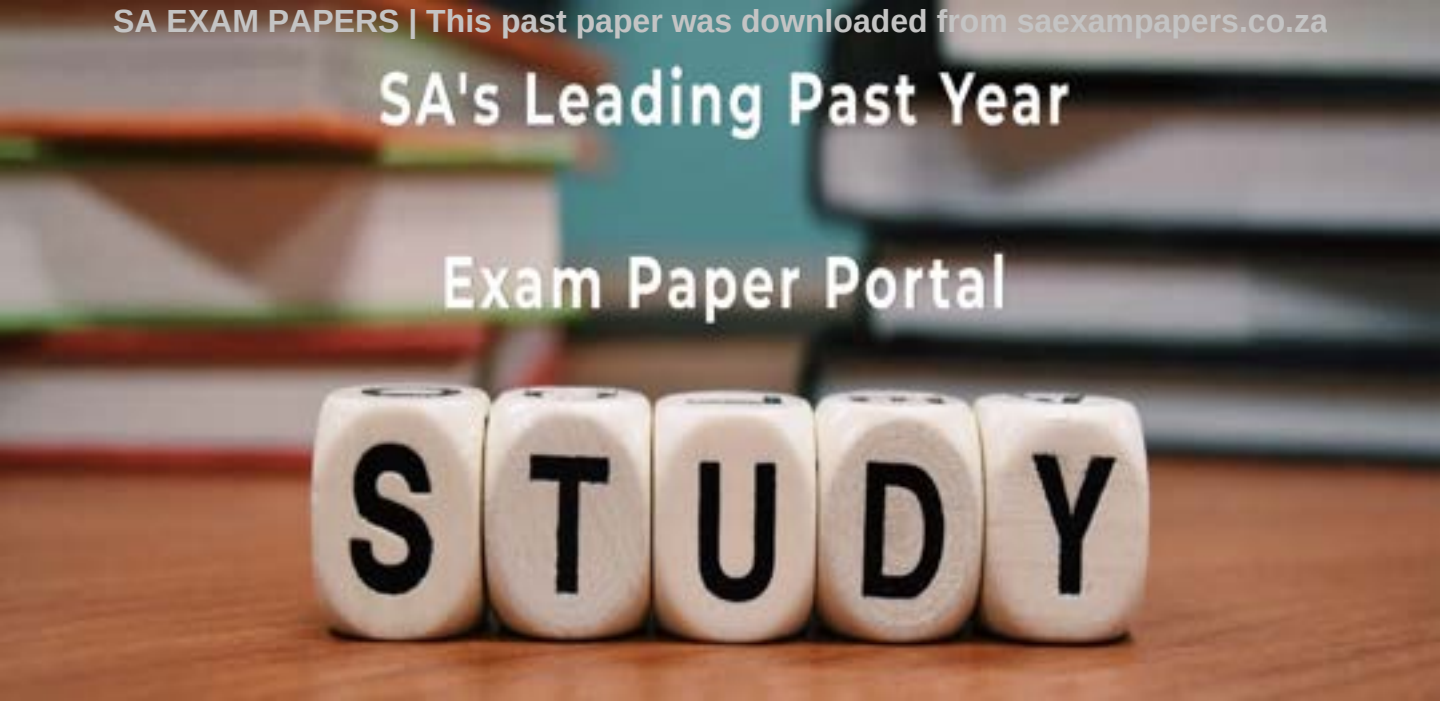

education

Department:
Education
NORTHERN CAPE

GRADE/*GRAAD* 12

MATHEMATICAL LITERACY P1 /
WISKUNDIGE GELETTERDHEID V1

MAY / JUNE 2024

MARKING GUIDELINES/*NASIENRIGLYNE*

MARKS/*PUNTE*: 100

Symbol/*Kode*	Explanation/*Verduideliking*
MA	Method with accuracy/*Metode met akkuraatheid*
CA	Consistent accuracy/*Volgehoueakkuraatheid*
A	Accuracy/*Akkuraatheid*
C	Conversion/*Herleiding*
S	Simplification/*Vereenvoudiging*
RT	Reading from a table/graph/document/diagram/*Lees vanaftabel/grafiek/document/diagram*
SF	Correct substitution in a formula/*Korrektevervanging in 'n formule*
O	Opinion/Explanation/*Opinie/Verduideliking*
P	Penalty, e.g. for no units, incorrect rounding off, etc./*Penalisasie, bv. virgeeneenhede, verkeerdeafronding, ens.*
R	Rounding off/*Afronding*
NPR	No penalty for rounding/*Geenpenalisasievirafrondingnie*
AO	Answer only/*Slegs antwoord*
MCA	Method with constant accuracy/*Metode met volgehoueakkuraatheid*

These marking guidelines consist of 10 pages including 1 page of notes.
Hierdie nasienriglyne bestaan uit 10 bladsye insluitende 1 bladsy met notas.

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 or break-down.
- 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 of marking, if the candidate makes one mistake one mark is deducted.
- A conclusion mark can only be given if relevant calculations precedes it (at least 1 mark before conclusion).
- No penalty for rounding (NPR) if the first decimal is correct, except questions involving money.

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 egter op by die tweede berekeningsfout of 'break-down'.*
- *Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra item.*
- *Afronding tel as 'n afsonderlike punt.*
- *Die algemene beginsel van merk as 'n leerder een fout maak, word een punt afgetrek.*
- *'n Gevolgtrekkingspunt kan slegs gegee word indien relevante berekeninge dit voorgaan (ten minste een punt voor die gevolgtrekking).*
- *Geen penalisering vir ronding (NPR) as die eerste desimaal korrek is nie, behalwe as vrae geld insluit.*

QUESTION/*VRAAG* 1 [18 MARKS/*PUNTE*]		**ANSWER ONLY = FULL MARKS**	
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.1.1	04 305 254 2 ✓✓A	2A account number (2)	F L1
1.1.2	R37 150,23 ✓✓RT	2RT correct amount (2)	F L1
1.1.3	15% VAT is already included in the amount show on the statement / *15% BTW is reeds ingesluit by die bedrag wat op die staat verskyn.* ✓✓A	2A correct explanation (2)	F L1
* 1.1.4	Value of A / *Waarde van A* ✓RT = – R6 493,01 – R85,00 ✓MA = – R6 578,01 ✓CA **OR / *OF*** ✓RT = R30 572,22 – R37 150,23 ✓MA = – R6 578,01 ✓CA	1RT correct value = – R6 493,01 1MA subtracting R85,00 1CA simplification **OR / *OF*** 1RT correct value = R30 572,22 1MA subtracting R37 150,23 1CA simplification If amount positive = 2/3 marks (3)	F L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.2.1	Compound (stacked) bar graph / *Saamgestelde (gestapelde) staafgrafiek* ✓✓A	2A correct graph (2)	D L1
1.2.2	Number of girls / *Aantal dogters* ✓RT = 200 – 80 ✓MA = 120 ✓CA	1RT correct value (200) 1MA subtracting 80 1CA simplification (3)	D L1
1.2.3	Discrete data / *Diskrete data* ✓✓A	2A correct classification (2)	D L1
1.2.4	Line graph / *Lyngrafiek* **OR / *OF*** ✓✓A Double bar graph / *Dubbele staafgrafiek*	2A type of graph (2)	D L1
		[18]	

QUESTION/*VRAAG* 2 [28 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
* 2.1.1	The amount you can earn (or less) without paying income tax / *Die bedrag wat jy kan verdien (of minder) sonder om inkomstebelasting te betaal.* ✓✓A	2A explanation (2)	F L1
2.1.2	✓RT = R14 958 + R8 199 + R2 736 ✓MA = R25 893 ✓MCA = R25 893 ÷ 18% ✓MCA OR × 100/18 = R143 850 **OR/*OF*** 18/100 × R143 850 ✓MCA ✓MCA = R25 893 ✓RT ∴ R25 893 – R14 958 – R8 199 – R2 736 ✓MA = R0	1RT all 3 correct values 1MA adding correct values 1MCA simplification 1MCA dividing by 18% **OR/*OF*** 1MCA dividing by 18% 1MCA simplification 1RT correct values 1MA subtracting values (4)	F L3
2.1.3	Annual tax payable / *Jaarlikse belasting betaalbaar* ✓A = R105 429 + 36% (R465 280 – R445 100) = R105 429 + 36% (R20 180) ✓S = R105 429 + R7 264,80 = R112 693,80 ✓CA ✓MA = R112 693,80 – (R14 958 + R8 199) = R89 536,80 ✓CA = R89 536,80 – [(R319 + R319) ×12] = R89 536,80 – R7 656,00 ✓MA = R81 880,80 ✓CA	1A correct bracket 1S simplification 1CA tax before rebates 1M subtracting the both rebates 1CA simplification 1MA subtracting medical credits 1CA simplification (7)	F L3

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.1	= 1 579,74 ÷ 100 ✓MA = R15,7974 = R15,80 ✓A	1MA dividing by 100 1A simplification **AO** (2)	F L1
* 2.2.2	Amount paid for a single (per) kℓ used / *Bedrag betaal vir 'n enkele (per) kℓ gebruik.* ✓✓A	2A explanation (2)	F L1
2.2.3	Percentage increase = $\frac{1\,859{,}53 - 1\,825{,}10}{1\,825{,}10} \times 100\%$ (✓MA, ✓MA, ✓A) = 1,886471974% ✓CA = 2% ✓R	1MA subtracting values 1A denominator 1MA percentage calculation 1CA simplification 1R correct rounding (5)	F L2
* 2.2.4	Amount excluding VAT / *Bedrag BTW uitgesluit* Block 1 7 × 856,35 ✓MA = 5 994,45 ✓A Block 2 6,5 × 1 089,28 = 7 080,32 Block 3 11,5 × 1 546,83 = 17 788,545 ✓MA Block 4 2 × 1 825,10 = 3 650,20 = 34 513,515 ✓CA = 34 513,515 ÷ 100 = R345,13515 = R345,13515 × 1,15 ✓MA OR × $\frac{115}{100}$ = R396,91 ✓CA	1MA multiplying with correct tariff (any 1) 1A simplification 1MA adding values 1CA VAT exclusive cost 1MA adding VAT 1CA simplification with unit (6)	F L3
		[28]	

QUESTION/*VRAAG* 3 [27 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
* 3.1.1	✓RT = 92% – 50% ✓MA = 42% ✓CA	1RT correct value (92%) 1MA subtracting 50% 1CA simplification **NPU** (3)	D L1
3.1.2	Probability / *Waarskynlikheid* 77% →Q3 ✓RT = 75% ✓A	 1RT identifying Q3 1A 75 % **AO** (2)	P L2
3.1.3	30% →Q1 ✓RT 25% × 40 learners ✓MA = 10 learners / *leerders* ✓CA	1RT identifying Q1 (25%) 1MA multiply with 40 1CA learners (3)	D L3
* 3.1.4	Physical Sciences / *Fisiese Wetenskappe* ✓A 30 learners scored more than 56% compared to 10 learners in Mathematics / *30 leerders het meer as 56% behaal in vergelyking met met 10 leerders in Wiskunde.* **OR / *OF*** ✓✓O 20 learners in Physical sciences scored more than 66% none learners scored more than 66% in in Mathematics / *20 leerders in Fisiese Wetenskappe het meer as 66% behaal, geen leerders het meer as 66% in Wiskunde behaal nie.*	1A correct subject 2O comparison (3)	D L4
* 3.2.1	4 ✓✓RT	2RT number of provinces (2)	D L1
* 3.2.2	No mode / *Geen modus* ✓✓A	2A no mode (2)	D L2

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.2.3	Percentage / *Persentasie* ✓RT $= \frac{15\,524}{262\,016} \times 100\%$ ✓MA ✓RT = 5,924829018 = 5,9% ✓CA	1RT correct value 1RT correct value 1MA percentage calculation 1CA simplification (4)	D L2
* 3.2.4	67,2 68,4 75,0 76,4 (77,1) 77,8 77,9 80,2 82,2 ✓MA Median / Mediaan = 77,1% ✓✓A	1MA arranging 2A correct median **AO** (3)	D L2
3.2.5	✓MA 22 933 = (31 894 + 10 339 + 32 317 + 47 231 + 37 458 + 25 604 + **B** + 2 075 + 10 082) ÷ 9 ✓MA ✓MA 22 933 × 9 = 31 894 + 10 339 + 32 317 + 47 231 + 37 458 + 25 604 + **B** + 2 075 + 10 082 206 397 = 197 000 + **B** 206 397 – 197 000 = **B** ✓MA **B** = 9 397 ✓CA **OR / *OF*** ✓MA $22\,933 = \frac{197\,000 + B}{9}$ ✓MA 197 000 + **B** = 22 933 × 9 ✓MA **B** = 206 397 – 197 000 ✓MA **B** = 9 397 ✓CA	1MA adding all values 1MA concept of mean 1MA multiplying by 9 1MA changing the subject of the formula 1CA simplification **OR / *OF*** 1MA adding all values 1MA concept of mean 1MA multiplying by 9 1MA changing the subject of the formula 1CA simplification (5)	D L3
		[27]	

QUESTION/*VRAAG* 4 [27 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
4.1.1	50 dozen / *dosyn* ✓✓RT	2RT break-even point (2)	F L2
4.1.2	Fixed cost / *Vaste koste* = R3 000 Variable cost = $\frac{6\,000 - 3\,000}{50}$ ✓MA = R60 ✓A ✓A Total cost = R3 000 + R60 × number of dozens ✓A *Totale koste = R3000 + R60 × aantal dosyn*	 1MA calculating unit price 1A variable cost 1A fixed cost 1A × number of dozens (4)	F L2
4.1.3	Income / *Inkomste* = R120 × 200 ✓MA = R24 000 ✓A Total cost / *Totale koste* = R3 000 + (R60 × 200) ✓MA = R15 000 ✓MCA Profit / *Wins* = R24 000 – R15 000 = R9 000 ✓CA His claim is VALID / *Sy bewering is GELDIG.* ✓O	**CA from Question 4.1.2** 1MA multiplying with R120 1A simplification 1MA multiplying and adding 1MCA simplification 1CA profit 1O conclusion (6)	F L4
4.2.1	Deposit / *Deposito* = 20% × R450 000 ✓MA = R90 000 ✓A	 1MA calculating 20% 1A simplification **AO** (2)	F L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.2.2	**CA from Question 4.2.1** Option / *Opsie 1* = R450 000 ✓RT Option / *Opsie 2* = 2,5 years / *jaar* ⟶ ✓A 30 months / *maande* = R90 000 + (R15 750 × 30) ✓MA ✓MA = R90 000 + R472 500 = R562 500 ✓CA Option 1 is cheaper / *Opsie 1 is goedkoper.* **OR / *OF*** ✓O Option 2 is better if you do not have the full amount cash but can afford the monthly installments / *Opsie 2 is beter as jy nie die volle bedrag kontant het nie, maar die maandelikse paaiemente kan bekostig.*	**CA from Question 4.2.1** 1RT cash price 1A number of months 1MA calculating instalments 1MA adding deposit 1CA simplification 1O advice (6)	F L4
4.3.1	Probability / *Waarskynlikheid* $= \frac{10}{12}$ ✓A ✓A $= \frac{5}{6}$ ✓CA	1A numerator 1A denominator 1CA simplification (3)	P L2
4.3.2	IQR = R381 000 Q1 = R1 510 000 IQR = Q3 – Q1 ✓SF R381 000 = Q3 – R1 510 000 ✓MA Q3 = R381 000 + R1 510 000 ✓MA = R1 891 000 His statement is CORRECT / *Sy bewering is KORREK.* ✓O	1SF correct substitution (R381 000) 1MA changing the subject of the formula 1MA adding values 1O conclusion (4)	D L4
		[27]	
		TOTAL/*TOTAAL* : 100	

NOTES:		
QUESTION 1		
1.1.4	Value of A / *Waarde van A* ✓RT ✓MA = R6 493,01 + R85,00 = R6 578,01	2/3 marks
	✓RT ✓MA = R30 572,22 – R37 150,23 = R6 578,01	2/3 marks
QUESTION 2		
2.1.1	Amount were you are excused to pay tax. Amount were you are not going to pay tax.	2/2 marks
2.2.2	Amount paid for a single (per) unit used / *Bedrag betaal vir 'n enkele (per) eenheid gebruik.*	1/2 marks
2.2.4	Accept: 39 691c	
	7 × R9,848025 = R68,936175 6,5 × R12,52672 = R81,42368 11,5 × R17,788545= R204,5682675 2 × R20,98865= R41,9773 Total including VAT = R396,9054225 = R396, 91	6/6 marks
QUESTION 3		
3.1.1	Accept: = 92 – 50 = 42	3/3 marks
3.1.4	Accept: The Physical Sciences marks are higher than the Mathematics marks. All the learners passed Physical Sciences, but 10 learners (25%) did not pass Mathematics. The median mark for Physical Sciences (66%) is higher than the median mark of Mathematics (44%)	
3.2.1	Name of Province: EC, KZN, MP and NC	1/2 marks
3.2.2	Accept: 82,3	2/2 marks
3.2.4	67,2 68,4 75,0 76,2, (76,4 77,1) 77,8 77,9 80,2 82,2 ✓MA Median / Mediaan = 76,75% ✓A	2/3 marks