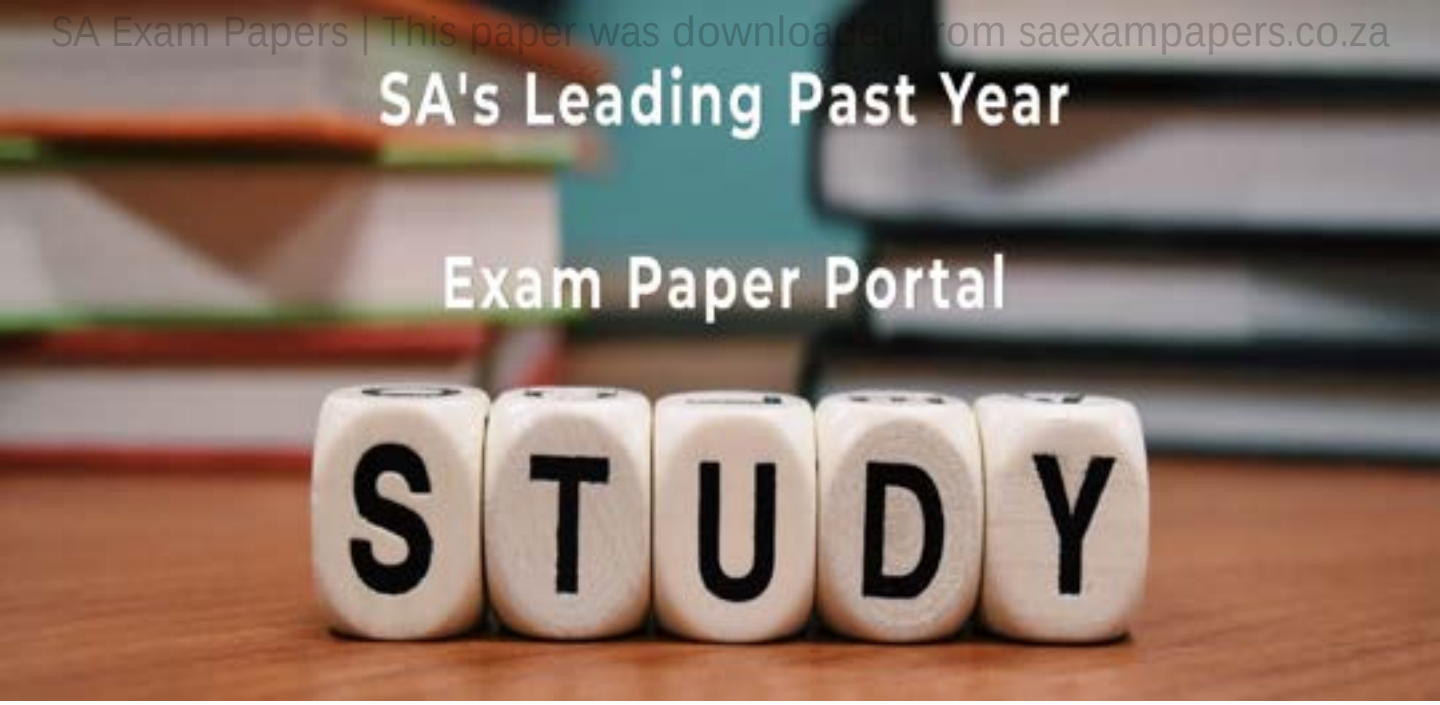

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GRADE 12

MATHEMATICAL LITERACY P1

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) pogin na.*
- *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas, dit hou by die tweede berekeningsfout op.*
- *Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra item.*

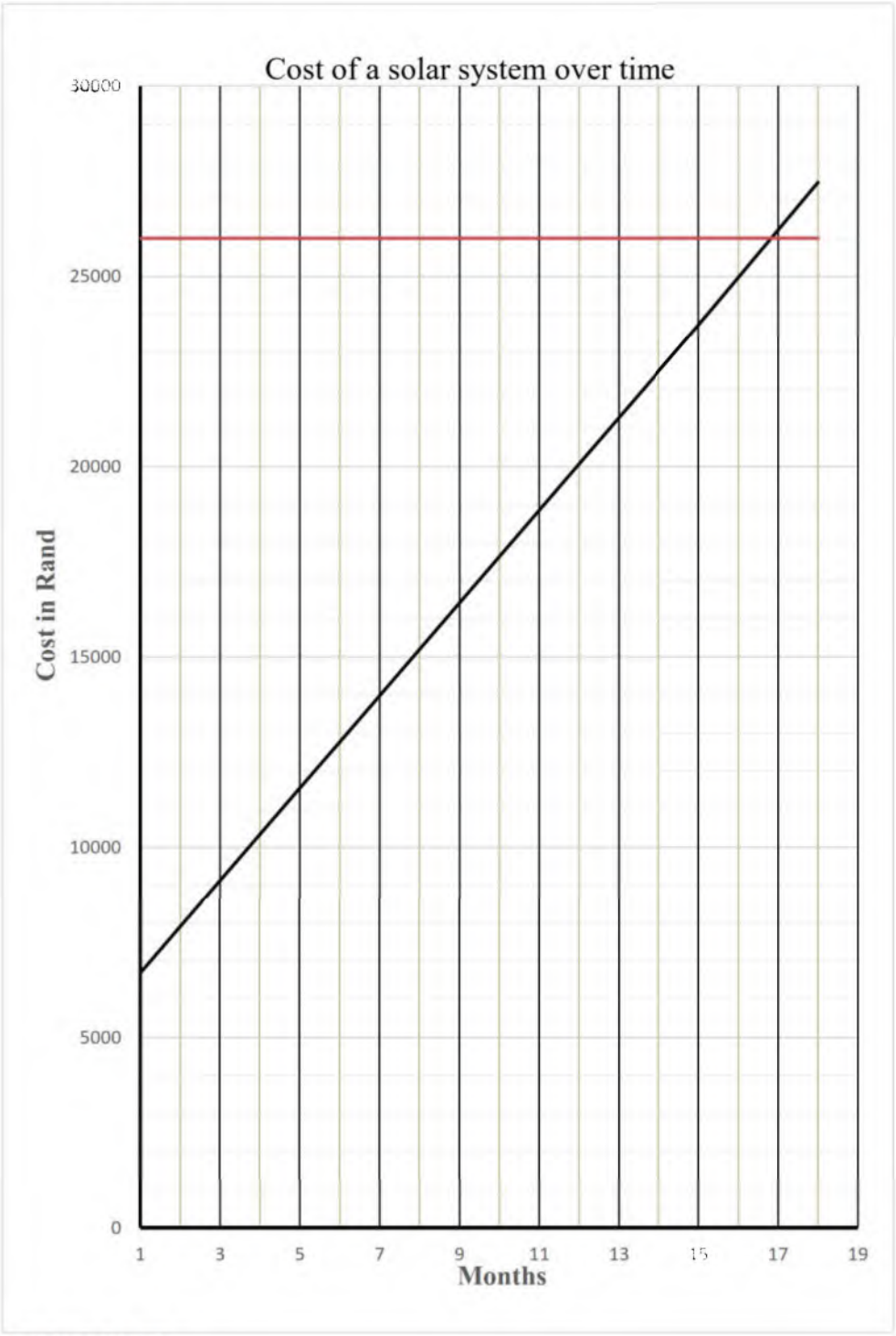
VRAAG 1/QUESTION 1 [30 MARKS]			
QUES	**SOLUTION**	**EXPLANATION/MARKS AO: FULL MARKS**	**T/L**
1.1.1	Food Lovers ✓✓RT	2RT correct shop (2)	F L1
1.1.2	The increase in the cost of goods over a period of time.✓✓A	2A correct explanation (2)	F L1
1.1.3	R29,99; R34,99; R39,99; R43,99; R46,99; R47,99✓✓A	2A correct order (2)	F L1
1.1.4	R487,90✓A + R324,94✓A = R812,84 **OR** R14,99 + R27,99 + R39,99 + R47,99 + R89,99 + R49,99 + R49,99 + R36,99 + R19,99 + R109,99 + R34,99 + R54,99 + R23,99 + R148,99 + R34,99 + R26,99✓✓A = R812,84	1A R487,90 1A adding R324,94 2A correct values add up to R812,84 (2)	F L1
1.1.5	R47,99 - R28,99✓RT = R19✓A	1RT correct values 1A R19 (2)	F L1
1.1.6	Cabbage✓✓RT	2RT correct food item (2)	F L1
1.2.1	Numerical✓✓A	2A Numerical (2)	D L1
1.2.2	R584,74✓✓A	2A median (2)	D L1
1.2.3	R650,84✓✓A	2A mode (2)	D L1
1.2.4	15,42%✓✓RT	2RT correct percentage (2)	D L1
1.2.5	$\frac{24}{100}$✓✓A **OR**	2A common fraction	D L1

	$\frac{12}{50}$; $\frac{6}{25}$	(2)	
1.3.1	4,25%✓✓RT	2RT correct interest rate (2)	F L1
1.3.2	✓RT 2:3 ✓RT	2 RT ratio (2)	F L1
1.3.3	Water, Electricty, Refuse, Security Fee, Parking ✓✓A	2A any two (2)	F L1
1.3.4	20 000 × 12✓MA = R240 000✓A	1MA multiply with 12 1A answer (2)	F L1
			[30]

VRAAG 2/QUESTION 2 [34 MARKS]			
QUES	**SOLUTION**	**EXPLANATION**	**T/L**
2.1.1	It is money borrowed from the bank to buy a house or property. ✓✓ A	2A Correct explanation (2)	F L1
2.1.2	R 920 000 ✓✓ RT	2RT Correct amount R9200 (2)	F L1
2.1.3	✓MA 9,95% - 5,70% = 4,25% ✓CA	1MA subtracting correct amounts 1CA % increase (CA if at least one value correct) (2)	F L2
2.1.4	R920 000 + R1 915 046,32 ✓MA = R 2 835 046,32 ✓CA OR (R5 777,91 × 12 × 2) + (R8 024,93 ×12 ×28) ✓MA = R 2 835 046,32 ✓CA	**CA 2.1.2** 1 MA Adding Interest earned 1 CA 1 MA Multiplying correct values 1 CA (3)	F L2
2.1.5	Monthly interest is calculated and included in the final amount, ✓✓A	2A interest (2)	F L4
2.1.6	$\frac{R8\,024{,}93-R5\,777{,}91}{R5\,777{,}91} \times 100$ ✓RT ✓MA $= \frac{R2\,247{,}02}{R5\,777.91} \times 100$ = 38,89% ✓CA	1 RT Basic repayments 1 MA calculating % difference 1 CA % difference	F L4

✓O

	∴ Her statement is valid	1 O Valid/not valid (4)	
2.2	Agent commission: R1 800 000 × 6% = R 108 000 ✓A Total Municipal costs: R 800 ×12 × 2 = R19 200 ✓A ∴Profit: R1 800 000 – (R 920 000 + R15 000 + R6 000 + R 10 000 + R 13 000 + R 108 000 + R 19 200) ✓M = R 806 000 ✓M	1A Commission 1A Municipal costs 1M Subtracting all relevant values 1CA profit amount (4)	F L3
2.3.1	**ANSWER SHEET 1** Calculating F ✓MA ✓A $R5\,472{,}78 + R1\,216{,}17 = R6\,688{,}95$ Calculating G ✓M ✓A $\frac{R\ 20\,066{,}82 - R5\,472{,}78}{R1\,216{,}17} = 12\ months$ Calculating H ✓M ✓CA $R5\,472{,}78 + (R1\,216{,}17 \times 18) = R27\,363{,}84$	1MA Adding correct values 1A payment month 1 1M Reverse calculation 1A Number of months 1M multiplying by 18 1CA repayment after 18 months (6)	F L2

2.3.2	**ANSWER SHEET 1**  **CA from 2.3.1** 1A starting point 1A one other point on the graph correct 1A connected as a straight line (3)	F L2

2.3.3	Installation time: 8h 45min + 5h 56min ✓MA = 14h 41 min ✓A ∴ Pays for 15 hours ✓R Total cost = (15×R102, 88) ✓MA + R14 300 + R27 363,84 = R1 543, 20 +R14 300 + R 27 363,84 ✓MCA = R43 207,04 ✓CA **OR** 9 ✓R ×R102,88 = R925,92✓MA 6 × R102,88 = R617,28 ✓MA Total Labour cost = R1 543,20 ✓A Total cost = R1 543,20 + R14 300 + R27 363,84 ✓MCA = R43 207,04 ✓CA	CA from 2.3.1 1MA adding times 1A time spent installing 1R rounding to whole hours 1MA multiplying with hours 1MCA adding all three values 1CA answer 1R rounding to whole hours 1MA Calculating day 1 1MACalculating day 2 1A time spent installing 1MCA adding all three values 1CA answer (6)	F L2

VRAAG 3/QUESTION 3 [28 MARKS]			
QUES	**SOLUTION**	**EXPLANATION**	**T/L**
3.1.1	Coal ✓✓ RT	2RT Correct mineral (2)	D L1
3.1.2	% Platinum Group Metals $= \frac{30}{96}$ ✓RT $\times 100\%$ ✓M % PGM = 31,25% ✓ CA % PGM = 31,3% ✓ R	1RT correct values 1M % calculation 1CA% PGM 1R Rounding (4)	D L2
3.1.3	$P_{dormant/closed} = \frac{120}{420}$ ✓RT ✓RT OR $P_{dormant/closed} = \frac{2}{7}$ ✓A✓A	1RT numerator 1RT denominator *No further marks for simplification* (2)	P L2

QUES	SOLUTION	EXPLANATION	T/L
3.2.1	✓MA $\frac{18599 + 92670 + 12900 + 93998 + 21427 + 13290 + 17953}{8}$ $= \frac{442405}{8}$ ✓M = 55 300 OR 55 301 ✓CA	1MA adding correct values 1M concept of mean 1CA mean value (3)	D L3
3.2.2	✓M Range of Total Sales = R346 525 549 000 – R19 839 840 000 Range = R326 685 709 000 ✓CA	1M subtraction 1CA range (2)	D L2
3.2.3	Diamonds = R13 210 210 000 ✓A ✓A Thirteen Billion two hundred and ten million two hundred and ten thousand Rand	1A billion 1A million and hundred thousand (2)	D L1
3.2.4	19 839 840; 21 139 007; 21 974 540; 37 098 932; 102 209 471; 120 781 852; 150 098 372; 346 525 549 ✓M $Q_1 = \frac{21\,974\,540 + 21\,139\,007}{2}$ ✓M Q_1 = R21 556 773 500 ✓A $Q_3 = \frac{120\,781\,852 + 150\,098\,372}{2}$ Q_3 = R135 440 112 000 ✓A ∴ IQR = Q3 – Q1 ✓MCA IQR = R135 440 112 000 – R21 556 773 500 IQR = R113 883 338 500 ✓CA ∴ Yes, his statement was valid. ✓O	1M arranging 1M concept Q_1 or Q_3 1A Q_1 1A Q_3 1MCA concept of $Q_3 - Q_1$ 1CA IQR value 1O conclusion *If learners arranged values in 3.2.2, allocate the arranging mark in 3.2.3* (7)	D L4

3.2.5	✓O The table only indicates a selected group of metals/minerals where the Total row includes all of metals/minerals mined in South Africa. ✓O	1O selected groups 1O all metals/minerals (2)	D L4
3.2.6	✓M Total Local Sales = R849 633 717 000 – R682 082 493 000 Total Local Sales = R167 550 678 000 ✓CA	1M subtraction 1CA Total local sales (2)	D L1
3.2.7	$P_{>21\,500} = \frac{3}{8}$ ✓RT $P_{>21\,500}$ = 0,375 ✓A	1RT correct values 1A Decimal **NPR** (2)	P L2
		[28]	

VRAAG 4/QUESTION 4 [31 MARKS]

QUES	SOLUTION	EXPLANATION	T/L
4.1.1	General Hospitals ✓✓ RT	2RT identifying correct subprogramme from table. (2)	F L1
4.1.2	✓A $\frac{1}{5} \times 100 = 20\%$ ✓CA ✓ A	1 A numerator 1A denominator 1 CA solution as percentage **NPR** (3)	P L2
4.1.3	36 431 - (28343 + 61 581 + 69 788 + 12 369) =36 431 - 172081 ✓MA = - 135 650 ✓A (135 650) **OR** 7 279 341 - 7 414 991 = - 135 650 (135 650)	1 MA subtracting all values from total 1 A value of A *Learners must either write as a negative amount or in brackets.* (2)	F L 2
4.1.4	✓RT R98 272 thousand – R96 051 thousand ✓M = R2 221 thousand ✓CA **OR** ✓RT ✓M R98 272 000 – R96 051 000 = R2 221 000 ✓CA	1RT both values 1 M difference between values 1 CA final answer in Rands **NP for omitting thousands** (3)	F L2
4.2.1	**PawPaw A:** 15% + 25% = 40% ✓A ✓MA	1 A adding percentages 1 MA calculating percentage of claim amount	F L3

	$\frac{40}{100} \times R\ 17\ 000$ =R6 800 ✓CA **PawPaw B:** $\frac{20}{100} \times R\ 17\ 000$ $= R\ 3\ 400$ ✓A $R\ 3\ 400 + R\ 1\ 000$ ✓MA =R4 400 ✓CA R 6 800 – R 4 400 ✓MCA = R2 400 ✓CA	1 CA value for PawPaw A 1 A excess claim for PawPaw B 1 MA adding flat excess 1 CA value for PawPaw B 1MCA Subtracting values for A and B 1 CA final value of difference (8)	
4.2.2	To ensure that animals with pre-exisiting conditions do not try and claim within the first 30 days ✓✓ O Any other valid reason.	2 O Reasonable explanation for the waiting period. (2)	F L4
4.3.1	Median ✓✓A	2 A identifying correct measure of central tendency. (2)	D L1
4.3.2	10 percent of teachers earn the same or less than that teacher, ✓✓O **OR** 90 percent of teachers earn the same or more than that teacher. ✓✓O	2 O explanation of 10^{th} percentile (2)	D L1
4.3.3	Accept range: 60 000 – 62 000 and 30 000 – 32 000 ✓RG ✓MA \$61 400 – \$30 210 = \$31 190 ✓CA \$31 190 ÷0,056 ✓MCA = R 556 964,29 R556 964,29 ÷12 ✓MCA = R46 413,69 ✓CA **OR** Currency conversion first ∴The statement is valid. ✓O	1 RG correct values from graph 1 MA subtracting correct values 1 CA annual difference 1 MCA converting to Rand 1 MCA determining monthly amount 1 CA monthly amount in Rand 1 O (7)	F L4

			[31]

VRAAG 5/QUESTION 5 [27 MARKS]			
QUES	**SOLUTION**	**EXPLANATION**	**T/L**
5.1.1	R12 375 +6% of the value above R1 512 500 ✓✓RT	2 RT (2)	F L2
5.1.2	R97 075 + (R2 850 000 – R 2 722 500) × 11% ✓RT = R97 075 + R 127 500 × 11% ✓S = R 97 075 + R 14 025 = R 111 100 ✓CA	1 SF 1 S 1 CA (3)	F L3
5.1.3	The type of ground/ rainfall/ availability of water/resale value ✓✓O	2 O (2)	F L4
5.2.1	✓RT 21 000; 44 000;64 000;72 000; 102 000; 105 000; 116 000; 204 000; 255 000 ✓A Median = 102 000 ✓A	1 RT correct values 1 A correct order 1 CA median of organized values (3)	D L2
5.2.2	✓MA 255 000-21 000 =234 000✓A	CA from 5.2.1 1MA concept of range 1 A value (2)	D L2
5.2.3	6% = 21 000 ✓A ✓M $\frac{100}{6} \times 21\,000$ = 350 000 ✓CA	1 A 100/6 1 M calculating percentage of 21 000 1 CA value (3)	D L2
5.2.4	7,9+3,7+5,8+6,1+7,8+5,1+3,8+4,5+6,0 ✓MA $\frac{50,7}{9}$ ✓M =5,63% ✓CA ∴It is valid ✓O	1 MA adding % values correctly 1 M concept of mean 1 CA mean value 1 O valid/ Invalid (4)	D L4
5.2.5	Western Cape has a higher percentage of households affected. ✓✓O **OR** Even though Western Cape has a higher percentage of breakings, Gauteng has a high number of breakings. ✓✓O	2 O Any valid opinion (2)	D L4
5.3.1	✓RT 600kWh × 267,38c = 160 428c ✓CA 900kWh × 288,24c = 259 416 c ✓CA Increase : ✓MA 259 416 c – 160 428 c	1 RT correct tariff 1 A cost of 600 kWh 1 CA Cost of 900 kWh 1MA calculating increase	F L3

	= 98 988c ✓CA Increase in rands: 98 988c ÷ 100 = R 989,88 ✓C	1CA increase 1C converting to Rands (6)	
		[27]	
		TOTAL: [150]	