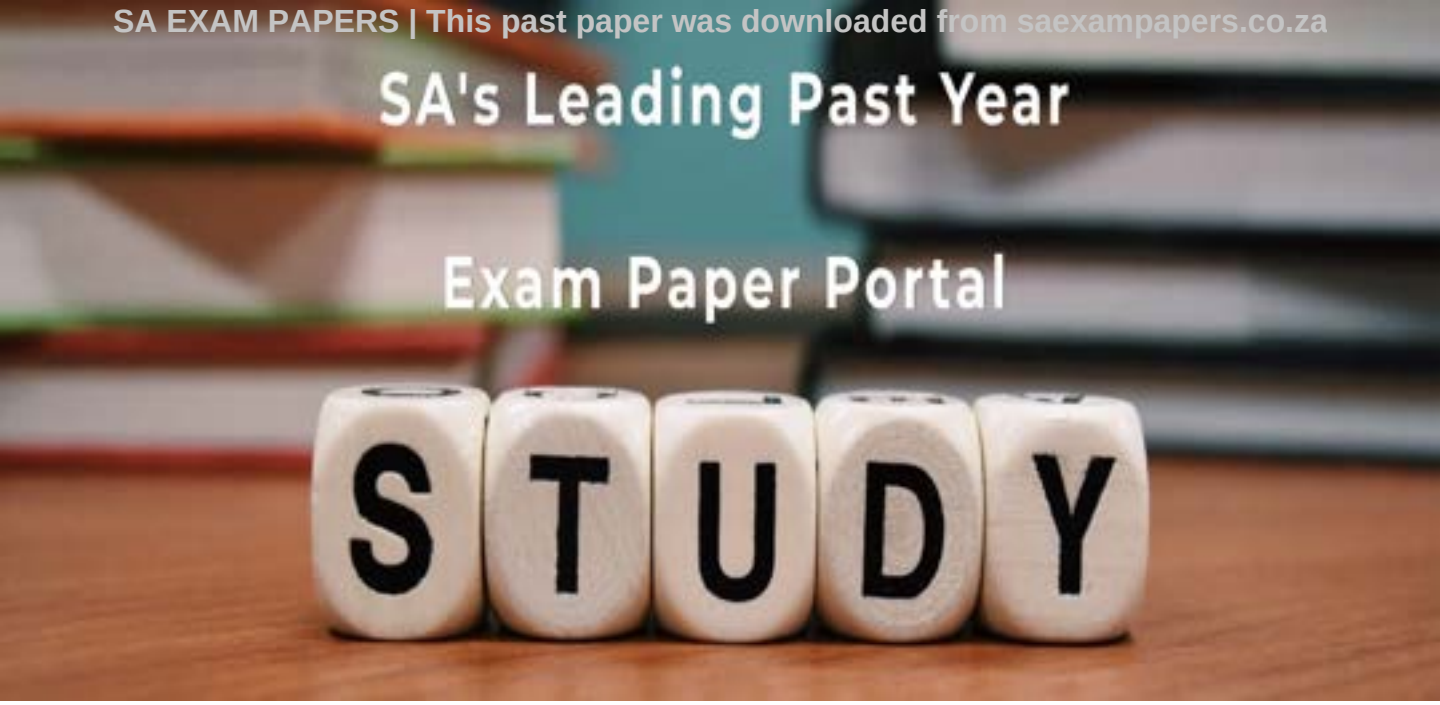

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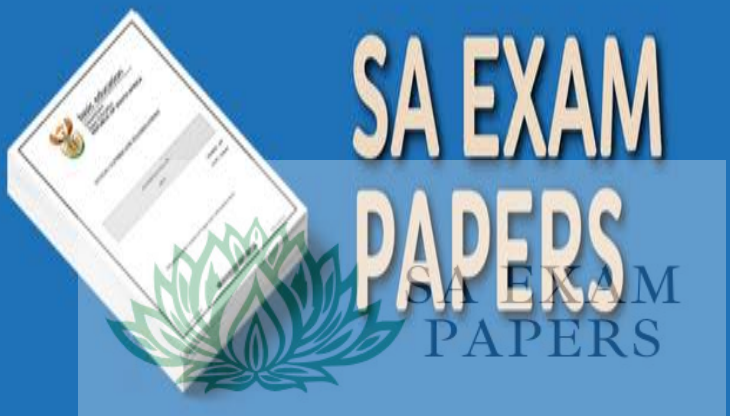

Province of the EASTERN CAPE EDUCATION

Iphondo leMpuma Kapa: Isebe leMfundo
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NATIONAL SENIOR CERTIFICATE

GRADE 12

SEPTEMBER 2024

MATHEMATICAL LITERACY P1 MARKING GUIDELINE

MARKS: 150

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT	Reading from a table/graph/document/diagram
SF	Correct substitution in a formula
O	Opinion/Explanation
P	Penalty, e.g. for no units, incorrect rounding off, etc.
R	Rounding off
NPR	No penalty for correct rounding minimum two decimal places
AO	Answer only
MCA	Method with constant accuracy

This marking guideline consist of 11 pages.

MARKING GUIDELINES

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 incorrect item presented.

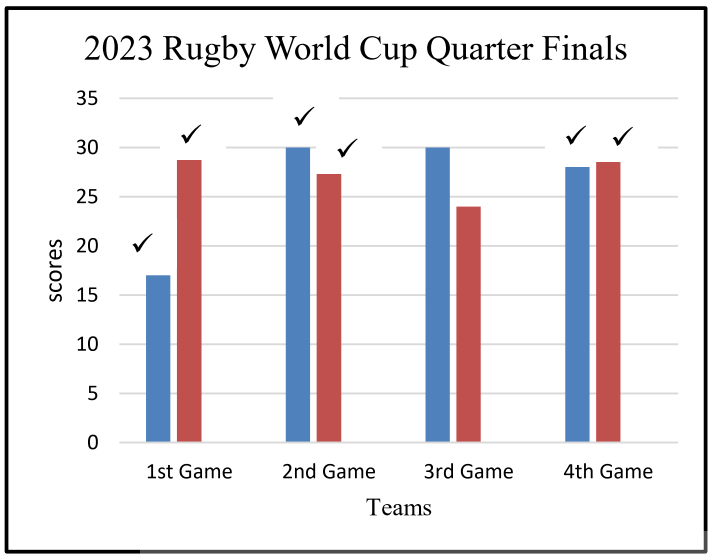
QUESTION 1 [30 MARKS]			
Ques.	**Solution**	**Explanation**	**T&L**
1.1.1	A = R20 187,00 + R612,20 ✓ SF = R20 799,20 = R20 799 200 ✓A	1SF correct substitution 1A simplification (2)	**F** **L1**
1.1.2	Opening balance is the amount of money in an account at the beginning of the statement period. ✓✓A **OR** Opening balance is the balance brought forward in the account at the beginning of the statement period. ✓✓A	2A definition (2)	F L1
1.1.3	✓RT ✓ MA =(R4 102,70 + R500,00 + R1000,00 + R1000,00) thousand = R6 602,70 thousand **OR** ✓RT ✓MA = R 4 102 700,00 + R500 000,00 + R1000 000,00 + R1 000 000,00 = R6 602 700	1RT correct values 1MA adding correct values **OR** 1RT correct values 1MA adding correct values (2)	F L1
1.1.4	✓MA B = R19 028,00 – (R1000,00 + R9 000,00 + R288,00 + R350,00 + R2890,00) thousand = R5 500 thousand ✓CA **OR** ✓MA B = R19 028 000,00 – (R100 000 + R9 000 000 + 288 000 + 350 000 + R2 890 000) B = R5 500 000 ✓CA	1MA subtracting from total 1CA value of B **OR** 1MA subtracting from total 1CA value of B (2)	F L1
1.1.5	Total expenditure R19 028,00 thousand/R19 028 000,00 Ninteen million and twenty eight thousand rands ✓✓A	2A correct value in words **NPU** (2)	F L
1.1.6	Difference = R3 000,00 – R288,00 ✓RT ✓M = R2 712,00 ✓**A**	1 RT correct values 1M subtracting 1A simplification (3)	F L1

1.2.1	Cost = $\frac{R249,00}{60}$ ✓MA = R4,15 ✓CA	1MA dividing by 60 1 CA simplification (2)	F L1
1.2.2	Profit = R5,00 – R4,15 ✓MA = R0,85 ✓CA	1MA calculating profit 1CA simplification (2)	F L1
1.2.3	Number of pens sold = 4 x 60 ✓RT = 240 pens ✓A	1A correct number 1A simplification (2)	F L1
1.2.4	% profit = $\frac{\text{Profit}}{\text{Cost price}}$ x 100 = $\frac{R0,85}{R4,15}$ x 100 ✓**M** = 20,48% ✓**CA**	1M percentage calculation 1CA simplification (2)	F L1
1.2.5	Impossible **OR** 0 ✓✓A	2Acorrect probability (2)	P L1
1.3.1	Friday ✓✓A	2A correct day (2)	F L1
1.3.2	✓RT % discount = $\frac{R499,00 – R336,75}{R 499,00}$ x 100 ✓MA = 32,52% ✓CA	1RT both values 1MA percentage calculation 1CA simplification (3)	F L1
1.3.3	Price before VAT = R499,00 ÷ $\frac{115}{100}$ **OR** 1,15 ✓A = R433,91 ✓CA **OR** VAT = R499,00 x $\frac{15}{115}$ ✓MA = R65,09 = R499,00 – R65,09 = R433,91 ✓CA **OR** VAT = R499,00 x $\frac{100}{115}$ ✓A = R433,91 ✓CA	1A ÷ 1,15 1CA simplification 1CA simplification 1MA correct value x $\frac{15}{115}$ 1CA simplification 1A $\frac{100}{115}$ 1CA simplification (2)	F L2
		[30]	

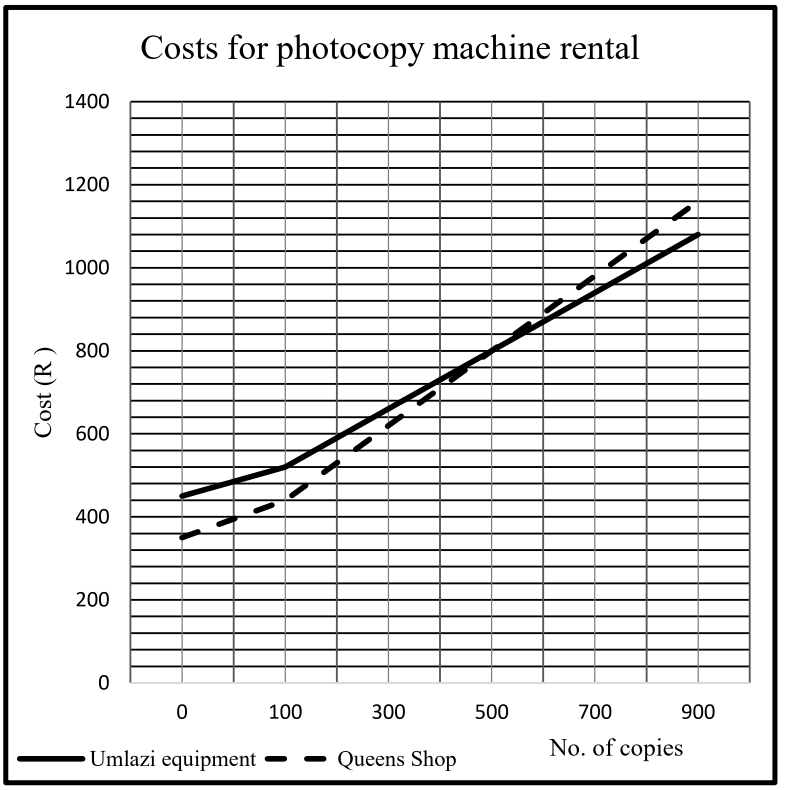
QUESTION 2 [35 MARKS]			
Ques.	**Solution**	**Explanation**	**T&L**
2.1.1	R30 533 ✓✓A	2A correct salary (2)	F L1
2.1.2	Monthly tax credit = R4 164 ÷ 12 ✓A = R347,00 ✓A	1A dividing by 12 A1 simplification (2)	F L2
2.1.3	✓RT Contribution = R86 238 x 36,5 ✓MA 100 = R31 476,87 ✓A = R31 476,87 ÷ 5 ✓MA = R 6 295,37 ✓CA	1RT correct value 1MA multiplying by 36,5% 1A answer 1MA dividing by 5 1CA simplification (5)	F L2
2.2.1	Exchange rate is the value of one currency relative to the value of another currency. ✓✓	2A definition (2)	F L2
2.2.2	Weaker ✓✓	2A Weaker (2)	F L2
2.2.3	R1 = 0,05 US dollar = 300 US dollar ✓ 0,05 = R6000,00 ✓ Joy's sister is correct. ✓	1MA dividing by 0,05 1A simplification 1A conclusion (2)	F L2
2.3.1	Amount received = R334 159 x 1 ✓ 3 ✓ = R111 386,33 ✓	1A correct value 1A multiplying 1/3 1A simplification (3)	F L2

2.3.2	Amount interest 1st six months = 111 386,33 x $\frac{4,5}{100}$ ✓**MA** = R5 012,38 + R111 386,33 = R116 398,71485 ✓**A** 2nd six months = R116 398,71485 x $\frac{4,5}{100}$ = R5 237,9421 + R116 398,71485 = R121 636,6570 ✓ **CA** 3rd six months = R121 636,6570 x $\frac{4,5}{100}$ = R5 473,649 + R121 636,6570 = R127 110,3065 ✓**CA** 4th six months = R127 110,3065 x $\frac{4,5}{100}$ = R5 719,9637 + R127 110,3065 = R132 830,2702 = R132 830,27 ✓ Interest earned = R132 830,27 – R111386,33✓**M** = R21 443,94 ✓CA Statement is incorrect. ✓O **OR** Amount interest 1st six months = R111 386,33 x 1,045 ✓**MA** = R116 398,71 ✓**A** 2nd six months = R116 398,71 x 1,045 = R121 636,66 ✓ **CA** 3rd six months =R121 636,66 x 1,045 = R127 110,31 ✓ **CA** 4th six months = R127 110,31 x 1,045 = R132 830,27 ✓ **CA** Interest earned = R132 830,27 – R111 386,33 = R21 443,94 ✓ Statement is incorrect. **OR** Amount interest ✓MA ✓MA ✓MA ✓MA = R111 386,33 x 1,045 x 1,045 x 1,045 x 1,045 = R132 830,27 ✓ CA = R132 830 – R111 386,33 ✓MA = R21 443,94 ✓CA Statement is incorrect. ✓O	**CA from QUESTION 2.3.1** MA calculating 4,5% **1A interest 1st six months** **1CA amount 2nd six months** **1CA amount 3rd six months** **1CA final answer** 1M subtracting values 1CA simplification 1O conclusion 1MA calculating 4,5% 1A amount 1st six months 1CA 2nd six months 1CA 3rd six months 1CA final answer 1CA difference 1O conclusion 4MA multiplying by 1,045 1CA simplification 1MA difference 1CA simplification 1O conclusion (8)	F L4

2.4	10 Mbps LTE = R299,00 x 24 ✓ MA = R7 176 – R3 600,00 ✓ **MA** = R 3 576,00 x 4 ✓**MA** = R14 304 ✓ **A** 20 Mbps LTE = R399,00 x 24 = R9 576,00 – R6 000 = R3 576 x 2 ✓ **MA** = R7 152,00 ✓ **CA** 50 Mbps fibre optic = R749,00 x 24 = R17 976 – R2 400 = R 15 576 ✓ **CA** Mr walker's statement is not valid. ✓ **O**	1MA multiplying by 24 1MA subtracting savings 1MA multiplying by 4 1A amount for 10 Mbps 1MA multiplying by 2 1CA amount for 20 Mbps 1CA amount for 50 Mbps 1O conclusion (8)	F L4

QUESTION 3 [27 MARKS]			
Ques.	**Solution**	**Explanation**	**T&L**
3.1.1	A = 82,3% – 85,7% ✓ MA = –3,4% ✓ CA	1MA subtracting correct values 1CA simplification (2)	D L1
3.1.2	Mathematical Literacy ✓✓ **RT**	2RT correct subject (2)	D L1
3.1.3	Range = max. value – min. value = 8,5% – (–3,4%) ✓ RT✓M = 8,5% + 3,4% ✓ MA = 11.9% ✓ **A**	1RT correct values 1 M subtract min from max 1MA adding correct values 1A simplification (4)	D L1
3.1.4	Mean ✓**RT** 78,2% = $\frac{(76,9 + 80,5 + 81,8 + B + 86,2 + 87,7 + 75,6 + 82,3 + 63,5 + 76,2)}{10}$ ✓ **M** 78,2% = $\frac{710,2\% + B}{10}$ B = 782 % – 710,2% ✓ **M** B = 71,3% ✓ **CA**	1RT correct values 1M concept of mean 1M changing the subject 1CA simplification (4)	D L2
3.1.5	P (subject with % decrease) = $\frac{2}{10}$ ✓ RT ✓RT = 0,2 ✓ CA	1RT numerator 1A denominator 1CA simplification (3)	P L2
3.2.1	RSA ✓✓**A**	2A correct team (2)	D L2
3.2.2	New Zealand ✓✓**A**	2A correct team (2)	D L2
3.2.3		✓✓✓✓✓✓ one mark for each bar (6)	D L2
3.2.4	No mode ✓✓ A	2A correct mode	D L1

QUESTION 4 [33 MARKS]

Ques.	Solution	Explanation	T&L
4.1.1	Cost will vary according to the number of copies made. ✓✓D	2D definition (2)	F L1
4.1.2	Umlazi Office = R450,00 + (R0,70 x no of colour print) ✓✓**A** Queens Shop = R350,00 + (R0,90 x no of colur print) ✓✓**A**	2A correct formula 2A correct formula (4)	F L4
4.1.3	ANSWER SHEET 2 	✓ ✓✓ **for each two correct values** ✓ starting point for Umlazi ✓starting point for Queens ✓break-even point ✓✓plotting all the points ✓joining the points (9)	F L4
4.1.4	500 copies ✓✓**A**	2A correct number of copies (2)	F L1
4.1.5	Umlazi Office equipment ✓✓**A**	2A correct company (2)	F L1
4.2.1	Continuous data. ✓**A** Data is obtained by measuring. ✓✓**A**	1A correct answer 2A explanation (3)	D L2
4.2.2	13 years ✓✓**A**	2A correct age (2)	D L1

No colour copies	0	100	300	500	700	900
Cost for Umlazi	450	520	660	800	940	1080
Cost for Queens	350	440	620	800	980	1160

4.2.3	✓ O For high jump you measure the height the athletes jumps and for long jump and shot put you measure the distance an athlete throws. ✓✓**O**	1O High jump 2O shot put and long jump (3)	D L2
4.2.4	3,80 m 4,10 m; 4,10 m; 4,40 m; 4,50 m;4,60 m; 4,80 m;5,20 m ✓**A** Median = $\frac{4,40 \text{ m} + 4,50 \text{ m}}{2}$ ✓**MA** = $\frac{8,9 \text{ m}}{2}$ = 4,5m ✓**CA** Range = max value – min value = 5,20 m – 3,80 m ✓**A** = 1,4m ✓**CA** The statement is correct. The range is small so the results are closer to the median. ✓**J**	1A order, ascending or descending 1MA concept of a mean 1CA simplification 1A difference 1CA simplification 1Justification (6)	D L2

QUESTION 5 [25 MARKS]			
Ques.	**Solution**	**Explanation**	**T&L**
5.1.1	Consumption = 32 kℓ RT ✓MA ✓RT 6 kℓ x R18,12 kℓ = R108,72 -------- 32 kℓ – 6 kℓ = 26 kℓ 9 kℓ x R29,26 kℓ = R263,34 ---------26 kℓ – 9 kℓ = 17 kℓ 15 kℓ x R36,58 = R548,70 ----------17 kℓ – 15 kℓ = 2 kℓ 2 kℓ x R45,52 = R91,04 = R1 011,80 ✓CA = R1 011,80 + R59,96 = R1 071,76 ✓**A** ✓**A** Grand total = R1 071,76 x 1,15 ✓**A** = R1 232,52 ✓**CA** **OR** ✓**A** Grand total = R1 071,76 x 15/100 = R160,76 + R1 071,76 ✓**A** = R1 232,52 ✓**CA**	1RT correct consumption 1MA all (4) correct kℓ 1RT 4 tariffs 1CA finding total charge 1A simplification 1A correct amount 1A x by 1,15 1CA simplification 1A correct amount 1 A adding VAT 1CA simplification (8)	F L3
5.1.2	Median = R29,26 + R36,58 ✓**RT** ✓**A** 2 = R32,92 ✓**CA**	1RT correct values 1A concept of a mean 1CA simplification (3)	D L2
5.2	0 to 6kℓ bracket: ✓**RT** = R18,12 – R16,18 x 100 ✓**MA** R16,18 = 11,99% ✓**A** 7 kℓ to 15 kℓ bracket: ✓**RT** = R29,86 – R26,68 x 100 ✓**MA** R26,68 = 12% ✓ **CA** 7 kℓ to 15 kℓ bracket had a high percentage increase. ✓**O**	 1RT correct values 1MA multiplying correct values with 100 1A simplification 1RT correct values 1MA multiplying by 100 1CA simplification 1O opinion (7)	F L2

5.3	2,6 ; 74,7; 244,0 ; 255,4 ; 265,3 ; 271,9 ; 387,3 ; 480,6 ✓MA $Q_2 = \frac{255,4 + 265,3}{2}$ ✓**A** = 260,5 billion ✓**CA** $Q_1 = \frac{74,7 + 244,0}{2}$ = 159,35 billion ✓**CA** $Q_3 = \frac{271,9 + 387,3}{2}$ = 329,6 billion ✓ **CA** IQR = Q_3 – Q_1 = 329,6 billion – 159,35 billion ✓**M** = 170,25 billion ✓**CA**	1MA order, ascending or descending 1A concept of median Or other learners will indicate the mean on the arranged data. 1CA Q_2 1CA Q1 1CA Q_3 1M subtracting quartile 1CA IQR value **(No penalty for omitting billion.)** (7)	D L4
		[25]	
		TOTAL: 150	