NATIONAL
SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2022

MATHEMATICAL LITERACY P1
MARKING GUIDELINE

MARKS: 100

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
MCA	Method with consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RM	Reading from a table/Reading from a graph/Read from a map
F	Choosing the correct formula
SF	Substitution in a formula
J	Justification
P	Penalty, e.g. for no units, incorrect rounding off etc.
R	Rounding Off/Reason
AO	Answer only
NPR	No penalty for rounding

This marking guideline consists of 7 pages.

QUESTION 1: FINANCE AND DATA HANDLING [19]

Ques	Solution	Explanation	T&L
1.1.1	Clerk/Cashier ✓✓ RT	2RT correct occupation (2)	F L1
1.1.2	Total deductions = R650 + R774 + R61,25 ✓ M = R1 485,25 ✓ A **OR** Total deductions = R6 125–R4 639,75 ✓ M = R1 485,25 ✓ A	1M adding the deductions 1A answer 1M subtracting 1A answer (2)	F L1
1.1.3	Overtime = R25 × 45 ✓ RG ✓ M = R1 125	1RG values R25 and 45 1M multiplication (2)	F L1
1.1.4	Net pay is the amount received by employee after subtracting total deductions ✓ from gross income ✓J	2J explanation (2)	F L1
1.1.5	Increase $= \dfrac{7,5}{100} \times 5\,000$ ✓ MA ✓M $= R375$ ✓A	1MA percentage of 7,5% 1M multiplication with R5 000 1A answer (3)	F L1
1.2.1	Histogram ✓✓ RT	2RT correct answer (2)	D L1
1.2.2	✓M Total = 30 + 25 + 40 + 35 + 25 + 20 + 15 + 10 + 10 + 5 = 215 ✓CA	1M addition 1CA answer (2)	D L1
1.2.3	40 ✓✓ RG	2RG answer (2)	
1.2.4	$\dfrac{68}{100} \times 50 = 34$ marks ✓M✓ A	1M multiplication with % with 50 1A answer (2)	D L1
		[19]	

Ques.	Solution	Explanation	T&L
	QUESTION 2: FINANCE [33]		
2.1.1	R2 470 783 ✓✓ RT	2RT correct lump sum payable to beneficiaries (2)	F L1
2.1.2	✓RT R2 836 836 – R166 417 ✓ M = R2 670 419 ✓CA	1RT correct value for 2022 1M subtraction R166 417 from the value of 2022 1CA correct answer (3)	F L1
2.1.3	2022 Annual amount = R26 383 × 12 ✓ M = R316 596 ✓ S = R316 600 ✓ R	1M multiplying the correct value by 12 1S simplification 1R correct rounding (3)	F L2
2.1.4	Difference in lump sums for 2022 and 2021 = R919 363 – R884 198 ✓ RT = R35 165 ✓ CA R35 165 is not more than R35 615 statement is invalid. ✓ J	1RT and subtracting correct values R919 363 and R884 198 1CA simplification 1J justification. (3)	F L4
2.1.5	Advantage: It is a saving for the future ✓✓ J One gets income after retiring Beneficiaries get some income when the breadwinner has passed on. **Choose ONE or ANY relevant answer.**	2J any correct reason given (2)	F L4
2.2.1	Selling price for Samsung Galaxy A72 = R7 499,25 + R2 497,75 ✓M = R9 999,00 ✓A	1M addition 1A answer (2)	F L1
2.2.2	Total profit = R1 099,75 + R2 499,75 + R3 699,75 + R7 249,75 ✓M = R14 549,00 Total income = (3 299,25 + 1099,75 + 7499,25 + 2499,75 + 11099,25 + 3699,75 + 21749,25+7249,75) = R58 196,00 ✓M Ratio of total profit : total income = R14 549,00 : R58 196,00 ✓M = 1 : 4 ✓CA	1M adding the total costs 1M adding the profits 1M forming ratio 1CA reduced to simplest ratio form (4)	F L3
2.2.3	A31 cellphones ordered = $\frac{2}{3} \times 15 = 10$ ✓A A72 cellphones ordered = $\frac{1}{3} \times 15 = 5$ ✓A Cost price of A31: 10 × R3 299,25 = R32 992,50 ✓MCA Cost price of A72: 5 × R7 499,25 = R37 496,25 ✓MCA ✓MCA Total cost price of the order = R32 992,50 + R37 496,25 = R70 488,75	1A for number of A31 phone ordered 1A for number of A72 phone ordered. 1MCA cost price for A31 1MCA cost price for A72 1MCA addition (5)	F L4

Ques	Solution	Explanation	T&L
2.2.4	Percentage decrease $= \dfrac{R3\ 299,25 - R3\ 399,75}{R3\ 399,75} \times 100\%$ ✓SF ✓SF $= -2,96\%$ ✓S $= 3,0\%$ ✓R	1SF substituting the numerator values 1SF substituting denominator value 1S simplification 1R rounding **(NPR for negative answer)** (4)	F L3

2.3	Amount charged : $6,110 \times R16,992900 = 103,826619$
	           : $4,073 \times R17,326130 = 70,56932749$ } ✓M
	           : $2,817 \times R24,06370 = 67,7874429$
	
	       Total: R242,18 ✓S
	
	Amount charged including VAT: $R242,18 \times 1,15$ ✓M
	                $= R278,51$ ✓CA
	INVALID statement ✓J
		1M multiplying by the rate
		
		1S simplification
		
		1M VAT calculation
		1CA simplification
		1J justification (5)
			F
			L4

		[33]	

QUESTION 3: DATA HANDLING AND PROBABILITY [19]

Ques.	Solution	Explanation	T&L
3.1	April 2018 ✓✓ RT	1RT for the month 1RT for the year correct (2)	D L1
3.2	✓ RT Range $= R59\ 960 - R52\ 361$ ✓ M $= R7\ 599$ million ✓CA	1RT identifying the values 1M subtraction 1CA answer (3)	D L2
3.3	✓ A Six hundred and sixty-six billion, four hundred and twenty-four million ✓ A	1A value of billions 1A value of millions (2)	D L1

3.4	Mean sales in millions $= \dfrac{666\ 424\ 000}{12}$ ✓ RT
	                       ✓M
	       $= R55\ 535\ 333,33$ ✓A
		1RT value of the numerator
		1M dividing by 12
		1A correct answer
		    (3)
			D
			L2

3.5	Descending order:
	59 960; 59 270; 58 435; 57 915; 56 846; **55 646**; **54 981**;
	54 467; 54 249; 53 844; 52 718; 52 361 ✓M
	
	Median in millions $= \dfrac{55\ 646 + 54\ 981}{2}$ ✓M
	             $= R55\ 313,50$ ✓CA
		1M arranging in descending/ascending order
		
		1M concept of median.
		1CA answer
		    (3)
			D
			L3

3.6	Annual % increase rate on monthly premium $\checkmark$RT $= \dfrac{60\,406}{666\,424} \times 100\%$ $\checkmark$ M $= 9{,}06\ \%$ $\checkmark$ CA	1RT correct values 1M calculation of percentage. 1CA answer **(NPR)** (3)	D L2
3.7	P (month with decline from 2018 to 2019) $= \dfrac{5^{\checkmark\checkmark A}}{12}$ $\checkmark$A	2A identifying the number of 5 months 1A answer denominator (3)	P L3
		[19]	

QUESTION 4: DATA HANDLING [29 MARKS]

Ques.	Solution	Explanation	T&L
4.1.1	R650 $\checkmark\checkmark$ RT **OR** Fixed cost = R250 + 400 $\checkmark$ RT = R650 $\checkmark$ A	2RT value from expenses formula **OR** 1RT for adding both values 1A answer (2)	F L1
4.1.2 (a)	**A** = R650 + R25 × 20 = R1 150 $\checkmark$ A $\checkmark$ SF	1SF substitution in expenses formula 1A simplification and answer (2)	F L2

4.1.2 (b)	Total expenses = R775 + R900 + R1 150 $\checkmark$ MCA
	           = R2 825 $\checkmark$ S
	                  $\checkmark$M
	Total Income = R375 + R750 + R1 500
	          = R2 625 $\checkmark$ S
	
	Expenses – Income = R2 825 – R2 625 $\checkmark$ MCA
	             = R200
		1MCA adding the expenses with CA from 4.1.2
		1S simplification
		1M adding income values
		1S simplification
		
		IMCA subtracting the two values that give the loss of R200
		          (5)
			F
			L4

4.1.3	**GRAPH FOR INCOME AND EXPENSES SHOE REPAIR BUSINESS** Starting point (0;650) ✓A Any other correctly plotted point ✓ A Joining points with a straight line ✓A (3)		F L2
4.1.4	Number of pair of shoes = 13 at break-even point ✓✓RT	2RT value of 13 from graph (2)	F L2

4.2	1 Japanese yen (¥) = R0,1352364
	     (¥) 25 000 = R?
	Amount received = 25 000 × R0,1352364 ✓✓MA
	                = R3 380,91 ✓A
		2MA multiplication of the two values
		1A answer
		(**Accept R3 380,90**)
		               (3)
			F
			L2

4.3.1	Weight Category	Female		Male		1A tally and frequency for each row of males	D L2
		Tally	Frequency	Tally	Frequency		
	50–59	//	2	/	1		
	60–69	////	4	//	2 ✓A		
	70–79	////	4	~~////~~	5 ✓A		
	80–89	/	1	///	3 ✓A		
	90–99	/	1	/	1 ✓A		
	100–109	/	1	0	0 ✓A	(5)	
4.3.2	60–69 ✓RT 70–70 ✓RT					1RT for correct category 1RT for correct category (2)	D L2
4.3.3	5 + 3 = 8 ✓✓RT					2RT for the correct answer of 8 (2)	D L3
4.3.4	✓RT P(more than 70 kg) = $\frac{16}{25}$ × 100% ✓M = 64% ✓A					1RT for the correct value of numerator and denominator 1M percentage calculation 1A answer (3)	P L3
						[29]	
						TOTAL: 100	