

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**SEPTEMBER 2019**

**MATHEMATICAL LITERACY P1  
MARKING GUIDELINE**

**MARKS: 150**

<b>Symbol</b>	<b>Explanation</b>
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RM	Reading from a table/Reading from a graph/Reading 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 : Full Marks
NPR	No penalty for rounding

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This marking guideline consists of 10 pages.

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QUESTION 1 [32]			
Quest.	Solution	Explanation/Marks	Lev.
1.1.1	$R8\ 750 + R2\ 530 \quad \checkmark M$ $= R11\ 280 \quad \checkmark A$  <b>OR</b> $-R2530 + \text{Net Salary} = R8\ 750 \quad \checkmark M$ $\text{Net Salary} = R2\ 530 + R8\ 750$ $= R11\ 280 \quad \checkmark A$	1M adding correct values 1A net salary  1M using correct values 1A net salary  (2)	F L1
1.1.2	$\text{Gross Salary} = \frac{175}{100} \times R8\ 750 \quad \checkmark M$  $= R15\ 312,50 \quad \checkmark CA$ <b>OR</b> $R8\ 750 \times 1,75 \quad \checkmark M$ $= R15\ 312,50 \quad \checkmark CA$	1M multiplication by the % and 8 750 1CA Simplification  1M multiplying by 1.75 1CA gross salary  (2)	F L1
1.2.1	Withdrawal fee = R2 $\checkmark\checkmark A$	2A fee amount (2)	F L1
1.2.2	$\text{Discount price paid} = \frac{80}{100} \times R300 \quad \checkmark M$  $= R240 \quad \checkmark CA$ <b>OR</b> $\text{Discount price} = R300 - (R300 \times 20\%) \quad \checkmark M$ $= R300 - R60$ $= R240 \quad \checkmark CA$	1M multiplication by the % and R300 1CA discount price  <b>OR</b> 1M subtracting R60 1CA discount price  (2)	F L1
1.2.3	$\text{Elapsed time} = 16:21 - 14:35 \quad \checkmark A$  $= 1\text{hr } 46\text{minutes} \quad \checkmark A$	1A Subtraction 1A Elapsed time  (2)	M L1
1.3.1	$\text{Number of slices} = \frac{800}{50} \quad \checkmark M$ $= 16 \quad \checkmark A$ <b>OR</b> $100\text{ g} = 2\text{ slices} \quad \checkmark M$ $800\text{ g} = 2 \times 8 \quad \checkmark A$ $= 16\text{ slices}$	1M division 1A number of slices  1M division 1A number of slices  (2)	M L1

Quest.	Solution	Explanation/Marks AO	Lev.
1.3.2	Amount of sugar $3,20 \text{ g} \times 8$ ✓ M $= 25,6 \text{ g}$ ✓ CA <b>OR</b> Amount of sugar $1,6 \times 16$ ✓ M $= 25,6 \text{ g}$ ✓ CA	1M Multiplication 1CA answer  1M Method 1CA answer (2)	M L1
1.3.3	$1\ 003,90 \times 1\ 000 \text{ J}$ ✓ M $= 1\ 003\ 900 \text{ J}$ ✓ A	1M multiplication by 1000 1A simplification (2)	M L1
1.3.4	Cost of two slices $= \frac{100}{800} \times 14,99$ ✓ M  $= R1,87$ ✓ CA  <b>OR</b> 16 Slices = R14,99 2 Slices $= \frac{2}{16} \times 14,99$ ✓ M $= R1,87$ ✓ CA	1M $100/800$ and multiplying by 14,99 1CA cost <b>Allow R 1,80-2,00</b> <b>OR</b> 1M fraction using $\frac{2}{16}$ and multiplying by 14,99 1CA Allow R1,80 – 2,00 <b>NPR</b> (2)	F L1
1.4.1	Ratio scale or Number scale	2A type of scale (2)	MP L1
1.4.2	$1 \text{ cm} = \frac{500\ 000}{100\ 000}$ ✓ M $= 5 \text{ km}$ ✓ A	1M division 1A answer in km (2)	MP L1
1.5.1	Nelson Mandela Metro ✓✓ A	2A correct district (2)	D L1
1.5.2	50,2%; 53,3%; 56,0%; 61,0%; 61,1%; 61,5%; 61,7%; 64,5%; 69,2%, 70,6%, 72,1%, 75,8% ✓✓ A	2A ascending order of pass percentages (2)	D L1
1.5.3	✓✓ A OR Tambo Inland; Sarah Baartman; Buffalo City; Nelson Mandela Metro	1A correct two districts 1A correct two other districts (2)	D L1

Quest.		Solution	Explanation/Marks AO	Lev.
1.5.4		$\% \text{ failed learners} = 100 - 69,2 \checkmark M$ $= 30,8 \% \quad \checkmark A$	1M subtraction of correct values 1A % failed (2)	D L1
1.5.5		64,4% $\checkmark \checkmark A$	2RT correct probability (2)	P L1
			[32]	
<b>QUESTION 2 [41 MARKS] FINANCE</b>				
Quest.		Solution	Explanation/Marks AO	Lev.
2.1	2.1.1	$500 + 450 + 2\,250 + 100 + 300 + 1\,200 + 100 + 350 + 1600 \checkmark M$ $= R6\,850 \quad \checkmark CA$	1M adding correct values 1CA answer (2)	L1
	2.1.2	063 656 2015 $\checkmark \checkmark RT$	2RT correct cellphone number (2)	L1
	2.1.3	$R105 + R70 + R70 \checkmark RT \checkmark M$ $= R245 \quad \checkmark A$	1RT correct values 1M adding 1A Bank cost (3)	L1
2.2	2.2.1	$B = R500 \checkmark \checkmark A$	2A Income (2)	L1
	2.2.2	$\text{Income} = R500 + R750 \times \text{number of events}$ $C = 500 + 750 \times 5 \checkmark SF \checkmark M$ $= R4\,250 \checkmark CA$	1SF substitution 1M multiplying by 5 1CA answer (3)	L2
2.3	2.3.1	$\text{Income} = R500 + R750 \times \text{number of events}$ $4\,250 = 3\,000 + 250 \times \text{number of events} \checkmark M$ $\text{Number of events} = \frac{(4\,250 - 3\,000)}{250} \checkmark S$ $= 5 \checkmark A$	1M subtracting correct values 1S simplification 1A number of events (3)	L2

Quest.	Solution	Explanation/Marks AO	Lev.
2.3.2	<p>1 Mark – straight line drawn  1 Mark for starting point (0; 3 000)  1 Mark for end point (10; 5 500)  1 Mark for any other point plotted correctly (4)</p>		L2
2.3.3	5 Events ✓✓RG	2 RG reading from the graph (2)	L1
2.3.4	<p>From Graph Income = R6 500  Expense= R5 000  ✓M  Profit = R6 500 – R5 000  = R1 500 ✓A</p>	<p>1M subtracting both correct values  1A answer  (2)</p>	L3

Quest.		Solution	Explanation/Marks AO	Lev.
2.4	2.4.1	Deposit = $\frac{10}{100} \times 49\,999,99$ ✓M = R4 999,99 ✓A ≈ R5 000 <b>OR</b> Deposit = 76 353,12 – 71 353,13 ✓M = 4 999,99 ✓A <b>OR</b> ✓M Deposit = (49 999,99 + 1 000 + 500 + 375) – 46 875 = R4 999,99 ✓A	1M multiplying by 10% 1CA answer NPR  1M subtracting the correct values 1CA deposit amount  (2)	L1
	2.4.2	✓A Credit is obtaining goods and services before payment and payment will be done later on agreement and including interest ✓A	1A goods before payment 1A later payment with interest  (2)	L1
	2.4.3	Interest = $\frac{10\,078,13}{24}$ ✓A = R419,92 ✓A <b>OR</b> Interest = $\frac{10,75\%}{12} \times 46\,875$ = R419,92 ✓A	1M division 1A answer NPR (but note money) 1 decimal place not allowed. 1M Dividing % by 12 and multiply by 46 875 1CA (2)	L1
	2.4.4	1/8/2021 ✓✓A	2A correct date  (2)	L1
	2.4.5	VAT = $14\,400 - \frac{100}{115} \times R14\,400$ ✓M = 14 400 – 12 521,74 ✓M = R1 878,26 ✓A <b>OR</b> VAT amount = $\frac{14\,400}{1,15}$ = 12 521,74 ✓M = R14 400 – R12 521,74 ✓M = R1 878,26 ✓A <b>OR</b> VAT amount = $\frac{14\,400}{115\%} \times 15\%$ ✓M = R1 878,26 ✓✓A	1M amount exclusive of VAT  1M subtraction  1A VAT amount <b>OR</b> 1M divide by 1,15  1M subtraction  1A VAT amount <b>OR</b> 1M working with ratio % 2A answer  (3)	L2

Quest.		Solution	Explanation/Marks	Lev.
2.5	2.5.1	GBP £1 = R17,268 ✓✓RT	2A answer (2)	L1
	2.5.2	GBP £1 = R17,268 £500 = R? R500 × 17,268 ✓M = R8 634 ✓A Bank charges = $\frac{3}{100} \times 8\ 634$ = R259,02 ✓M Masakhane community will receive = 8 654-259,02✓M = R8 374,98 ✓A	CA from 2.5.1  1M multiplication 1A for calculating R8 634  1M bank charges 1M subtraction 1A answer (5)	L3
			[41]	

**QUESTION 3 [23 MARKS] MEASUREMENT**

Ques.	Solution	Explanation/Marks AO	Lev.
3.1.1	$29\frac{3}{4} \checkmark RT$ $= 29,75 \text{ inches} \checkmark RT$	1RT correct values  1A in decimal inches  (2)	L1
3.1.2	$\checkmark RT$ $3,5 \times 2,54 \text{ cm} \checkmark C$ $= 8,89 \text{ cm} \checkmark CA$	1RT correct value 1C conversion 1CA answer <b>NPR</b>  (3)	L2
3.1.3	5' 5" ✓✓RT	2A answer (2)	L1
3.1.4	$BMI = \frac{62 \text{ kg}}{1,65 \text{ m}} \checkmark SF$ $= 22,77 \text{ kg/m}^2 \checkmark CA$	1SF substitution  1CA answer (when the height is not squared)  (2)	L2
3.2.1	$530 \div 10 \checkmark M$ $= 53 \text{ cm} \checkmark A$	1C dividing by 10 1A correct answer  (2)	L1
3.2.2	Volume = length $\times$ width $\times$ height $= 62,5 \text{ cm} \times 53 \text{ cm} \times 20 \text{ cm} \checkmark SF \checkmark C$ $= 66\ 250 \text{ cm}^3 \checkmark$	CA from 3.2.1 1SF substitution, 1C conversion 1CA answer  (3)	L2
3.2.3	Number of litres = $\frac{66\ 250}{1\ 000} \checkmark C$ $= 66,25 \text{ litres} \checkmark CA$	1C dividing by 1000 1CA answer  (2)	L1

Ques.	Solution	Explanation/Marks AO	Lev.
3.3.1	Perimeter is the total distance around the outside of the shape. ✓✓A	2A explanation (2)	L1
3.3.2	Perimeter = $2(17,68 \text{ m} + 3,66 \text{ m})$ ✓SF = 42,68 m ✓CA	1SF substitution 1CA answer (2)	L1
3.3.3	Area = $22,56 \text{ m} \times 3,66 \text{ m}$ ✓SF = 82,57 m <sup>2</sup> ✓CA✓A	1SF substitution 1CA answer 1A unit (3)	L2
		[23]	
<b>QUESTION 4 [16 MARKS] MAPS AND PLANS</b>			
Ques.	Solution	Explanation/Marks AO	Lev.
4.1.	Guanting Reservoir ✓✓RM	2 RM Correct Reservoir (2)	L1
4.2	North ✓✓RM	2 RM North Accept North West (NW) (2)	L1
4.3 (a)	$45 \text{ km} + 40 \text{ km} + 5 \text{ km}$ ✓M = 90 km ✓CA	1M adding correct values 1CA answer (2)	L1
(b)	✓M $46,8 \text{ km} + 30 \text{ km} + 35 \text{ km} + 15 \text{ km} = 126,8 \text{ km}$ Difference = $126,8 \text{ km} - 90 \text{ km}$ ✓M = 36,8 km ✓CA	1M adding correct values 1M subtraction 1CA distance (3)	L2
4.4	Tongzhou ✓✓RM	2 RM Correct town (2)	L2
4.5	$\text{Time} = \frac{\text{distance}}{\text{speed}}$ $\frac{30 \text{ km}}{50 \text{ km/h}}$ ✓SF = $0,6 \times 60$ ✓C = 36 minutes ✓CA	1M substitution 1M multiply by 60 1CA answer in minutes (3)	L2
4.6	$121,7 - (46,8 + 43,7)$ ✓M = $121,7 - 90,5$ = 31,2 km ✓CA	1M subtracting from 121,7 1CA answer (2)	L1
		[16]	



QUESTION 5 [38 MARKS] DATA HANDLING			
Ques.	Solution	Explanation/Marks AO	Lev.
5.1.1	$742 + 753 \quad \checkmark M$ $= 1\,495 \quad \checkmark CA$	1M addition 1CA answer (2)	L1
5.1.2	Kwazulu-Natal $\checkmark\checkmark RT$	2RT correct province (2)	L1
5.1.3	$247\,739 - (22\,784 + 23\,415) \quad \checkmark RT \checkmark M$ $= 201\,540 \quad \checkmark CA$	1RT correct values 1M subtraction 1CA answer (3)	L2
5.1.4	$P_{(\text{selecting a passenger vehicle from Western Cape})} = \frac{37\,848}{247\,739} \quad \checkmark A$ $= 0,15277 \times 100 \quad \checkmark M$ $= 15,277\%$ $= 15,28\% \quad \checkmark CA$	1A numerator 1A denominator 1M multiply by 100 1CA answer (4)	L2
5.1.5	No. of cars sold = $23\,415 - 22\,189 \quad \checkmark A \checkmark M$ $= 1\,226 \quad \checkmark CA$	1A correct values 1M subtraction 1CA answer (3)	L1
5.1.6	Range is the difference between the maximum value and minimum value. $\checkmark\checkmark A$	2 A Explanation (2)	L1
5.1.7	Range = Maximum value – Minimum value $\checkmark RT$ $= 10\,412 - 281 \quad \checkmark M$ $= 10\,131 \quad \checkmark CA$	1RT correct values 1M subtracting 1CA answer (3)	L2
5.1.8	$\text{Mean} = \frac{247\,739}{9} \quad \checkmark RT$ $= 27\,526,555 \quad \checkmark CA$ $= 27\,527 \quad \checkmark CA$ <p style="text-align: center;"><b>OR</b></p> $\text{Mean} = \frac{12\,017 + 7\,002 + 114\,822 + 41\,912 + 9\,447 + 13\,071 + 8\,681 + 2\,939 + 37\,848}{9} \quad \checkmark M$ $\text{Mean} = \frac{247\,739}{9} \quad \checkmark$ $= 27\,526,555$ $= 27\,527 \quad \checkmark CA$	1RT total, IM divide by 9  1CA NPR 1M addition IM divide by 9  1CA (3)	L2

Ques.	Solution	Explanation/Marks	Lev.
5.1.9	$\begin{aligned} &\checkmark\text{RD} \\ \text{IQR} &= 39\,880 - 7\,842 \quad \checkmark\text{M} \\ &= 32\,038 \quad \checkmark\text{CA} \end{aligned}$	1RD correct values 1M subtraction 1CA IQR	L2
5.2.1	2013 $\checkmark\checkmark\text{RT}$	2RT (2)	L2
5.2.2	$\begin{aligned} &1,30 \times 1000\,000\,000 \quad \checkmark\text{RT} \\ &1\,300\,000\,000 \quad \checkmark\text{CA} \end{aligned}$	1RT 1CA answer (2)	L2
5.2.3	Mode (net migrants) = -4,9 millions $\checkmark\checkmark\text{RT}$	2RT correct value Accept 4,9 millions (2)	L2
5.2.4	2015 $\checkmark\checkmark\text{RT}$	2RT greatest change (2)	L1
5.2.5	$P(\text{a year with urban population less than } 4,2) = \frac{3}{7} \quad \checkmark\text{A} \quad \checkmark\text{A}$	1A numerator 1A denominator (2)	L2
5.2.6	$\begin{aligned} &1\,140\,000\,000 - 2\,880\,000 \quad \checkmark\text{M} \quad \checkmark\text{RT} \\ &= 1\,13\,7120\,000 \quad \checkmark\text{CA} \end{aligned}$	1RT correct values 1M subtracting 1CA answer (3)	L2
		<b>[38]</b>	
	<b>TOTAL:</b>	<b>150</b>	