



Province of the  
**EASTERN CAPE**  
EDUCATION

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**JUNE 2019**

**MATHEMATICAL LITERACY P1  
MARKING GUIDELINE**

**MARKS: 100**

<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
NPR	No penalty for rounding

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This marking guideline consists of 8 pages.

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**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 [22 MARKS] INTEGRATED QUESTION					
Question		Solution	Explanation/Marks AO: FULL MARKS	Topic/L	
1.1	1.1.1	DM Row Travel Agency ✓✓ RT	2 RT correct agency (2)	F L1	
	1.1.2	Reference Number: 0674582 ✓✓ RT	2 RT correct Voucher no. (2)	F L1	
	1.1.3	3 nights ✓✓ RT	2RT correct no of nights (2)	F L1	
	1.1.4	$3 \times R1\ 440,00$ ✓ M $= R4\ 320,00$ ✓ CA	1M×1 440,00 1CA simplification (2)	F L1	
1.2	1.2.1	$250 + 330 + 450 + 500 + 1\ 000 + 1500 + 2\ 000$ $= 5\ 580\ \text{ml}$ ✓M $\frac{5\ 580}{1\ 000} = 5,58\ \ell$ ✓ CA <b>OR</b> $0,25 + 0,33 + 0,45 + 0,5 + 1 + 1,5 + 2\ \ell$ ✓MA $= 5,58\ \ell$ ✓CA	1M addition all values  1CA dividing and simplifying  (2)	M L1	
	1.2.2	$\text{No. of A containers} = \frac{\check{M}\ 1\ 500}{250} = 6$ ✓CA	1M division correct values 1CA No of A containers (2)	M L1	
1.3	1.3.1	42,2 km ✓✓ RT	2 RT distance (2)	M&P L1	
	1.3.2	Difference in height above sea level $= 46 - 35$ ✓ RT $= 11\ \text{m}$ ✓ CA	1RT correct values  1CA difference (2)	M&P L1	
1.4	1.4.1	Mode = 61 ✓ RT $= 47$ ✓	2RT mode (2)	D L1	
	1.4.2	Range = $86 - 18$ ✓ MA $= 68$ ✓CA	1MA subtracting correct values 1CA range (2)	D L1	
	1.4.3	Raw mark = $\frac{86}{100} \times 150$ ✓ MA  $= 129$ ✓ CA <b>OR</b> Raw mark = $0,86 \times 150$ MA $= 129$ ✓ CA	1MA % of 150  1CA raw mark  (2)	D L1	

QUESTION 2 [29 MARKS] FINANCE					
Question		Solution	Explanation/Marks AO: FULL MARKS	Topic /L	
2.1	2.1.1	Total amount = $1\,200 \times 60$ ✓ M = R72 000 ✓ CA	1M multiplication 1CA amount (2)	F L1	
	2.1.2	$\frac{30}{100} \times 20\,000 = \text{R}6\,000$ ✓ M ✓ CA OR School's contribution = $0,3 \times 20\,000$ ✓ M = R6 000 ✓ CA	1M multiplication of correct values 1CA simplification (2)	F L1	
	2.1.3	Ratio 2 000 : 20 000 ✓ MA ✓ A 1 : 10	1MA for ratio and 2000 1A for 20 000 (2)	F L1	
	2.1.4	Balance = $2\,000 - (10 \times 50)$ = R1 500 ✓ M $\frac{1500}{30} = 50$ ✓ M Total T-Shirts = $50 + 10$ = 60 ✓ CA	1M balance after sale of 10 T shirts 1M division 1CA total number of T-shirts (3)	F L2	
2.2	2.2.1	D = $24\,901 - 23\,901$ ✓ M = 1000 kwh ✓ A	1M subtracting values 1A simplifying (2)	F L1	
	2.2.2	Costs = $100 \times 132,70 + 50 \times 155,30$ ✓ M = $13\,270 + 7\,765$ = 21 035 ✓ M = $\frac{21035}{100}$ ✓ CA = R210,35	1M multiplication and addition 1M simplification 1CA dividing by 100 (3)	F L2	
	2.2.3	VAT amount = $\frac{15}{100} \times 210,35$ ✓ M = R31,55 ✓ A	1M multiplication of 15% by 210,35 1A simplification (2)	F L1	
2.3	2.3.1	Inflation is the increase in price of goods and services e.g. the price of petrol increases with time. ✓✓ O	2 Explanation (2)	F L1	
	2.3.2	Price increase = $16,21 - 16,02$ ✓ M = 19c <b>OR</b> R0,19 ✓ A	1M subtraction of values 1A difference (with units cents or Rands) (2)	F L1	

	2.3.3	$\checkmark M$ Distance = $5 \times 50 \times 2 = 500 \text{ km}$ $\checkmark M$ Fuel used = $\frac{500}{12,5} \checkmark M = 40 \text{ litres}$ $\checkmark CA$ Increase in fuel cost = $40 \times 0,19 = R7,60$ $\checkmark CA$  OR Distance = $50 \times 2 \checkmark = 100 \text{ km for a day}$ Fuel used = $\frac{100}{12,5} = 8 \text{ l}$ $\checkmark$ Increase in cost of fuel for 1 day = $8 \times 0,19 = R1,52$ $\checkmark$ Increase in cost of fuel for 5 days = $R1,52 \times 5 \checkmark = R7,60 \checkmark$  OR $2 \times 50 \times 5 = 500 \text{ km}$ $\checkmark$ Petrol used = $\frac{500}{12,5} = 40 \text{ l}$ $\checkmark$ Cost of fuel after increase = $40 \times 16,21 = R648,40$ $\checkmark$ Cost of fuel before increase = $40 \times 16,02 = R640,80$ $\checkmark$ Increase = $R648,40 - R640,80 = R7,60$ $\checkmark$	1CA from 2.3.2 1M distance for a day ( $50 \times 2$ ) 1M distance for 5 days 1M division by 12,5 1CA simplification 1CA increase	(5)	F L3
2.4	2.4.1	Balance = $R13\,502,64$ $\checkmark \checkmark RT$	2 RT	(2)	F L1
	2.4.2	Fee = $42,37 + 17,47 + 100,88 = R160,72$ $\checkmark RT \checkmark CA$	1 RT adding correct values 1 CA simplification	(2)	F L1
				[29]	

QUESTION 3 [20 MARKS] MEASUREMENT			
Ques.	Solution	Explanation/Marks AO: FULL MARKS	Level
3.1.1	$\checkmark M$ Total distance = $6,3 + 13,02 + 5,04$ $= 24,36 \text{ km } \checkmark CA$	1M Addition of correct values 1CA Simplification (2)	M L1
3.1.2	$\checkmark M$ Perimeter = $120 \times 2 + 90 \times 2$ $= 420 \text{ m (or } 0,42 \text{ km)} \checkmark A$	1M distance around 1A simplification (2)	M L1
3.1.3	No of rounds = $\frac{1,6 \text{ km}}{420 \text{ m}} \checkmark RT \checkmark M$ $= \frac{1\ 600}{420} \checkmark C$ $= 3,81 \checkmark CA$ Completed rounds = 3 $\checkmark R$	1 RT value of 1,6 km 1 M Division 1 C Conversion 1 CA simplification 1 Rounding to completed rounds (5)	M L2
3.1.4	$\therefore \text{Goal (\%)} = \frac{\text{steps run}}{\text{Target steps}} \times 100\%$ $= \frac{5859}{6000} \times 100\% \checkmark M$ $= 97,65\% \checkmark CA$	1M substitution 1CA simplification (NPR) (2)	M L2
3.1.5	$\checkmark M$ Distance = $\frac{5,04 \times 1\ 000}{756} \checkmark M$ $= 0,6665 \checkmark CA$ $= 0,67 \text{ m } \checkmark CA$	1M conversion to m 1M division 1CA simplification 1CA rounding (4)	M L2
3.2.1	$V = \pi r^2 h$ $\checkmark M$ $V = 3,142 \times 2,5^2 \times 12,75$ $= 250,38 \text{ cm}^3 \checkmark CA$	1M substituting radius 1M substituting height 1CA simplification (NPR) (2)	M L2
3.2.2	$100 \text{ ml} : 211 \text{ KJ } \checkmark M$ $250,38 : ?$ $? = \frac{211 \times 250,38}{100} \checkmark M = 528,30 \text{ KJ } \checkmark CA$	1M concept of ratio 1M method multiplication of correct values and dividing by 100 1CA simplification (3)	M L2
		<b>[20]</b>	

QUESTION 4 [11 MARKS] MAPS AND REPRESENTATIONS			
Ques.	Solution	Explanation/Marks AO: FULL MARKS	Level
4.1	South ✓✓RT	2RT correct direction (2)	M&p L1
4.2	✓RT 2,5 cm : 20 km 1.6 : 10 × 1000 × 100 ✓M $1 : \frac{20 \times 1\,000 \times 100}{2,5}$ 1 : 800 000 ✓CA <b>OR</b> 2,5 cm : 20 km 1 cm : 8 km × 1000 000 1 : 800 000	1RT measuring scale 1M conversion from km to cm 1CA expressing in unit ratio (3)	M &p L2
4.3	2,5 cm : 20 km 6,5 cm : ? (distance from Queenstown CBD and Whittesea) ✓M ✓M $\text{distance} = \frac{20 \times 6,5}{2,5}$ ✓M = 52 km ✓CA <b>OR</b> 1 : 800 000 (CA from 4.2) 6,5 : 800 000 × 6,5cm ✓M✓M $\text{Distance} = \frac{800\,000 \times 6,5}{1\,000 \times 100}$ ✓M = 52 km ✓CA (Accept 6,2 – 6,7 cm) (Accept 49,6 – 53,6 km)	1CA from 4.2 1M measuring distance on map 1M multiplication of values 1M division by 2,5 1CA simplification (4) 1M measuring distance on map 1M multiplication 1M conversion to km 1CA simplification (4)	M &p L2
4.4	Numeric scale ✓✓ A Representative scale / Ratio scale ✓✓ A Verbal scale / Word scale ✓✓ A	2A Correct scale (2)	M &p L1
		[11]	

<b>QUESTION 5 [18 MARKS] DATA HANDLING</b>			
<b>Ques.</b>	<b>Solution</b>	<b>Explanation/Marks AO: FULL MARKS</b>	<b>Level</b>
5.1	Gauteng ✓✓RT	2RT correct province (2)	D L1
5.2	1 145 861; 2 745 590; 3 509 953; 4 039 939; 5 404 868; 5 822 734; 6 562 053; 10 267 300; 12 272 263 ✓✓RT	2RT arranging all values starting with smallest. (2)	D L1
5.3	Limpopo ✓✓RT	2RT middle position CA from 5.2 and check province (2)	D L1
5.4	5.4.1 Free State and North West ✓✓CA	<b>CA from 5.2</b> 1 mark for each province (2)	D L1
	5.4.2 Eastern Cape and KwaZulu-Natal ✓✓CA	<b>CA from 5.2</b> 1 mark for each province (2)	D L1
5.5	IQR represents 50% ✓✓A	2A (2)	D L1
5.6	No. of listeners in NW = $\frac{90}{100} \times 3\,509\,953$ ✓M  = 3 158 957,7 ✓1S = 3 158 958 ✓CA	1M 90 % of the population  1S simplification 1CA (Rounded to the nearest whole number people cannot be decimals) (3)	D L2
5.7	% Mean = $\frac{95+87+91+96+91+88+80+90+90}{9}$ ✓M  = $\frac{808}{9}$ ✓M  = 89,78% ✓CA	1M adding the percentages 1M dividing by 9 1CA simplification (NPR) (3)	D L2
		<b>[18]</b>	
<b>TOTAL:</b>			<b>100</b>