Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2018

MATHEMATICAL LITERACY P2 MARKING GUIDELINE

MARKS: 100

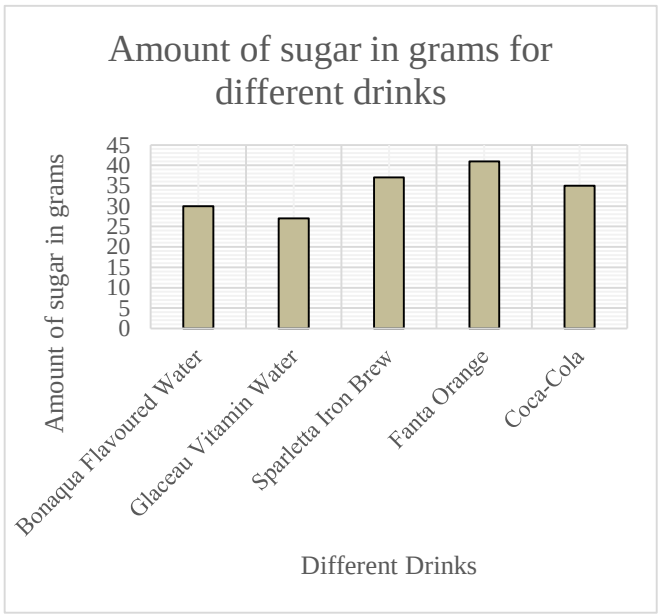
Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RM	Reading from a table/Reading from a graph/Reading from a map
F	Choosing the correct formula
SF	Substitution in a formula
J	Justification
P	Penalty, e.g. for no units, incorrect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

This marking guideline consists of 7 pages.

QUESTION 1 [31]			
Question	**Solution**	**Explanation**	**Topic and Level**
1.1.1	Washing and drying = 18 × 16 = R288 ✓ Staysoft = 5 = 3 $18 = \frac{3}{1} \times \frac{18}{5}$ ✓ = R10,80 ✓ Ironing = 5 = 20 $18 = \frac{20}{1} \times \frac{18}{5}$ = R72 ✓ Total = 288 + 10,80 + 72 = R370,80 ✓	1 MA Amount for washing and drying 1M Calculating Staysoft 1CA Cost for Staysoft 1CA Cost for Ironing 1CA Total (5)	L3 F
1.1.2 (a)	Helper amount No. of days = 9 ✓ Amount = 9 × 150 = R1 350 ✓ Wash and dry = 15 × 5 × 16 = R1 200 ✓ Stay soft = 5 = 3 $75 = \frac{3}{1} \times \frac{75}{5}$ = R45 ✓ Handwash = 2 × 5 × 25 = 250 ✓ Total amount for laundry = 250 + 45 + 1200 = R1 495 ✓ Difference = R1 495 – R1 350 = R145 ✓ Invalid laundry more expensive ✓	1A No. of days 1CA Amount for helper 1CA Amount for wash and dry 1CA Staysoft 1CA Hand wash 1CA Total amount 1CA Difference 1O Invalid (8)	L4 F
1.1.2 (b)	Probability = 3/31× 100 ✓✓ = 9,7% ✓	1A Numerator 1A Denominator 1CA Answer as a % to 1 decimal place (3)	L2 P

1.2.1	Across the length $= \frac{3\ \checkmark}{0{,}5\ \checkmark}$ $= 6$ Across the breadth $= \frac{2{,}5}{0{,}5}$ $= 5\ \checkmark$ Number of containers fitting $= 6 \times 5$ $= 30\ \checkmark$ 10 can fit ✓	1M Dividing 1C Conversion to metres 1CA Breadth/Width 1CA Number of containers 1O Opinion (5)	L3 Maps
1.2.2 (a)	Volume of container $V = \pi \times (\text{radius})^2 \times \text{height}$ $= 3{,}142 \times 25\text{ cm} \times 25\text{ cm} \times 70\text{ cm}\ \checkmark$ $= 137\,462{,}5\text{ cm}^3$ $= 137\,462{,}5\text{ cm}^3\ \checkmark$ No. of litres $= 137\,462{,}5 \div 1\,000$ $= 137{,}4625$ litres ✓	 1 Calculating radius 1CA Volume 1C Litres **NPR** (3)	L3 M
1.2.2 (b)	Capacity for 5 containers $= 137{,}4625$ litres $\times 5$ $= 687{,}3125$ litres ✓ Water for 5 days of hand wash Washing $= 30 \times 5$ $= 150$ kg ✓ 25 kg = 100 litres $150 = \frac{100}{1} \times \frac{150}{25}\ \checkmark$ $= 600$ litres ✓ Statement is valid ✓	**CA from 1.2.2 (a)** 1MA Litres for 5 containers 1MA Amount of washing 1M Number of litres 1CA Total litres 1 O Valid (5)	L4 M
1.2.3	Some material cannot be washed using machine. ✓✓ **OR** Clothes can be damaged ✓✓ **Accept any other relevant reason.**	2A Reason or explanation (2)	L4 D
		[31]	

QUESTION 2 [22]				
Question		**Solution**	**Explanation**	**Topic and Level**
2.1		Amount for editing = 97 × 100 ✓ = R 9 700 ✓ Typist = $\frac{norm\ time}{60}$ × rate × no. of documents = $\frac{28}{60}$ × 195 × 100 ✓✓ = R9 100 ✓ % = $\frac{105}{100}$ × 9 100 ✓ **OR** $\frac{9\,700}{9\,100}$ x 100 = R9 555 ✓ = 106,59% – 100% = 6,59% Not valid, more than 5% ✓	1M Multiply correct values 1A Amount for editing 1SF Substituting 1A Correct values 1CA Amount for typist 1M Increasing by 5% 1CA Increased amount 1O Invalid (8)	L4 F
2.2	2.2.1	31,7; 33,7; 35; 36,3; 36,4; 37; 39,2; 40,6; 41; 42,3; 44,1 Range = 44,1 g – 31,7 g ✓✓ = 12,4 g ✓	1RT Reading the correct high and low values. 1M Subtraction 1CA Range (3)	L2 D
	2.2.2	Guest 1: Play energy drink = 29,2 g Powerade = 38,8 g ✓ Total = 68 g ✓ Guest 1: 5g = 1 teaspoon ∴ 68 = $\frac{1}{1} \times \frac{68}{5}$ = 13,6 teaspoons ✓ Guest 2: Appletiser = 31,7g Coca-Cola = 35g Total = 66,7 g ✓ Guest 2: $\frac{66,7}{5}$ = 13,34 teaspoons ✓ Statement not valid. Energy drink contains more sugar. ✓	1RT Correct values for guests 1CA Total number for grams for guest 1 1CA Teaspoons sugar guest 1 1CA Total no of grams for guest 1CA Teaspoons sugar guest 2 1O Invalid (6)	L4 M

	2.2.3		5M One mark for each correct bar (5)	L2 D
			[22]	

QUESTION 3 [20]

Question		Solution	Explanation	Topic and Level
3.1	3.1.1	Distance from Durban to Nelspruit = 689 km✓ Speed = $\frac{D}{T}$ 110 = $\frac{689}{time}$ ✓ 110 × time = 689 Time = $\frac{689}{110}$ ✓ = 6,26 hrs ✓ = 6hrs 16 min ✓✓	1RT Distance 1SF Substituting correct values 1S Change subject of the formula 1CA Answer in hours 1C Converting 6,26 hrs to minutes 1CA Hours and min (6)	L3 Maps and M
	3.1.2	Ascending order 58; 273; 292; 342; 475; 532; 656; 1050; 1120; 1463 ✓✓ Median = $\frac{475+532}{2}$ ✓ = 503,5 ✓	1RT Correct values 1M Ascending order 1M Concept of median 1CA Median (4)	L2 Maps and D

	3.1.3	Pretoria: $\frac{1120+273+342+292+532+58+1050+656+1463+475}{10}$ $= \frac{6261\ ✓}{10\ ✓}$ = 626,1 km ✓ Port Elizabeth: ✓ $\frac{1120+1393+1373+1122+752+1062+300+927+756+635}{10}$ $\frac{9\,440}{10}$ = 944 km ✓ Difference = 944 – 626,1 ✓ = 317,9 km ✓	1M Adding all correct values 1M Divide by 10 1CA Mean 1RT Adding all correct values 1CA Mean 1M Subtraction 1CA Difference (7)	L2 and L3 Maps and D
	3.1.4	Distance = 998 km ✓ Cost = 70 × 998 ✓ = 69860 cents = 698,60 =R699 ✓ **OR** 998 × 0,7 ✓ = 698,60 ✓ = R699 ✓	1RT Correct distance 1M Multiplying by 70 1R Nearest rand 1RT Correct distance 1M Multiplying by 70 1R Nearest rand (3)	L2 F and Maps
			[20]	

QUESTION 4 [27]

Question		Solution	Explanation	Topic and Level
4.1		**Area of circle = $\pi \times$ radius $\times$ radius** = 3,142 × 0,45 × 0,45✓✓ = 0,636255 m^2 ✓ **Area of semicircle =** $\frac{\pi \times radius \times radius}{2}$ $= \frac{3,142 \times 4,9 \times 4,9}{2}$ = 37,71971 m^2 ✓ Difference = 37,71971 - 0,636255 = 37,08 m^2 ✓	1A Radius 1SF Substitution 1CA Area of centre 1CA Area of semi-circle 1CA Difference **NPR** (5)	L3 M
	4.2.1	169 seats ✓✓✓	3A No of seats (3)	L2 Maps
	4.2.2	$\frac{4\ ✓}{15\ ✓}$	1A Numerator 1A Denominator (2)	L2 P

	4.2.3	Right side = 171 ✓ Total amount = 171 × 150 = R25 650 ✓ Left side = 169 × 150 = 25 350 ✓ Middle = 255 Cost of 1 seat in the middle $= \frac{108}{100} \times 150$ = R162 ✓ Total amount = 255 × 162 = R41 310 ✓ Total amount for all seats = 25 650 + 25 350 + 41 310 ✓ = R92 310 ✓ Statement invalid ✓	**CA from 4.2.1** 1A No of seats on right side 1 CA Amount for right seats 1CA Amount for left seats 1A Amount for a middle seat 1CA Total amount for middle seats 1M Adding all values 1CA Total amount 1O Invalid (8)	L4 F
	4.3.1	Grade 11 boys = 191 – (54 + 73) **OR** 137 – 73 = 191 – 127 ✓ = 64 = 64 ✓ Total number of learners = 158 + 137 + 99 = 394 ✓ $\% = \frac{64}{394} \times 100$ ✓ = 16,2% ✓	 1M Subtracting 1CA No. of boys in Gr. 11 1CA Total number of learners 1M Multiply by 100 1CA Percentage **NPR** (5)	L3 D
	4.3.2	From Grade 10 to Grade 12 the number of learners is decreasing. ✓✓ Learners failed ✓✓ **OR** Learners dropped out ✓✓ **OR** **Accept any other reason**	2O Trend 2O Reason (4)	L4 D
			[27]	
			TOTAL:	**100**