Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2019

MATHEMATICAL LITERACY P2 MARKING GUIDELINE

MARKS: 100

Symbol	Explanation
M	Method
M/A	Method with Accuracy
MCA	Method with Consistent Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RM	Reading from a table OR Reading from a graph OR Read from 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 OR Reason
AO	Answer only
NPR	No penalty for rounding

This marking guideline consists of 6 pages.

QUESTION 1 [30]				
Ques.		1.1.1**Solution**	**Explanation**	**Topic & Level**
1.1	1.1.1	Net monthly salary = $\frac{195\,000}{12}$ ✓M = R16 250 ✓A	1M Dividing correct values 1A Net monthly income (2)	F L2
	1.1.2	Balance after expenses = 16 250 – 12 000 = R4 250 ✓ MCA Saving for deposit = 4 250 × 0,75 ✓M = R3 187,50 ✓CA Number of months = $\frac{15\,000}{3\,187{,}50}$ ✓M = 4,705 … = 5 months ✓CA	**CA from 1.1.1** 1MCA Balance 1M Multiply 75% 1CA Saving 1M Dividing 1CA Number of months (5)	F L3
	1.1.3	% Life insurance = $\frac{550}{16\,250}$ × 100% ✓MCA = 3,4 % ✓CA % Household insurance = $\frac{430}{16\,250}$ × 100% = 2,6% ✓CA Difference = 3,4% – 2,6% ✓M = 0,8% ✓CA Statement not valid ✓O	**CA from 1.1.1** 1MCA Correct value × 100% 1CA % (LI) 1CA % (HHI) 1M Subtraction 1CA Difference 1O Invalid **NPR** (6)	F L4
	1.1.4	Probability = $\frac{5}{9}$ ✓A ✓A = 0,5555 …… = 0,556 ✓R	1A Numerator 1A Denominator 1R 3 dec. places (3)	P L2
	1.1.5	He now has to pay for fuel. ✓✓R **OR** The R960 must be spend on fuel. ✓✓R **Accept any other relevant reason**	2R Explanation **Answer must refer to expense for fuel** (2)	F L4
1.2	1.2.1	Actual length of car = 4,5 inches × 36 = 162 inches ✓MA × 2,54 ✓C = 411,48 cm ✓CA = $\frac{411{,}48}{100}$ = 4,1148 m ✓CA	1MA Total inches 1C Conversion (cm) 1CA Total in cm 1CA Conversion (m) (4)	M L3

1.3	1.3.1	Blue cars = 100 – (17 + 32 + 2 + 7 + 6 + 13 + 12) = 11% ✓MA Number of blue cars = 2 500 × 0,11 = 275 ✓MCA Gold cars = 2 500 × 0,02 **OR** 0,13 × 2 500 = 50 ✓MA = 325 cars Total = 275 + 50 = 325 cars ✓MA	1MA Find % 1MCA Blue cars 1MA Gold cars 1CA Total (4)	D L3
	1.3.2	White, Black and Green ✓✓A	2A Colours (2)	D L2
	1.3.3	It is cheaper to respray ✓✓A **OR** Do not have to mix paint to get the required colour ✓✓A **Accept any other relevant reason.**	2A Explanation (2)	D L4
			[30]	

QUESTION 2 [27]

Ques.	Solution	Explanation	Topic & Level
2.1	Cost for Adams family = 4 adults + 1 kid ✓A = (4 × 570) + 360 ✓MCA = 2 280 + 360 = R2 640 ✓CA Cost for Naidoo family = 5 adults + 3 kids ✓A = (5 × 570) + (2 × 360) + (1 × 0) = 2 850 + 720 + 0 = R3 520 ✓CA 50% of Adams family = R2 640 × 1,5 ✓M = R3 960 ✓CA R3 960 ≠ R3 570 Statement invalid ✓O	1A Correct no of people 1MCA Multiply and add correct values 1CA Total cost 1A Correct number of people 1CA Total cost 1MCA Multiply with 50% 1CA Cost 1O Invalid (8)	F L4
2.2	Amount after 1 year = 20 750 + (20 750 × 0,075) ✓MA = 20 750 + 1 556,25 = 22 306,25 ✓CA ✓A Next 6 months = 22 306,25 + (22 306,25 × 0,0375) = 22 306,25 + 836,48 = 23 142,73 ✓CA Interest = R23 142,73 – R20 750 ✓M = R2 392,73 ✓CA	1MA % and add 1CA Amount 1A Interest rate for 6 months 1CA Amount 1M Subtract 1CA Interest (6)	F L3

2.3	2.3.1	North East ✓✓A	2A Correct direction (2)	M&P L2
	2.3.2	Cape Town to OR Tambo = 08:20 + 2:00 + 2:00 = 12:20✓A ✓MA OR Tambo to Nelspruit = 12:55 + 0:50 = 13:45 ✓A He will be not be on time. ✓O	1MA Adding correct times 1A Arrival time (OR Tambo) 1A Arrival Time (Nelspruit) 1O Opinion (4)	M L3
	2.3.3	Distance = Speed × Time 1 842 = Speed × 2h25 ✓SF ✓M Speed = $\frac{1\,842}{2{,}416666667}$ ✓C = 762,2068966 km/h ✓S = 762 km/h ✓R	1SF Substitution 1M Change subject of formula 1C Convert min to h 1CA Simplification 1R Nearest km/h (5)	M&P L3
	2.3.4	Probability = $\frac{3}{5}$ ✓A ✓A	1A Numerator 1A Denominator (2)	P L2
			[27]	

QUESTION 3 [22]				
Ques.		**Solution**	**Explanation**	**Topic & Level**
3.1	3.1.1	Person is retrenched ✓A Person is fired✓A Person resigned ✓A **Accept any other relevant reponse.**	1A First reason 1A Second reason (ANY 2 x 1) (2)	F L4
	3.1.2	✓A ✓M Max UIF per month = 12 478 × 0,02 = R249,56 Annual UIF = R249,56 × 12 ✓A = R2 994,72 ✓A	1A Use 12 478 1M Multiply by 2% 1M Multiply by 12 1CA Annual UIF (4)	F L2
	3.1.3	Person is working✓✓A **OR** Person refuse to take a job offered by the Department of Labour ✓✓A **OR** Person is being trained for a possible job. ✓✓A **Accept any other relevant reponse**	2A Reason (2)	F L4

3.2	3.2.1	Across the length = $\frac{485\ mm}{70\ mm}$ ✓C✓A = 6,9 ≈ 6 tins ✓CA Across the width = $\frac{305\ mm}{70\ mm}$ = 4,3 ≈ 4 tins ✓CA Up the height = $\frac{745\ mm}{108\ mm}$ = 6,9 ≈ 6 tins ✓CA Number of tins = 6 × 4 × 6 = 144 tins ✓CA Statement not valid ✓O	1C Convert cm to mm 1A Correct diameter 1M Divide 1CA Tins over length 1CA Tins over width 1CA Tins upwards 1CA Total tins 1O Not valid (8)	M L4
	3.2.2	**Surface area wrapping = π × diameter × height of can** ✓A ✓A = 3,142 × 7,4 cm × 10,8 cm ✓SF = 251,10864 cm^2 ✓CA	**CA from 3.2.1** 1A Correct diameter 1A Convert 4 mm to cm 1SF Substitution 1CA Surface area **NPR** (4)	M L3
	3.2.3	To paste the paper ✓✓A	2A Explanation (2)	M L4
			[22]	

QUESTION 4 [21]

Ques.		**Solution**	**Explanation**	**Topic & Level**
4.1	4.1.1	Mean ✓M = $\frac{239,2+272,5+290,8+308,3+350,9+365,4+351,1+316,5+313,7+288,7}{10}$ ✓M = $\frac{3\ 097,1}{10}$ = 309,71 million **OR** 309 710 000 ✓CA	1M Add correct values 1M Divide by 10 1CA Mean (3)	D L3
	4.1.2	Percentage change = $\frac{351,1-365,4}{365,4}$ ✓MA ✓A × 100% = $\frac{-14,3}{365,4}$ × 100% = -3,913… ✓A = -4%	1MA Subtract values in correct order 1A Correct denominator 1A Simplification (3)	D L2
	4.1.3	✓A ✓A From 2006 to 2011 the net profit increased and then it ✓A ✓A decreased from 2011 to 2015.	1A 2006–2011 1A Increased 1A 2011–2015 1A Decreased (4)	D L4

	4.1.4	The net profit decreased by a lesser value. ✓✓A	2A Explanation (2)	D L4
4.2	4.2.1	Number of pieces to assemble 75 office chairs ✓M = (1 + 4 + 2 + 4 + 1) × 75 ✓M = 12 × 75 = 900 pieces ✓CA	1M Add correct pieces 1M Multiply by 75 1CA Number of pieces (3)	M&P L2
	4.2.2	• Screw the 2 bars together with the big screw. ✓✓A • Insert the 4 rubber stoppers to the end of the 4 legs of the chair. ✓✓A • Use the 4 small screws to attach the seat to the bars. ✓✓A	2A Attach 2 bars 2A Insert 4 rubbers 2A Use 4 small screws (6)	M&P L4
			[21]	
			TOTAL: 100	