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Province of the EASTERN CAPE EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2022

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 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 OR Reason
AO	Answer only
NPR	No penalty for rounding

This marking guideline consists of 8 pages.

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QUESTION 1 [20]				
Ques.		**Solution**	**Explanation**	**Topic & Level**
1.1	1.1.1	R40,00 ✓ ✓ RT	2RT correct value (2)	F L1
	1.1.2	Hours: 8 ✓ C Convert 15 min = 15 ÷ 60 = 0,25 + 8 = 8,25 hrs. ✓ A	1C divide by 60 1A adding correct values (2)	M L1
1.2	1.2.1	Departure 14h20 Arrive − 11h30 ✓ MA Lapse time = 2h50 min ✓ A	1MA subtraction time 1A simplified time (2)	M L1
	1.2.2	Cost = R50,00 + (R7,00 x R3,00) ✓RT = R50,00 + R21,00 R71,00 ✓ A	1RT correct values 1A answer (2)	F L1
1.3	1.3.1	It is the total length of the sides in a shape. ✓✓ **OR** It is the distance around the outside of the shape. ✓✓ R **Accept any other relevant reason.**	2R Explanation (2)	M L1
	1.3.2	✓ MA Perimeter rectangular diagram = 210 + 210 + 100 + 100 = 620 cm ✓ CA	1MA adding sides 1CA answer (2)	M L1
	1.3.3	Numerical scale or Ratio scale ✓✓ A	2A concept scale (2)	M&P L1
	1.3.4	Every 1 unit on the map represents 100 units in reality. ✓✓ A	2A Explanation (2)	M&P L1
1.4	1.4.1	R44 ✓✓ A	2A correct road (2)	M&P L1
	1.4.2	Provincial roads serve as feeders to the national roads. ✓✓ A **OR** Provincial roads also serve as trunk roads in areas where there is no national roads. ✓✓ A **Accept any relevant explanation.**	2A Explanation (2)	M&P L1
			[20]	

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QUESTION 2 [30]				
Ques.		**Solution**	**Explanation**	**Topic & Level**
2.1	2.1.1	Bar scale ✓✓ 2A	2A correct scale (2)	M&P L1
	2.1.2	Width of bar (measured) = 2,1 cm ✓ A Length of animal = 15,1 cm ✓ A 2,1 cm = 1,9 m ✓ M $\frac{15,1}{2,1} \times 1,9$ m = 13,6619 m ✓ CA = 13,7 m ✓ R **OR** ✓A 2,1 cm = 1,9 m ✓ A ✓ M 15,1 cm = $\frac{15,1 \text{ cm} \times 1,9 \text{ m}}{2,1 \text{ cm}}$ = 13,6619 m ✓ CA = 13,7 m ✓ R	1A measured value for bar width 2,1 cm Accept 2 – 2,3 cm 1A measured value diagram for 15,1 cm 1M multiply by 1,9 m 1CA correct value 1R one decimal number 1A measured value for bar width 2,1 cm 1A measured value diagram for 15,1 cm 1M multiply by 1,9 m 1CA correct value 1R one decimal number Mark according to your measured length. (5)	M&P L2
	2.1.3	1 ton = 1 000 kilogram 20 ton = 20 × 1 000 ✓ A = 20 000 kilogram ✓ A	1A × 1 000 1A correct value (2)	M L1
2.2		48 000 – 30 000 = 18 000 ✓ MA ✓ A Percentage illegal fishing = $\frac{18\,000}{30\,000} \times 100$ = 60% ✓ A	1MA Subtracting correct number of tuna 1A × 100 1A correct percentage (3)	F L3

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2.3	2.3.1	M9 ✓ RT M18 ✓ RT	2RT correct roads (2)	M&P L1
	2.3.2	N2 ✓ ✓ RT	2 RT (2)	M&P L1
	2.3.3	R75 ✓✓ RT	2 RT (2)	M&P L1
	2.3.4	6 provincial roads ✓✓ 2A **OR** R75; R102; R334; R335; R367; R368 ✓✓ 2A	2A correct number 2A correct list of roads (2)	M&P L2
	2.3.5	Measured distance : 5 cm ✓ A 5 cm : 13 km ✓ M 5 cm : 1300 000 cm ✓ C $\frac{5\ cm}{5\ cm} : \frac{1\ 300\ 000\ cm}{5\ cm}$ ✓ S 1 : 260 000 Yes, his statement is valid. ✓ ✓ 2J	1A measured value 1M ratio concept 1C conversion 1S simplify values 2J conclusion (6)	M&P L4
	2.3.6	Time $= \frac{13\ km}{80\ km/h}$ ✓ SF = 0,1625 hrs × 60 = 9,75 min ✓ C = 0,75 × 60 = 45 seconds ✓ C Total time = 9 min 45 seconds ✓ S	1SF correct substitution 1C converting hrs to min 1C converting min to seconds 1S simplifying total time (4)	M L2
			[30]	

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QUESTION 3 [23]				
Ques.		**Solution**	**Explanation**	**Topic & Level**
3.1	3.1.1	Perimeter = 2 (length + breadth) ✓SF = 2 (8 500 mm + 3 500 mm) = 2 (12 000 mm) ✓ = 24 000 mm ✓	1SF correct values 1S simplification 1CA answer (3)	M L2
	3.1.2	Area of floor = Length × Width ✓ C = 8,5 m × 3,5 m ✓ = 29,75 m^2 ✓	1C convert to m 1M multiply 5,8 m with 3,5 m 1CA correct value (3)	M V2
	3.1.3	Volume = length × breadth × height (thickness) = 8,5 m × 3,5 m × 0,1 m ✓ = 2,975 m^3 ✓	2A Reason 1SF substitute correct values 1CA answer for 2,975 m^3 NPR (2)	M L3
	3.1.4	Facing west ✓ and east. ✓	2RT directions (2)	M&P L3

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3.2	3.2.1	✓ C Area of southern wall = 8,5 m × 5 m ✓ SF = 42,5 m² ✓ CA Dimensions of 1 brick (with mortar) Length = 222 + 10 ✓ M = 232 mm Height = 73 + 10 = 83 mm Area of 1 brick = length × height = 232 mm × 83 mm ✓ SF = 19 256 mm^2 ÷ 1 000 000 ✓ C = 0,019 256 m^2 ✓ CA No. of bricks = $\frac{\text{Area of the wall in } m^2}{\text{Area of one brick in } m^2}$ = $\frac{42,5\ m^2}{0,019256\ m^2}$ ✓ SF = 2 207 ,10 = 2 208 bricks ✓ CA	1C Convert cm to m 1SF correct values 1CA correct value for 42,5 m^2 1M adding 10 mm 1SF correct values 1C divide by conversion factor 1CA for 0,019256 m^2 1SF correct values 1CA number of bricks (9)	M L3
	3.2.2	10% × 2 208 bricks = 220,8 + 2 208 ✓ M Total amount of bricks ≈ 2 428,8 ≈ 2 429 bricks ✓ CA **OR** 110% × 2 208 = 2 428,8 ✓ S ≈ 2 429 number of bricks ✓ CA	**CA from 3.2.1** 1M adding correct no of bricks 1CA total no of bricks 1S simplifying correct number of bricks 1CA total number of bricks (2)	M L2
	3.2.3	2 429 total number of bricks (answer to QUESTION 3.2.2) R4,75 price of one brick 2 429 x R4,75 ✓ M = R11 537,75 ✓ CA	1CA total number of bricks 1M price of one brick 1CA total amount (2)	M L4
			[23]	

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QUESTION 4 [27]				
Ques.		**Solution**	**Explanation**	**Topic& Level**
4.1	4.1.1	Scale 1 : 30 ✓ C A = $\frac{45 \times 1}{30}$ = 1,5 cm ✓ CA ✓ M ✓ M B = $\frac{105 \times 1}{30}$ = 3,5 cm ✓ CA	1C conversion to cm 1M divide by 30 1CA value of 1,5 cm 1M using 105 cm 1CA value of 3,5 cm (5)	M&P L4
	4.1.2	Volume = l × b × h ✓ C = 105 cm × 45 cm × 30 cm ✓ SF = 141 750 cm^3 ✓ CA	1C conversion 1SF substitute correct values 1CA Simplification (3)	M L2
	4.1.3	1 cm^3 = 1 mℓ 141 750 cm^3 = 141 750 mℓ ✓ A 1 litre = 1 000 mℓ ✓ M $\frac{141\ 750\ ml}{1\ 000\ ml}$ = 141,75 litres 0,9 × 141,75 = 127,575 litres ✓ CA	1A ratio concept 1M divide by 1 000 1CA value of 127,575 litres (3)	M L2
4.2	4.2.1	Actual length = 50,4 mm × 150 ✓ M = 7 560 mm ÷ 1 000 ✓ M = 7,56 m ✓ CA Actual width = 25,6 mm × 150 ✓ M = 3 840 mm ÷ 1 000 ✓ M = 3,84 m ✓ CA	1M × 150 1M ÷ 1 000 1CA correct value 1M × 150 1M ÷ 1 000 1CA correct value (6)	M L2
	4.2.2	Area of rectangle = length × breadth = 7,56 m × 3,84 m ✓✓SF M = 29,03 m^2 ✓ CA	1SF correct values 1M multiply values 1CA answer (3)	M L3

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	4.3	Probability not winning: $\frac{10\,000}{10\,000} - \frac{1000}{10\,000}$ ✓A $= \frac{9\,000}{10\,000} \times 100$ ✓A $= 90\%$ ✓ A	1A numerator 1A denominator 1A for 90% (3)	P L2
	4.3.1	Unlikely ✓✓ A	2A Explanation (2)	P L1
	4.3.2	10% : 90 % ✓ A 1 : 9 ✓ A	1A ratio concept 1A simplified values (2)	P L1
			[27]	
			TOTAL: 100	

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